HALLIBURTON

Cementing

Piceance Energy LLC- EBUS

Piceance Fed 28-04M

Patterson 306

Post Job Summary
Cement Production Casing

Date Prepared: 08/20/2015
Job Date: 08/08/2015

Submitted by: Evan Russell – Grand Junction Cement Engineer

HALLIBURTON

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 344919	**Ship To #:** 3672998	**Quote #:**	**Sales Order #:** 0902669547
Customer: PICEANCE ENERGY LLC - EBUS		**Customer Rep:** MATT SETTLES	
Well Name: PICEANCE FED	**Well #:** 28-04M		**API/UWI #:** 05-077-10237-00
Field: VEGA	**City (SAP):** COLLBRAN	**County/Parish:** MESA	**State:** COLORADO
Legal Description: SW NW-28-9S-93W-1568FNL-1218FWL			
Contractor: PATTERSON-UTI ENERGY		**Rig/Platform Name/Num:** PATTERSON 306	
Job BOM: 7523			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HX41066		**Srvc Supervisor:** DAVID CAMPBELL	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	8116 FT		**Job Depth TVD**	
Water Depth			**Wk Ht Above Floor**	5 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	1572		
Casing		4.5	4	11.6			0	8106		
Open Hole Section			7.875				1572	8116		

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	4.5	1	HES	8106		**Top Plug**	4.5	1	HES
Float Shoe	4.5					**Bottom Plug**	4.5	1	HES
Float Collar	4.5	1	HES	8035.56		**SSR plug set**			
Insert Float	4.5					**Plug Container**	4.5	1	HES
Stage Tool	4.5					**Centralizers**			

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	5	
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	950	sack	12.8	1.75		8	8.5
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	8.66
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	124.5	bbl	8.4			10,4	
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	70 ft	Reason	Shoe Joint

1.0 Real-Time Job Summary

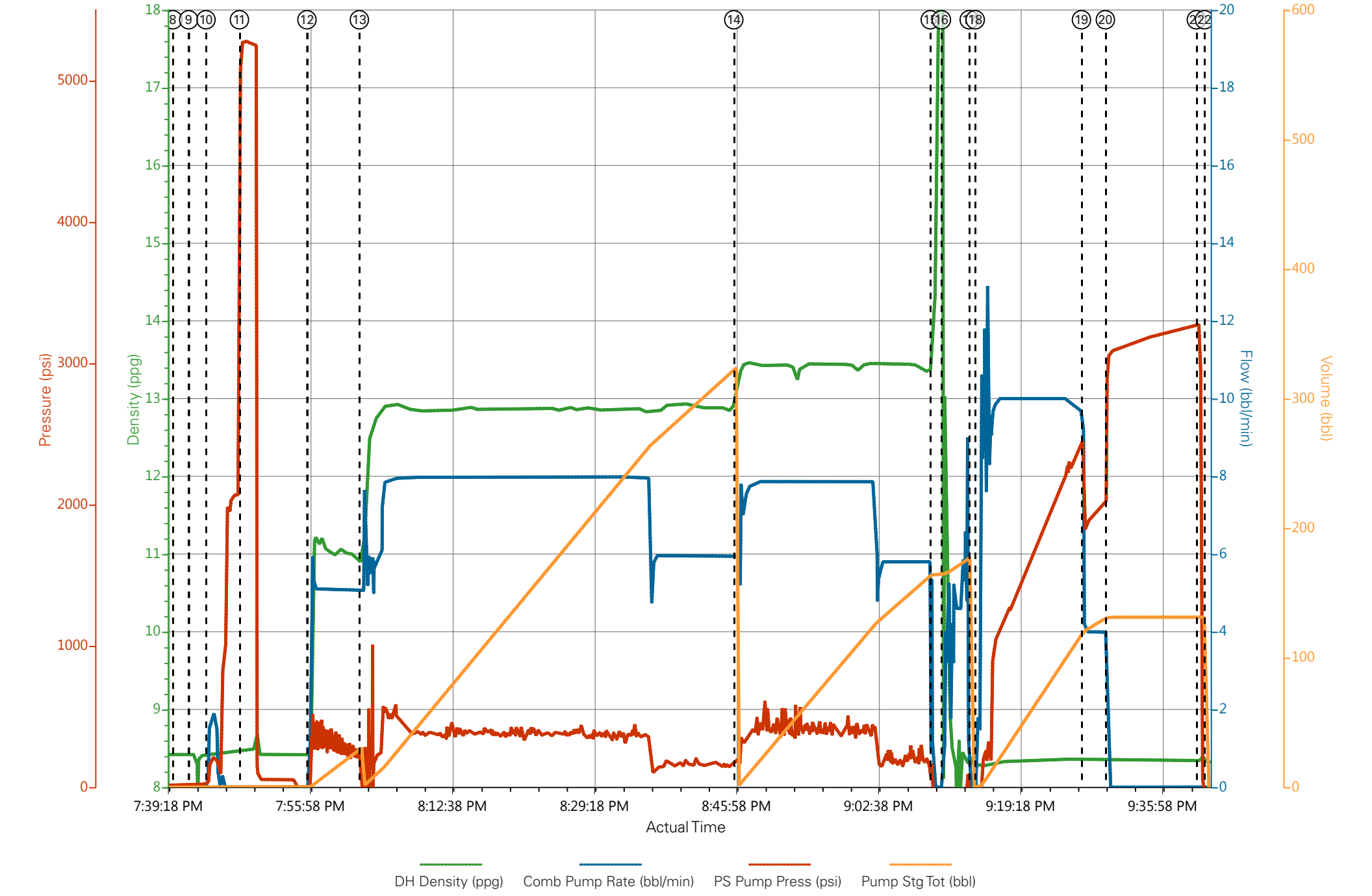
1.1 Job Event Log

Type	Seq. No.	Activity	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	8/18/2015	13:00:00	USER					ELITE # 4
Event	2	Pre-Convoy Safety Meeting	8/18/2015	16:00:00	USER					ALL HES EMPLOYEES
Event	3	Arrive At Loc	8/18/2015	17:30:00	USER					ARRIVED 1 1/2 HOURS EARLY DID NOT START CHARGING TIME UNTIL REQUESTED ON LOCATION TIME
Event	4	Assessment Of Location Safety Meeting	8/18/2015	17:45:00	USER					ALL HES EMPLOYEES
Event	5	Pre-Rig Up Safety Meeting	8/18/2015	18:00:00	USER					ALL HES EMPLOYEES
Event	6	Rig-Up Equipment	8/18/2015	18:15:00	USER					1 HT-400 PUMP TRUCK (ELITE # 4) 2 660 BULK TRUCKS 1 F-550 PICKUP 1 SILO
Event	7	Pre-Job Safety Meeting	8/18/2015	19:30:00	USER					ALL HES EMPLOYEES AND RIG RIG CIRCULATED FOR 1 HOUR @ 10 BBL/MIN PRIOR TO JOB
Event	8	Start Job	8/18/2015	19:40:08	COM5					TD: 8116 TP: 8106 CSG: 4 1/2 11.6# L-80 SJ: 70.44 MW: 9.5 SURFACE CSG: 8 5/8 24# SET @ 1572
Event	9	Drop Bottom Plug	8/18/2015	19:42:00	USER					PLUG AWAY NO PROBLEMS
Event	10	Prime Pumps	8/18/2015	19:44:02	USER	8.4	2.0	225	2.0	FILL LINES FRESH WATER
Event	11	Pressure Test	8/18/2015	19:47:57	USER	8.4	0.0	5287	2.0	PRESSURE TEST OK

Event	12	Pump Spacer 1	8/18/2015	19:55:52	COM5	11.0	5.0	325	40	40 BBL 11.0 PPG 4.55 YIELD 30.0 GAL/SK TUNED SPACER III WEIGHT VERIFIED VIA PRESSURIZED MUD SCALES
Event	13	Pump Lead Cement	8/18/2015	20:02:01	COM5	12.8	8.0	417	296	950 SKS 12.8 PPG 1.75 YIELD 8.5 GAL/SK LEAD CEMENT WEIGHT VERIFIED VIA PRESSURIZED MUD SCALES
Event	14	Pump Tail Cement	8/18/2015	20:45:57	COM5	13.3	8.0	415	139	413 SKS 13.3 PPG 1.89 YIELD 8.66 GAL/SK TAIL CEMENT WEIGHT VERIFIED VIA PRESSURIZED MUD SCALES
Event	15	Shutdown	8/18/2015	21:09:01	USER					
Event	16	Clean Lines	8/18/2015	21:10:19	USER					CLEAN LINES FRESH WATER
Event	17	Drop Top Plug	8/18/2015	21:13:35	USER					PLUG AWAY NO PROBLEMS
Event	18	Pump Displacement	8/18/2015	21:14:17	COM5	8.4	10.0	2475	124.55	FRESH WATER DISPLACEMENT 5 GAL CLA-WEB 1 GAL MMCR
Event	19	Slow Rate	8/18/2015	21:26:45	USER	8.4	4.0	1879	114.55	SLOW RATE TO BUMP PLUG
Event	20	Bump Plug	8/18/2015	21:29:33	USER	8.4	4.0	2450	124.55	PRESSURE PRIOR TO BUMPING PLUG @ 2450 BUMPED PLUG UP TO 3278 PSI HELD FOR 10 MIN CASING TEST AS PER COMPANY REP
Event	21	Check Floats	8/18/2015	21:40:14	USER	8.4	0.0	3278	124.55	FLOATS HELD 1 1/2 BBL RETURNED TO TRUCKS TANK
Event	22	End Job	8/18/2015	21:41:12	COM5					GOOD RETURNS THROUGHOUT JOB PIPE WAS STATIC THROUGHOUT JOB CIRCULATED 40 BBL TUNED SPACER III AND 10 BBL CEMENT TO SURFACE

Event	23	Pre-Rig Down Safety Meeting	8/18/2015	22:15:00	USER		ALL HES EMPLOYEES
Event	24	Rig-Down Equipment	8/18/2015	22:30:00	USER		
Event	25	Pre-Convoy Safety Meeting	8/18/2015	23:00:00	USER		ALL HES EMPLOYEES
Event	26	Crew Leave Location	8/18/2015	23:30:00	USER		THANK YOU FOR USING HALLIBURTON CEMENT DAVID CAMPBELL AND CREW

PICEANCE - PICEANCE FED 28-04M - 4 1/2 PRODUCTION



HALLIBURTON | iCem® Service

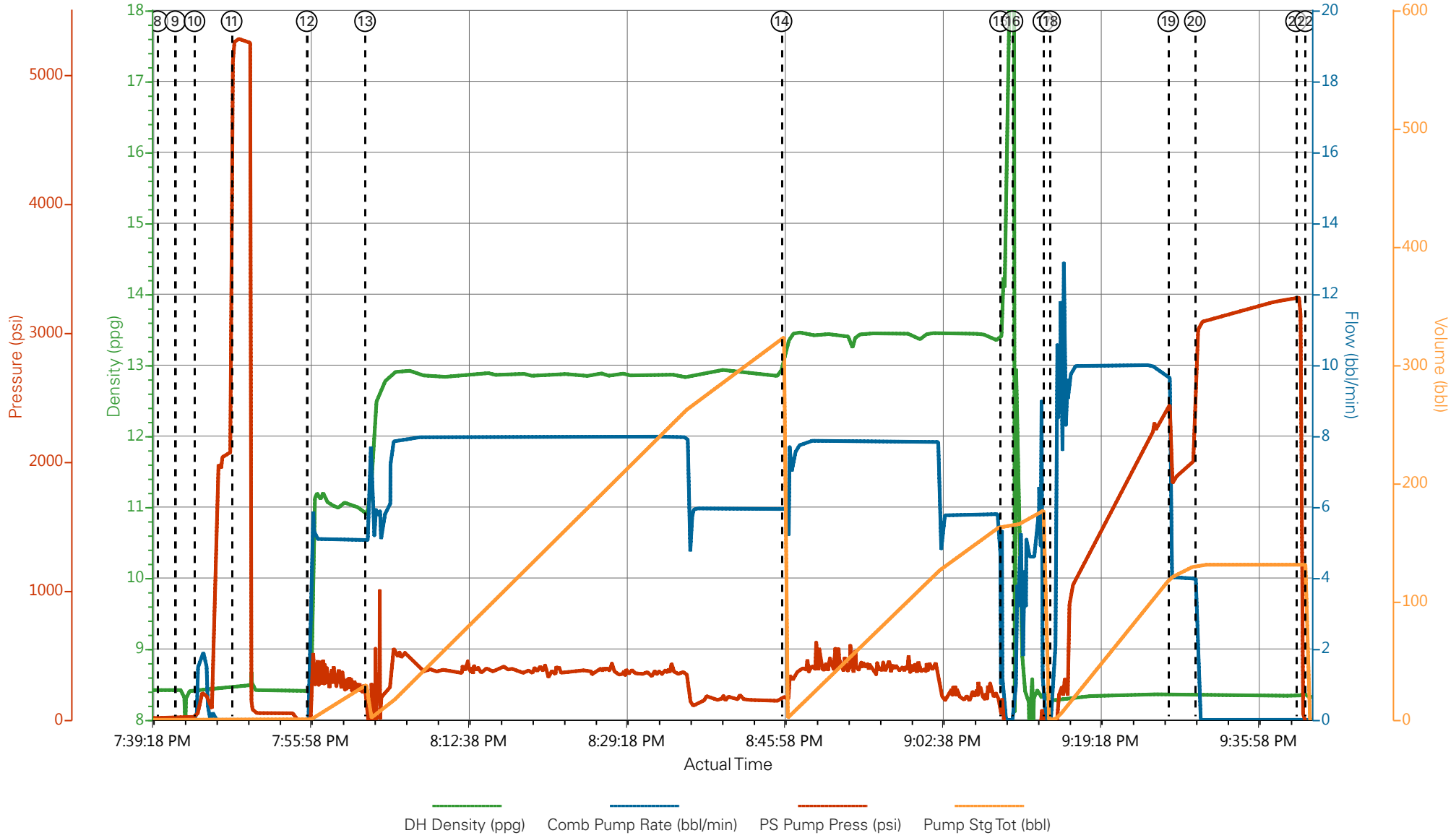
Created: 2015-08-18 13:45:43, Version: 4.1.107 Edit

Customer : PICEANCE ENERGY LLC - EBUS
Representative : MATT SETTLES

Job Date : 8/18/2015 6:16:00 PM
Sales Order # : 0902669547

Well : PICEANCE 28-04M
ELITE # 4 : DAVID CAMPBELL / ED DEUSSEN

PICEANCE - PICEANCE FED 28-04M - 4 1/2 PRODUCTION



① Call Out	⑥ Rig-Up Equipment	⑪ Pressure Test	⑯ Clean Lines	21 Check Floats	26 Crew Leave Location
② Pre-Convoy Safety Meeting	⑦ Pre-Job Safety Meeting	⑫ Tuned Spacer III	⑰ Drop Top Plug	22 End Job	
③ Arrive At Loc	⑧ Start Job	⑬ Pump Lead Cement	⑱ Pump Displacement	23 Pre-Rig Down Safety Meeting	
④ Assessment Of Location Safety Meeting	⑨ Drop Bottom Plug	⑭ Pump Tail Cement	⑲ Slow Rate	24 Rig-Down Equipment	
⑤ Pre-Rig Up Safety Meeting	⑩ Fill Lines	⑮ Shutdown	20 Bump Plug	25 Pre-Convoy Safety Meeting	

HALLIBURTON | iCem® Service

Created: 2015-08-18 13:45:43, Version: 4.1.107 Edit

Customer : PICEANCE ENERGY LLC - EBUS
Representative : MATT SETTLES
Job Date : 8/18/2015 6:16:00 PM
Sales Order # : 0902669547
Well : PICEANCE 28-04M
ELITE # 4 : DAVID CAMPBELL / ED DEUSSEN

HALLIBURTON

Water Analysis Report

Company:	PICEANCE	**Date:**	8/18/2015
Submitted by:	DAVID CAMPBELL	**Date Rec.:**	8/18/2015
Attention:		**S.O.#**	902669547
Lease	PICEANCE	**Job Type:**	PRODUCTION
Well #	FED 28-04M		

Specific Gravity	*MAX*	1	
pH	*8*	7	
Potassium (K)	*5000*	300	Mg / L
Calcium (Ca)	*500*	120	Mg / L
Iron (FE2)	*300*	0	Mg / L
Chlorides (Cl)	*3000*	0	Mg / L
Sulfates (SO_4)	*1500*	UNDER 200	Mg / L
Chlorine (Cl_2)		0	Mg / L
Temp	*40-90*	70	Deg
Total Dissolved Solids		300	Mg / L

Respectfully: DAVID CAMPBELL

Title: CEMENTING SUPERVISOR

Location: Grand Junction, CO

HALLIBURTON

CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0902669547	10	8/18/2015
Customer:		**Job Type (BOM):**
PICEANCE ENERGY LLC - EBUS		CMT PRODUCTION CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
MATT SETTLES		05-077-10237-00
Well Name:		**Well Number:**
PICEANCE FED		0080734103
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**	**8/18/2015**
Survey Interviewer	**The survey interviewer is the person who initiated the survey.**	**HX37079**
Customer Participation	**Did the customer partipcipate in this survey? (Y/N)**	**Yes**
Customer Representative	**Enter the Customer representative name**	**MATT SETTLES**
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

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0902669547	10	8/18/2015
Customer:		**Job Type (BOM):**
PICEANCE ENERGY LLC - EBUS		CMT PRODUCTION CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
MATT SETTLES		05-077-10237-00
Well Name:		**Well Number:**
PICEANCE FED		0080734103
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	8/18/2015

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.	5
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.	3
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

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0902669547	10	8/18/2015
Customer:		**Job Type (BOM):**
PICEANCE ENERGY LLC - EBUS		CMT PRODUCTION CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
MATT SETTLES		05-077-10237-00
Well Name:		**Well Number:**
PICEANCE FED		0080734103
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	90
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	90
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