HALLIBURTON

Cementing

PICEANCE ENERGY LLC - EBUS

Piceance 28-09M

Patterson 306

Post Job Summary
Cement Production Casing

Date Prepared: 07/15/2015
Job Date: 07/13/2015

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 #:** 3672991	**Quote #:**	**Sales Order #:** 0902557144
Customer: PICEANCE ENERGY LLC - EBUS		**Customer Rep:** ROGER FOSTER	
Well Name: PICEANCE	**Well #:** 28-09M		**API/UWI #:** 05-077-10238-00
Field: VEGA	**City (SAP):** COLLBRAN	**County/Parish:** MESA	**State:** COLORADO
Legal Description: SW NW-28-9S-93W-1614FNL-1256FWL			
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**	1601 FT.	**Bottom**	8075 FT.
Form Type			**BHST**	
Job depth MD	8065ft		**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	7.921	32			0	1601		0
Casing		4.5	4	11.6		I-80	0	8065		0
Open Hole Section			7.875				1601	8075	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	139	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 GJ4	VERSACEM (TM) SYSTEM	804	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	543	sack	13.3	1.89	8.66	8	
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	124.1	bbl	8.34			8	
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	71 ft	Reason	Shoe Joint
Comment				

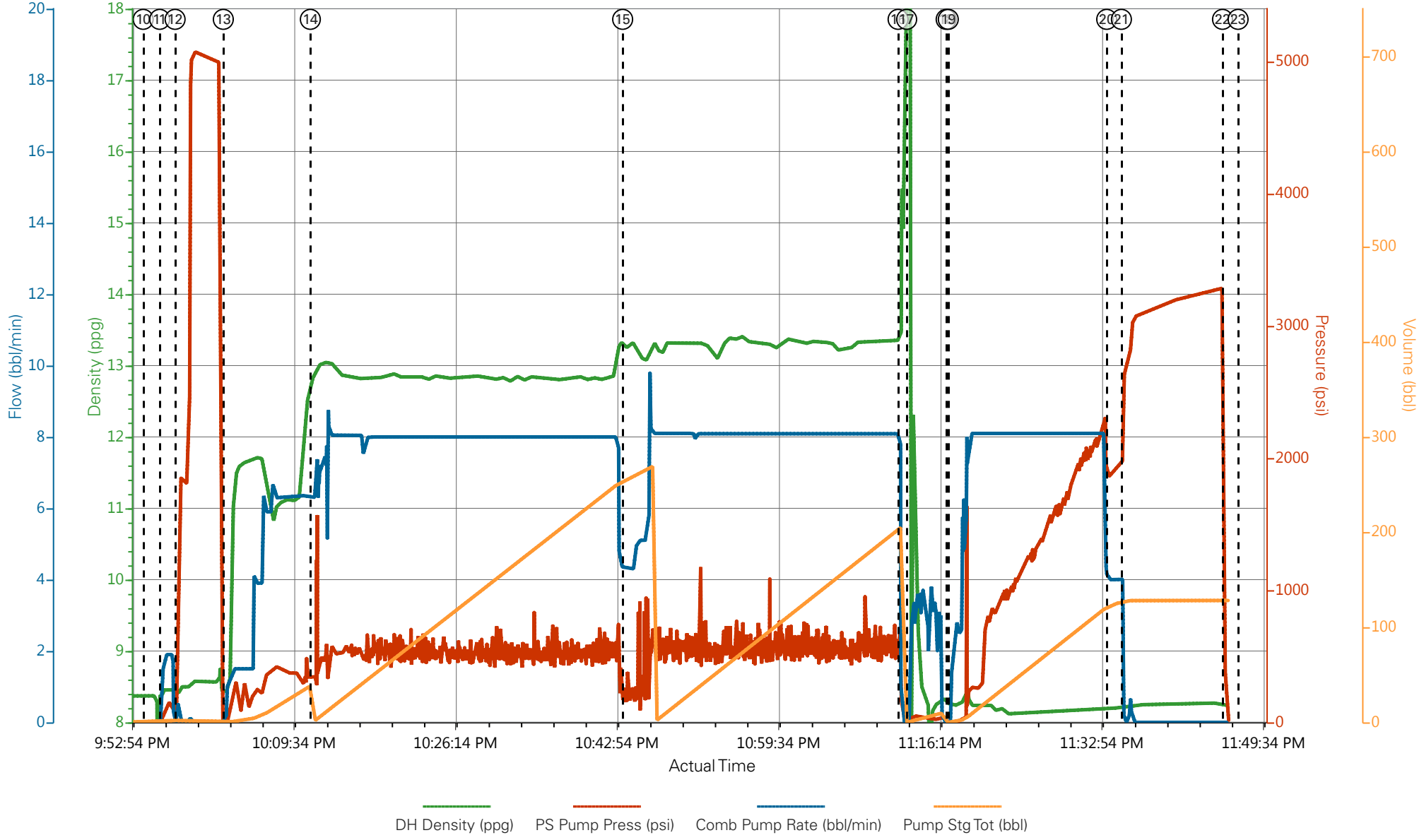
1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	PS Pump Press (psi)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	7/13/2015	15:00:00	USER					
Event	2	Depart Yard Safety Meeting	7/13/2015	16:50:00	USER					ATTENDED BY ALL HES CREW
Event	3	Crew Leave Yard	7/13/2015	17:00:00	USER					
Event	4	Arrive At Loc	7/13/2015	18:30:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	7/13/2015	20:00	USER					ATTENDED BY ALL HES CREW
Event	6	Other	7/13/2015	20:10	USER					SPOT EQUIPMENT
Event	7	Pre-Rig Up Safety Meeting	7/13/2015	12:20	USER					ATTENDED BY ALL HES CREW
Event	8	Rig-Up Equipment	7/13/2015	20:30	USER					
Event	9	Pre-Job Safety Meeting	7/13/2015	21:30	USER					ATTENDED BY ALL HES CREW, RIG CREW AND COMPANY REP
Event	10	Start Job	7/13/2015	21:54:17	USER					TP 8065', TD 8075', MW 9.4 PPG, CASING 4.5", 11.6#, I-80, SJ 79.65', HOLE 7.875", SURFACE CASING 8.625", 24# SET AT 1601', RI G CIRCULATED FOR 2 HR'S PRIOR TO JOB
Event	11	Fill Lines	7/13/2015	21:56:00	USER	8.34	180	2	2	FRESH WATER
Event	12	Test Lines	7/13/2015	21:57:35	USER					PRESSURED UP TO 5080 PSI, PRESSURE HELD
Event	13	Pump Spacer	7/13/2015	22:02:33	USER	11	430	6	40	TUNED SPACET III MIXED AT 11 PPG, BOTTOM PLUG LAUNCHED
Event	14	Pump Lead Cement	7/13/2015	22:11:32	USER	12.8	540	8	250.6	804 SKS VERSACEM MIXED AT 12.8 PPG, 1.75 YIELD, 8.5 GL/SK
Event	15	Pump Tail Cement	7/13/2015	22:43:45	USER	13.3	680	8	182.8	543 SKS EXPANDACEM MIXED AT 13.3 PPG, 1.89 YIELD,

										8.66 GL/SK
Event	16	Shutdown	7/13/2015	23:12:10	USER					
Event	17	Clean Lines	7/13/2015	23:13:03	USER					CLEANED LINES TO CELLAR
Event	18	Drop Top Plug	7/13/2015	23:17:07	USER					PLUG LAUNCHED
Event	19	Pump Displacement	7/13/2015	23:17:20	USER	8.34	2300	8	114.1	FRESH WATER WITH CLAY-WEB AND MMCR
Event	20	Slow Rate	7/13/2015	23:33:41	USER	8.34	1980	4	10	
Event	21	Bump Plug	7/13/2015	23:35:12	USER		3020			PLUG LANDED
Event	22	Check Floats	7/13/2015	23:45:38	USER		3270			FLOATS HELD
Event	23	End Job	7/13/2015	23:47:14	USER					GOOD CIRCULATION THROUGHOUT JOB, PIPE NOT MOVED DURING JOB, 20 BBLS TUNED SPACER III TO SURFACE
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	7/13/2015	23:50	USER					ATTENDED BY ALL HES CREW
Event	25	Rig-Down Equipment	7/14/2015	00:00	USER					
Event	26	Depart Location Safety Meeting	7/14/2015	00:50	USER					ATTENDED BY ALL HES CREW
Event	27	Crew Leave Location	7/14/2015	01:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, ERIC CARTER AND CREW.

PICEANCE ENERGY - PICEANCE 28-09M - PRODUCTION



① Call Out n/a;n/a;n/a;n/a
② Depart Yard Safety Meeting n/a;n/a;n/a;n/a
③ Crew Leave Yard n/a;n/a;n/a;n/a
④ Arrive At Loc n/a;n/a;n/a;n/a
⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a
⑥ Other n/a;n/a;n/a;n/a
⑦ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a
⑧ Rig-Up Equipment n/a;n/a;n/a;n/a
⑨ Pre-Job Safety Meeting n/a;n/a;n/a;n/a
⑩ Start Job 8.37;0;0;0
⑪ Fill Lines 8.42;29;1.9;0.1
⑫ Test Lines 8.43;1859;0;2
⑬ Pump Spacer 8.43;4;0.8;0
⑭ Pump Lead Cement 12.85;348;6.3;1.2
⑮ Pump Tail Cement 13.24;218;4.3;254.7
⑯ Shutdown 15.34;135;0;205.2
⑰ Clean Lines
⑱ Drop Top Plu
⑲ Pump Displa
20 Slow Rate 8

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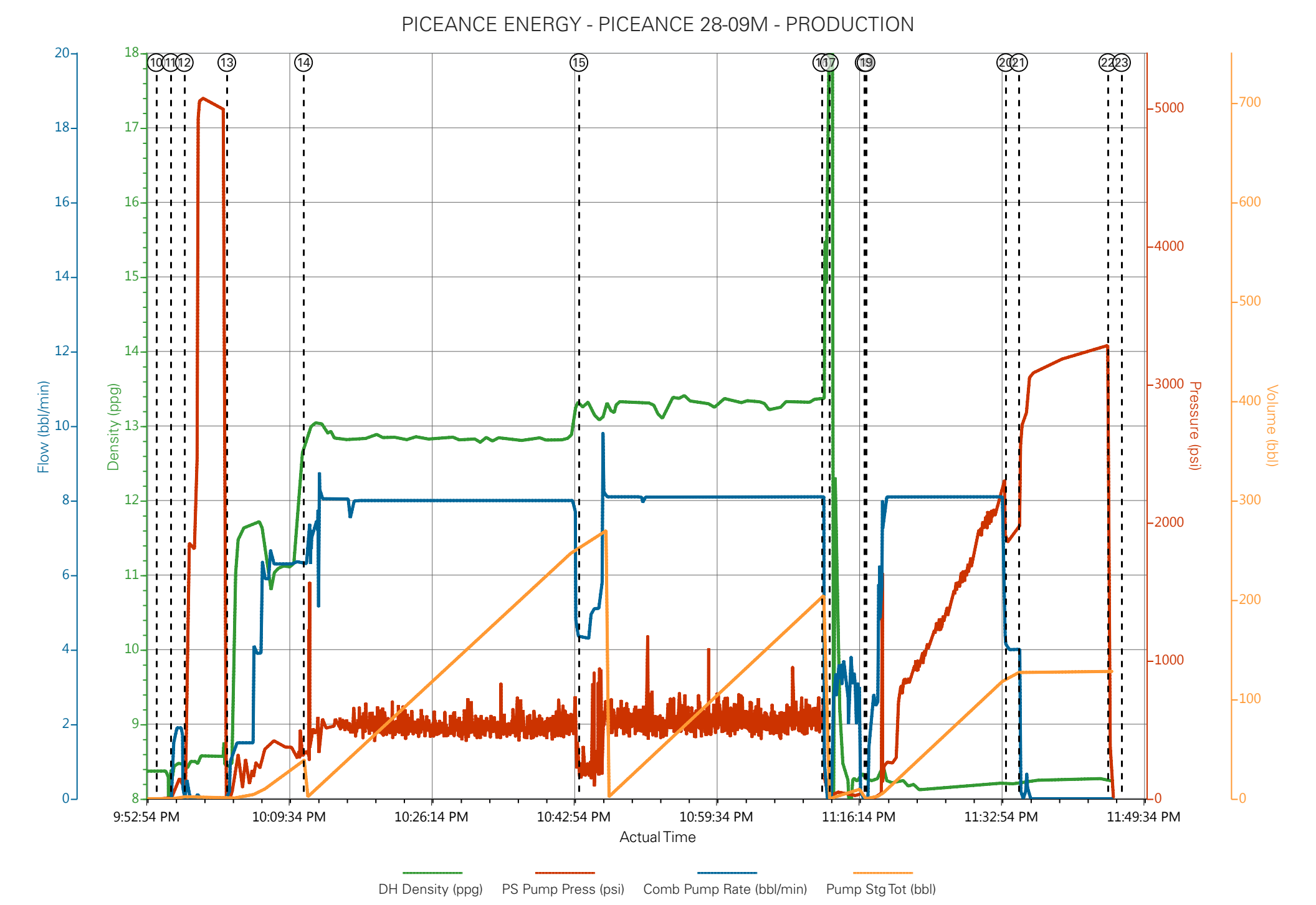
Created: 2015-07-13 16:38:32, Version: 4.1.107 Edit

Customer : PICEANCE ENERGY LLC
Representative : ROGER FOSTER
Job Date : 7/13/2015 8:56:50 PM
Sales Order # : 902557144
Well : PICEANCE 28-09M
ERIC CARTER : PUAL SALAZAR/ELITE 6



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Sales Order # : 902557144

Well : PICEANCE 28-09M
ERIC CARTER : PUAL SALAZAR/ELITE 6

HALLIBURTON

Water Analysis Report

Company:	**PICEANCE**	**Date:**	**7/15/2015**
Submitted by:	**ERIC CARTER**	**Date Rec.:**	**7/15/2015**
Attention:	**J.Trout**	**S.O.#**	**902551744**
Lease	**PATTERSON 306**	**Job Type:**	**PRODUCTION**
Well #	**PICEANCE 28-09M**		

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***	**65**	**Deg**
Total Dissolved Solids		**450**	**Mg / L**

Respectfully: **ERIC CARTER**

Title: **CEMENTING SUPERVISOR**

Location: **Grand Junction, CO**

HALLIBURTON

CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0902557144	10	7/14/2015
Customer:		**Job Type (BOM):**
PICEANCE ENERGY LLC - EBUS		CMT PRODUCTION CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
ROGER FOSTER		05-077-10238-00
Well Name:		**Well Number:**
PICEANCE		0080734096
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**	**7/14/2015**
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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ROGER FOSTER		05-077-10238-00
Well Name:		**Well Number:**
PICEANCE		0080734096
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	7/14/2015

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.	4
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.	2
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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Well Name:		**Well Number:**
PICEANCE		0080734096
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	95
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