

Piceance Energy LLC-EBUS

Piceance 28-01W

**Patterson 306**

## **Post Job Summary**

# **Cement Production Casing**

Date Prepared: 09/22/2015

Job Date: 09/18/2015

Submitted by: Jenna Cook – Grand Junction Cement Engineer

## The Road to Excellence Starts with Safety

Sold To #: 344919	Ship To #: 3672987	Quote #:	Sales Order #: 0902754160
Customer: PICEANCE ENERGY LLC - EBUS	Customer Rep: MATT SETTLES		
Well Name: PICEANCE	Well #: 28-01W	API/UWI #: 05-077-10236-00	
Field: VEGA	City (SAP): COLLBRAN	County/Parish: MESA	State: COLORADO
Legal Description: SW NW-28-9S-93W-1537FNL-1193FWL			
Contractor: PATTERSON-UTI ENERGY	Rig/Platform Name/Num: PATTERSON 306		
Job BOM: 7523			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HX41066	Srv Supervisor: Steven Wardell		

### Job

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	8139ft 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		8.625	7.921	32			0	1584		0
Casing		4.5	4	11.6	8 RD (LT&C)		0	8139		0
Open Hole Section			8.875				1550	8149	0	0

### Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	4.5			8139	Top Plug	4.5	1	HES
Float Shoe	4.5				Bottom Plug	4.5	1	HES
Float Collar	4.5				SSR plug set	4.5		
Insert Float	4.5				Plug Container	4.5	1	HES
Stage Tool	4.5				Centralizers	4.5		HES

### 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	4	
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
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2	VersaCem	VERSACEM (TM) SYSTEM	939	sack	12.8	1.75		7	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	EXPANDACEM (TM) SYSTEM	413	sack	13.3	1.89		6	8.66
0.25 lbm		POLY-E-FLAKE (101216940)							
8.66 Gal		FRESH WATER							
6 lbm		KOL-SEAL, BULK (100064233)							
20 %		SS-200 - BULK (102240841)							
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	124.8	bbl	8.34			8	
0.05 gal/bbl		CLA-WEB - TOTE (101985045)							
0.01 gal/bbl		MICRO MATRIX CEMENT RETARDER, 1 GAL PAIL (100003780)							
Cement Left In Pipe		Amount	40 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

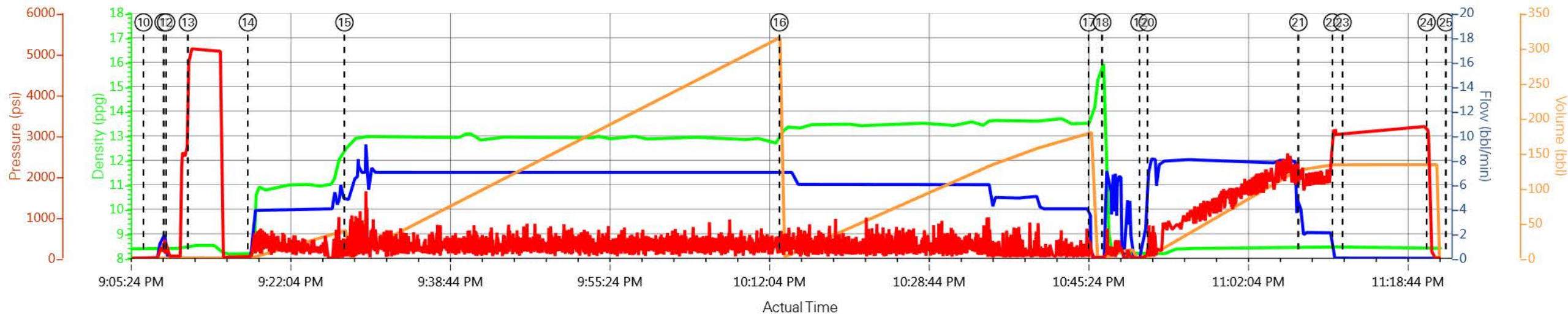
## 1.1 Job Event Log

Type	Seq. No.	Activity	Date	Time	Source	Downhole Density (ppg)	Pass-Side Pump Pressure (psi)	Combined Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	9/17/2015	14:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	9/17/2015	15:50:00	USER					WITH ALL HES PERSONNEL
Event	3	Crew Leave Yard	9/17/2015	16:00:00	USER					
Event	4	Arrive At Loc	9/17/2015	18:00:00	USER					RIG WAS RUNNING CASING UPON HES ARRIVAL
Event	5	Assessment Of Location Safety Meeting	9/17/2015	18:10:00	USER					WITH ALL HES PERSONNEL
Event	6	Other	9/17/2015	18:20:00	USER					1 PUMP, 2 660 BULK TRUCKS, 1 1700 SILO
Event	7	Pre-Rig Up Safety Meeting	9/17/2015	18:30:00	USER					WITH ALL HES PERSONNEL
Event	8	Rig-Up Equipment	9/17/2015	18:40:00	USER					
Event	9	Pre-Job Safety Meeting	9/17/2015	20:50:00	USER					WITH ALL PERSONNEL
Event	10	Start Job	9/17/2015	21:07:00	USER					TD 8149 FT, TP 8139 FT, SHOE 86.12 FT, SFC CSG 8 5/8 24 LB/FT SET AT 1584 FT, CSG 4 1/2 IN 11.6 LB/FT I-80 GRADE, OPEN 7 7/8 IN, MUD WT 9.4 PPG
Event	11	Prime Pumps	9/17/2015	21:09:06	RTD Import	8.4	250.0	2.0	2.0	FRESH WATER

Event	12	Drop Bottom Plug	9/17/2015	21:09:21	USER					PLUG LAUNCHED
Event	13	Test Lines	9/17/2015	21:11:38	RTD Import					TESTED LINES TO 5115 PSI PRESSURE HOLDING
Event	14	Pump Spacer 1	9/17/2015	21:17:54	RTD Import	11.0	320.0	40.0	4.0	TUNED SPACER III AT 11.0 PPG
Event	15	Pump Lead Cement	9/17/2015	21:27:59	RTD Import	12.8	300.0	292.7	7.0	939 SKS AT 12.8 PPG, 1.75 FT3/SK, 8.5 GAL/SK
Event	16	Pump Tail Cement	9/17/2015	22:13:24	RTD Import	13.3	280.0	139.0	6.0	413 SKS AT 13.3 PPG, 1.89 FT3/SK, 8.66 GAL/SK
Event	17	Shutdown	9/17/2015	22:45:41	USER					
Event	18	Clean Lines	9/17/2015	22:47:06	USER					CLEANED PUMPS AND LINES IN RIG CELLAR
Event	19	Drop Top Plug	9/17/2015	22:51:00	USER					PLUG LAUNCHED
Event	20	Pump Displacement	9/17/2015	22:51:51	USER	8.4	2200.0	124.8	8.0	FRESH WATER WITH 1 GAL MMCR AND 5 GAL CLAYWEB
Event	21	Slow Rate	9/17/2015	23:07:35	USER	8.4	1943.0	114.8	2.0	SLOWED RATE 10 BBLS PRIOR TO CALCULATED DISPLACEMENT.
Event	22	Bump Plug	9/17/2015	23:11:09	RTD Import		3225.0			
Event	23	Pressure Test	9/17/2015	23:12:12	USER		3225.0			PRESSURE TESTED CASING AT 3000 PSI FOR 10 MIN AS PER COMPANY REP
Event	24	Check Floats	9/17/2015	23:20:59	USER					FLOATS HOLDING HES RETURNED 1 BBL H2O TO PUMP.
Event	25	End Job	9/17/2015	23:23:00	USER					PIPE WAS STATIC

						DURING JOB, GOOD CIRCULATION THROUGHOUT JOB. HES RETURNED 25 BBLS CEMENT TO SURFACE. USED 50 LBS SUGAR FOR JOB.
Event	26	Pre-Rig Down Safety Meeting	9/17/2015	23:35:00	USER	WITH ALL HES PERSONNEL
Event	27	Rig-Down Equipment	9/17/2015	23:40:00	USER	
Event	28	Pre-Convoy Safety Meeting	9/18/2015	00:50:00	USER	WITH ALL HES PERSONNEL
Event	29	Crew Leave Location	9/18/2015	01:00:00	USER	
Event	30	Comment	9/18/2015	01:01:00	USER	THANK YOU FOR USING HALLIBURTON CEMENT DEPARTMENT. STEVEN WARDELL AND CREW.

# PICEANCE ENERGY PICEANCE 28-01 W PRODUCTION 902754160



— DH Density (ppg)   
 — Comb Pump Rate (bbl/min)   
 — PS Pump Press (psi)   
 — Pump Stg Tot (bbl)

- |                             |   |                          |                     |                      |                  |                                |                        |
|-----------------------------|---|--------------------------|---------------------|----------------------|------------------|--------------------------------|------------------------|
| ① Call Out                  | ⑤ Assessment Of Location Safety Meeting | ⑨ Pre-Job Safety Meeting | ⑬ Test Lines        | ⑰ Shutdown           | 21 Slow Rate     | 25 End Job                     | 29 Crew Leave Location |
| ② Pre-Convoy Safety Meeting | ⑥ Spot Equipment                        | ⑩ Start Job              | ⑭ Pump Tuned Spacer | ⑱ Clean Lines        | 22 Bump Plug     | 26 Pre-Rig Down Safety Meeting | 30 Comment             |
| ③ Crew Leave Yard           | ⑦ Pre-Rig Up Safety Meeting             | ⑪ Prime Pumps            | ⑮ Pump Lead Cement  | ⑲ Drop Top Plug      | 23 Pressure Test | 27 Rig-Down Equipment          |                        |
| ④ Arrive At Loc             | ⑧ Rig-Up Equipment                      | ⑫ Drop Bottom Plug       | ⑯ Pump Tail Cement  | 20 Pump Displacement | 24 Check Floats  | 28 Pre-Convoy Safety Meeting   |                        |

▼ **HALLIBURTON** | iCem® Service

Created: 2015-09-17 23:37:44, Version: 4.2.384

Edit

Customer: PICEANCE ENERGY LLC - EBUS

Job Date: 9/17/2015 9:04:41 PM

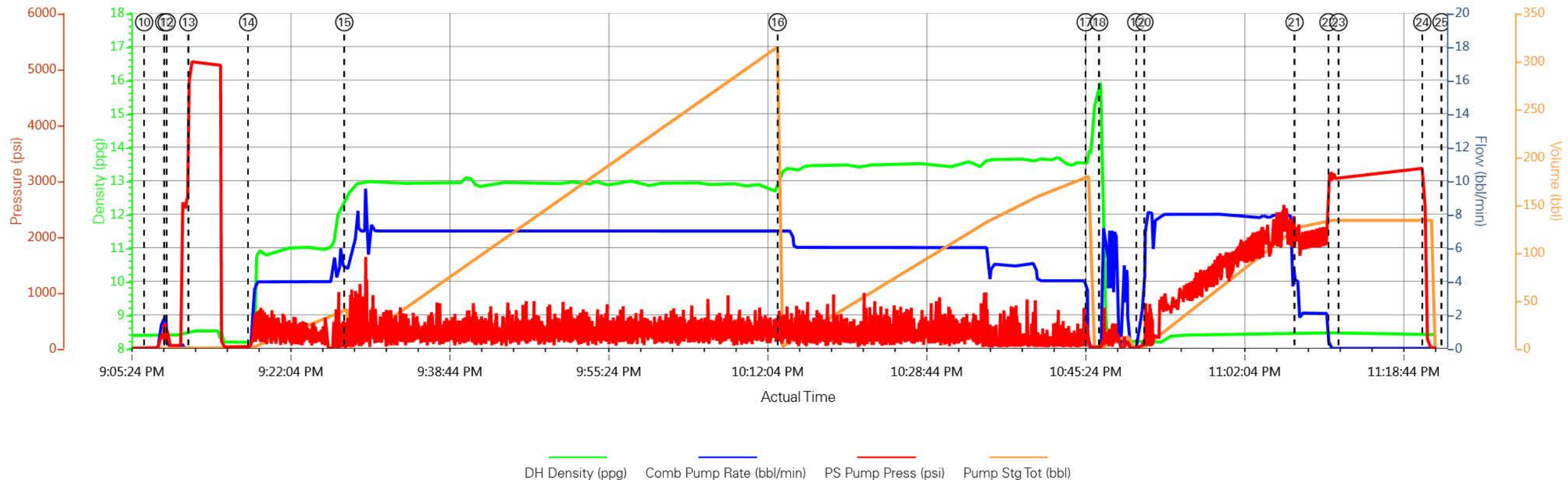
Well: PICEANCE 28-01W

Representative: MATT SETTLES

Sales Order #: 902754160

Elite #6: STEVEN WARDELL / JUSTIN BROWN

# PICEANCE ENERGY PICEANCE 28-01 W PRODUCTION 902754160





<b>Sales Order #:</b> 0902754160	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 9/18/2015
<b>Customer:</b> PICEANCE ENERGY LLC - EBUS		<b>Job Type (BOM):</b> CMT PRODUCTION CASING BOM
<b>Customer Representative:</b> MATT SETTLES		<b>API / UWI: (leave blank if unknown)</b> 05-077-10236-00
<b>Well Name:</b> PICEANCE		<b>Well Number:</b> 0080734089
<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	9/18/2015
Survey Interviewer	The survey interviewer is the person who initiated the survey.	H127209
Customer Participation	Did the customer participate 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	

<b>CUSTOMER SIGNATURE</b>
---------------------------

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### KEY PERFORMANCE INDICATORS

General	
<b>Survey Conducted Date</b> The date the survey was conducted	9/18/2015

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.	Deviated
<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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<b>H2S Present:</b> No	<b>Well State:</b> COLORADO	<b>Well County:</b> 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.	
<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

# HALLIBURTON

## Water Analysis Report

Company: PICEANCE  
Submitted by: STEVEN WARDELL  
Attention: LAB  
Lease: PATTERSON 306  
Well #: PICEANCE 28-01W

Date: 9/17/2015  
Date Rec.: 9/17/2015  
S.O.#: 902754160  
Job Type: PRODUCTION

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>6</b>
Potassium (K)	<i>5000</i>	<b>1000</b> Mg / L
Hardness	<i>500</i>	<b>100</b> Mg / L
Iron (FE2)	<i>300</i>	<b>0</b> Mg / L
Chlorides (Cl)	<i>3000</i>	<b>1000</b> Mg / L
Sulfates (SO <sub>4</sub> )	<i>1500</i>	<b>&lt;200</b> Mg / L
Temp	<i>40-80</i>	<b>60</b> Deg
Total Dissolved Solids		<b>200</b> Mg / L

Respectfully: STEVEN WARDELL

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