

Piceance Energy LLC - EBUS

Piceance 28-03W

**Patterson 306**

## **Post Job Summary**

# **Cement Production Casing**

Date Prepared: 10/12/2015

Job Date: 10/05/2015

Submitted by: Patrick Ealey – Grand Junction Cement Engineer

## The Road to Excellence Starts with Safety

Sold To #: 344919	Ship To #: 3123916	Quote #:	Sales Order #: 0902803130
Customer: PICEANCE ENERGY LLC - EBUS		Customer Rep: ROGER FOSTER	
Well Name: PICEANCE		Well #: 28-03W	API/UWI #: 05-077-09771-00
Field: VEGA	City (SAP): COLLBRAN	County/Parish: MESA	State: COLORADO
Legal Description: SW NW-28-9S-93W-1514FNL-1174FWL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 306	
Job BOM: 7523			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Clifford Sparks	

### Job

**HOT 3389' TOT 4632' 23 BBLS GOOD LEAD TO SURFACE**

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	8021ft Job Depth TVD 8021ft
Water Depth	Wk Ht Above Floor 3ft
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	1572	0	1572
Casing		4.5	4	11.6	8 RD (LT&C)	L-80	0	8021	0	8021
Open Hole Section			7.875				1572	8026	1572	8026

### Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	4.5	1		8021	Top Plug	4.5	1	HES
Float Shoe	4.5				Bottom Plug	4.5	1	HES
Float Collar	4.5	1		7931	SSR plug set	4.5		
Insert Float	4.5				Plug Container	4.5	1	HES
Stage Tool	4.5				Centralizers	4.5		

### 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		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
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2	EconoCem	ECONOCEM (TM) SYSTEM	979	sack	12.7	1.64		8	7.97
5 lbm		KOL-SEAL, BULK (100064233)							
7.97 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	ThermaCem	THERMACEM (TM) SYSTEM	446	sack	13.5	1.75		8	7.97
7.97 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	Displacement	Displacement	122.9	bbl	8.34			9	
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	90 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	10/4/2015	17:00:00	USER					REQUESTED ON LOCATION @ 0000 10/5
Event	2	Pre-Convoy Safety Meeting	10/4/2015	18:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	10/4/2015	19:00:00	USER					1- 550 PU, 2 660 BULK TRUCKS, 1 - ELITE PUMP. ALL TRUCKS LEFT TOGETHER
Event	4	Arrive At Loc	10/4/2015	21:00:00	USER					ARRIVED 3 HOURS EARLY. CASING CREW WAS STARTING TO RUN CASING
Event	5	Assessment Of Location Safety Meeting	10/4/2015	21:15:00	USER					MET WITH CO. REP. AND WENT OVER NUMBERS AND JOB PROCEDURE. DID A WALKAROUND OF LOCATION AND GOT A WATER SAMPLE. FILLED OUT JSA AND WAITED TO SPOT TRUCKS DUE TO RIG UP AREA BEING IN THE RED ZONE
Event	6	Pre-Rig Up Safety Meeting	10/5/2015	03:00:00	USER					ALL HES PRESENT
Event	7	Rig-up Lines	10/5/2015	03:15:00	USER					CASING CREW FINISHED WITH CASING GOT TRUCKS SPOTTED IN AND RIGGED UP
Event	8	Pre-Job Safety Meeting	10/5/2015	04:40:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	10/5/2015	04:59:51	COM5					TD 8026', TP 8016', SURFACE 8.635" J55 24# @ 1572', SJ 90', CASING 4.5"11.6# L80 LTC, OH 7.875", MW 9.4#
Event	10	Prime Pumps	10/5/2015	05:01:12	COM5	8.34	2.00	45.00	2.0	2 BBLS FRESH WATER
Event	11	Test Lines	10/5/2015	05:02:29	COM5	8.34	0.00	5150	0	TESTED TO 5150. TESTED GOOD KO'S

FUNCTIONING

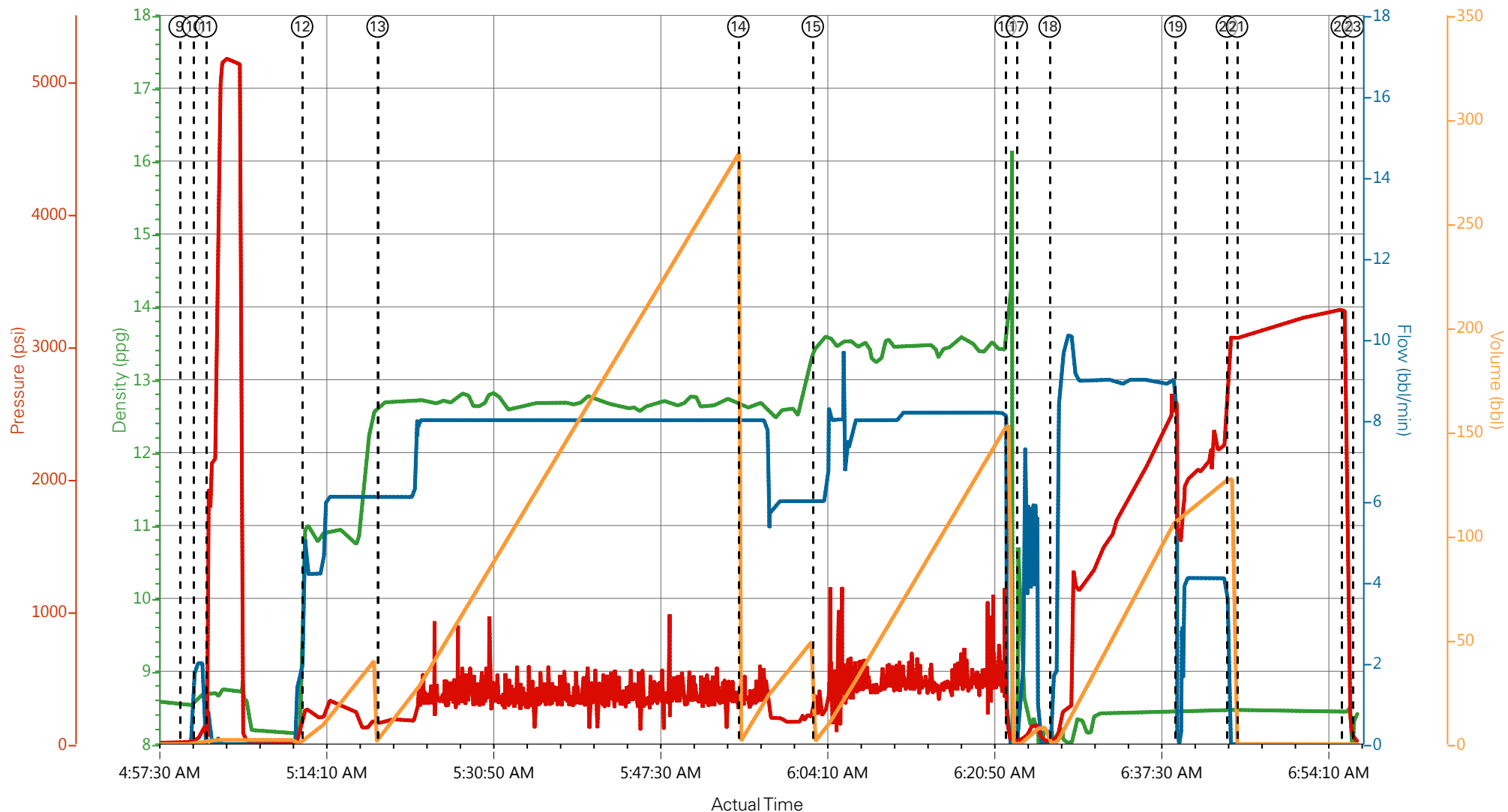
Event	12	Pump Spacer 1	10/5/2015	05:12:05	COM5	11	6	280	40	TSIII 40 BBLS 11 PPG, 4.55 FT3/SK
Event	13	Pump Lead Cement	10/5/2015	05:19:37	COM5	12.7	8	330	286	979 SKS (286 BBLS) 12.7 PPG, 1.64 FT3/SK, 7.97 GAL/SK
Event	14	Other	10/5/2015	05:55:37	USER	12.7	8	297		ACCIDENTAL ZERO OUT. SILL MIXING LEAD
Event	15	Pump Tail Cement	10/5/2015	06:03:03	COM5	13.5	8	500	139	446 SKS (139 BBLS) 13.5 PPG, 1.75 FT3/SK, 7.79 GAL/SK
Event	16	Shutdown	10/5/2015	06:22:17	USER					END OF CEMENT
Event	17	Clean Lines	10/5/2015	06:23:24	USER	8.34	4	40.00	10	10 BBLS FRESH WATER
Event	18	Pump Displacement	10/5/2015	06:26:41	COM5	8.34	9	2460	122.9	122.9 BBLS FRESH WATER WITH CLA-WEB THROUGHOUT AND MMCR IN FIRST 10 BBLS
Event	19	Other	10/5/2015	06:39:14	USER					HIT KICKOUTS. RESET AND BROUGHT RATE UP SLOWLY
Event	20	Bump Plug	10/5/2015	06:44:23	COM5	8.34	4	2230	122.9	BUMPED AT 2230 PSI PRESSURED UP TO 3030 PSI FOR CASING TEST (10 MIN)
Event	21	Pressure Test	10/5/2015	06:45:23	USER	8.34	0.00	3030	0.0	STARTED AT 3030 AND BUILT PRESSUE
Event	22	Check Floats	10/5/2015	06:55:50	USER			3232		1.5 BBLS BACK TO TRUCK. FLOATS HELD. PRESSURE TEST GOOD
Event	23	End Job	10/5/2015	06:56:57	USER					GOOD RETURNS THROUGHOUT DISPLACEMENT. GOT TS BACK AT 70 BBLS GONE AND CEMENT AT 100 GONE. 23 BBLS OF GOOD CEMENT TO SURFACE
Event	24	Pre-Rig Down Safety Meeting	10/5/2015	07:00:00	USER					ALL HES PRESENT
Event	25	Rig Down Lines	10/5/2015	07:15:00	USER					
Event	26	Pre-Convoy Safety Meeting	10/5/2015	08:15:00	USER					ALL HES PRESENT

Event	27	Crew Leave Location	10/5/2015	08:30:00	USER
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THANK YOU FOR USING HALLIBURTON CEMENT.  
CLIFF SPARKS AND CREW

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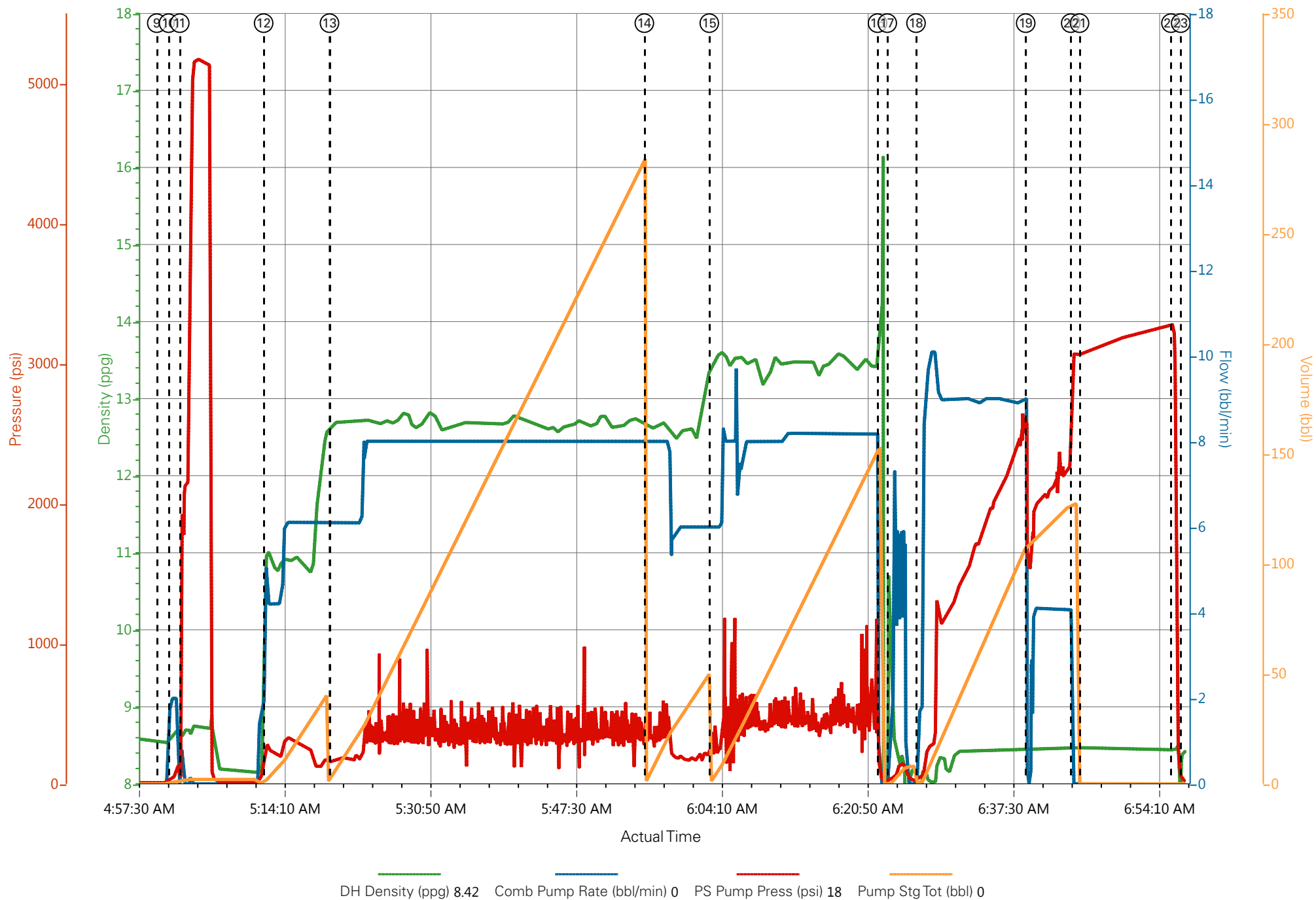
# PICEANCE, PICEANCE 28-03W 4.5" PRODUCTION



DH Density (ppg) 8.42    Comb Pump Rate (bbl/min) 0    PS Pump Press (psi) 18    Pump Stg Tot (bbl) 0

- |   |   |                                |                                      |                           |
|---|---|--------------------------------|--------------------------------------|---------------------------|
| ① Call Out n/a;n/a;n/a;n/a                  | ⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a | ⑨ Start Job 8.54;0;8;0         | ⑬ Pump Lead Cement 12.65;6.1;147;4.2 | ⑰ Clean Lines 9.88;1.7;40 |
| ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a | ⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a             | ⑩ Prime Pumps 8.65;2;45;0.6    | ⑭ Other 12.65;8;297;2.4              | ⑱ Pump Displacement 5     |
| ③ Crew Leave Yard n/a;n/a;n/a;n/a           | ⑦ Rig-up Lines n/a;n/a;n/a;n/a                          | ⑪ Test Lines 8.7;0;1818;2      | ⑮ Pump Tail Cement 13.45;6;298;2.1   | ⑲ Other 8.44;0;1553;108   |
| ④ Arrive At Loc n/a;n/a;n/a;n/a             | ⑧ Pre-Job Safety Meeting 8.41;0;8;0                     | ⑫ Pump Spacer 1 11;4.2;293;1.9 | ⑯ Shutdown 14.14;0;59;152.9          | ⑳ Bump Plug 8.47;0;307    |

# PICEANCE, PICEANCE 28-03W 4.5" PRODUCTION





# HALLIBURTON

## Water Analysis Report

Company: WPX  
Submitted by: Cliff Sparks  
Attention: Dallas Scott  
Lease: PICEANCE  
Well #: 28-03W

Date: 10/4/2015  
Date Rec.: 10/4/2015  
S.O.#: 902803130  
Job Type: PRODUCTION

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>7</b>
Potassium (K)	<i>5000</i>	<b>200</b> Mg / L
Hardness	<i>500</i>	<b>250</b> Mg / L
Iron (FE2)	<i>300</i>	<b>0</b> Mg / L
Chlorides (Cl)	<i>3000</i>	<b>0</b> Mg / L
Sulfates (SO <sub>4</sub> )	<i>1500</i>	<b>&lt;200</b> Mg / L
Temp	<i>40-80</i>	<b>58</b> Deg
Total Dissolved Solids		<b>150</b> Mg / L

Respectfully: Cliff Sparks

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 i

<b>Sales Order #:</b> 0902803130	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 10/5/2015
<b>Customer:</b> PICEANCE ENERGY LLC - EBUS		<b>Job Type (BOM):</b> CMT PRODUCTION CASING BOM
<b>Customer Representative:</b> ROGER FOSTER		<b>API / UWI: (leave blank if unknown)</b> 05-077-09771-00
<b>Well Name:</b> PICEANCE		<b>Well Number:</b> 0080127651
<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	10/5/2015
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HB74155
Customer Participation	Did the customer participate 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	NA

<b>CUSTOMER SIGNATURE</b>
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### KEY PERFORMANCE INDICATORS

General	
<b>Survey Conducted Date</b> The date the survey was conducted	10/5/2015

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?	No
<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	5
<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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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)	Not Available
<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	98
<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	98
<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