

Piceance Energy LLC- EBUS

Piceance 28-04W

**Patterson 306**

## **Post Job Summary**

# **Cement Surface Casing**

Date Prepared: 09/23/2015  
Job Date: 09/22/2015

Submitted by: Evan Russell – Grand Junction Cement Engineer

## The Road to Excellence Starts with Safety

Sold To #: 344919	Ship To #: 3123917	Quote #:	Sales Order #: 0902765815
Customer: PICEANCE ENERGY LLC - EBUS		Customer Rep: Matt Settles	
Well Name: PICEANCE		Well #: 28-04W	API/UWI #: 05-077-09772-00
Field: VEGA	City (SAP): COLLBRAN	County/Parish: MESA	State: COLORADO
Legal Description: SW NW-28-9S-93W-1528FNL-1173FWL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 306	
Job BOM: 7521			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Edward Deussen	

### Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	1572ft		Job Depth TVD
Water Depth			Wk Ht Above Floor
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	1582		0
Open Hole Section			11				60	1572		0

### Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe					Top Plug	8.625	1	HES
Float Shoe					Bottom Plug	8.625	1	HES
Float Collar					SSR plug set			HES
Insert Float					Plug Container	8.625	1	HES
Stage Tool					Centralizers			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	Fresh Water	Fresh Water	40	bbl	8.33			4.0	

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		8.0	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		8.0	12.11
12.11 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			8.0	
Cement Left In Pipe		Amount	44 ft		Reason			Shoe Joint	
Mix Water:		pH 7.0	Mix Water Chloride:		0 ppm		Mix Water Temperature:		58 °F
Plug Bumped?		Yes	Bump Pressure:		382 psi		Floats Held?		Yes
Cement Returns:		## bbl m3							
Comment 28 bbls cement to surface									

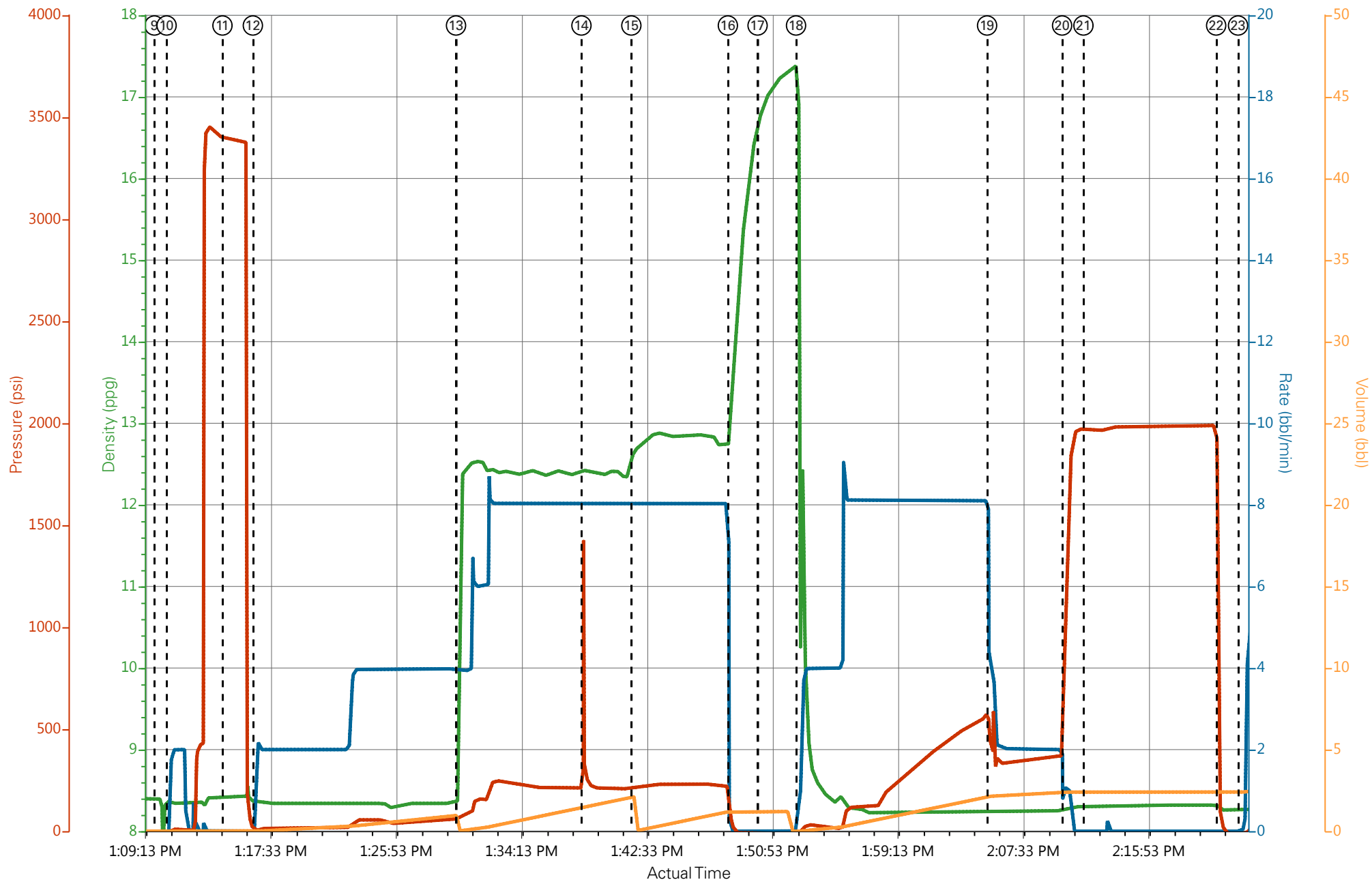
## 1.0 Real-Time Job Summary

## 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	9/22/2015	07:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	9/22/2015	09:45:00	USER					
Event	3	Crew Leave Yard	9/22/2015	10:00:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive At Loc	9/22/2015	12:00:00	USER					O/L time 1300
Event	5	Assessment Of Location Safety Meeting	9/22/2015	12:10:00	USER					Rig still running casing
Event	6	Pre-Rig Up Safety Meeting	9/22/2015	12:20:00	USER					
Event	7	Rig-Up Equipment	9/22/2015	12:30:00	USER					1 Hardline to standpipe, 1 bulk hose 1 660, 2 water hoses to upright and day tank
Event	8	Pre-Job Safety Meeting	9/22/2015	12:50:00	USER					All HES personnel, rig crew, and company rep
Event	9	Start Job	9/22/2015	13:10:00	USER					TD 1582', TP 1572', SJ 44.14', Mud 9.4 ppg, 11" OH, 8 5/8" J55 24# csg
Event	10	Prime Pumps	9/22/2015	13:10:48	USER	8.33	2.0	27	2.0	
Event	11	Test Lines	9/22/2015	13:14:31	USER			3460		Pressure held well
Event	12	Pump Spacer 1	9/22/2015	13:16:32	COM5	8.33	4.0	70	40.0	Fresh Water
Event	13	Pump Lead Cement	9/22/2015	13:30:02	COM5	12.3	8.0	265	84.1	192 sks, 12.3 ppg, 2.46 yield, 14.17 gal/sk
Event	14	Other	9/22/2015	13:38:22	USER					Bottom plug ruptured

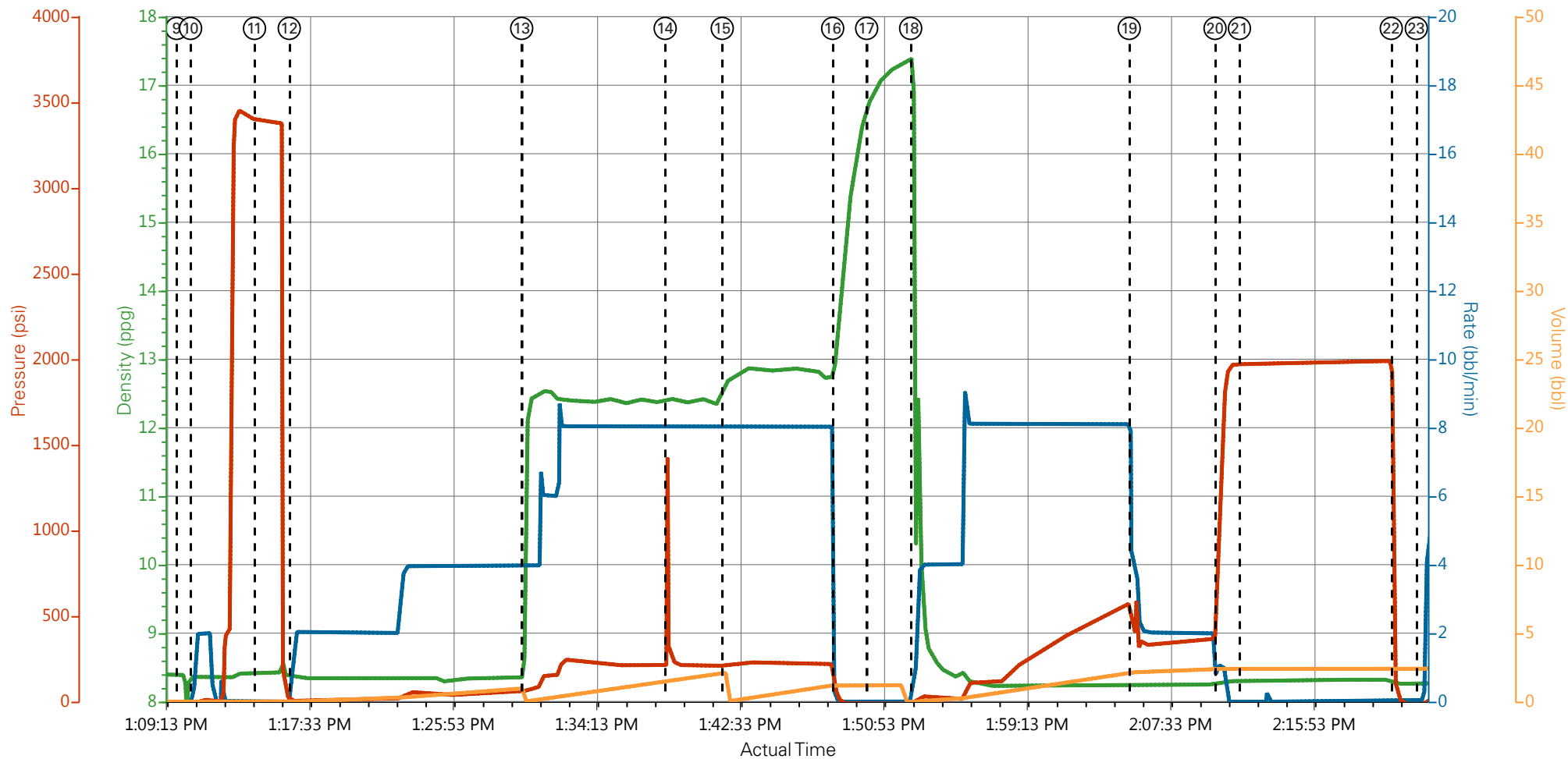
Event	15	Pump Tail Cement	9/22/2015	13:41:41	COM5	12.8	8.0	310	46.6	120 sks, 12.8 ppg, 2.18 yield, 12.11 gal/sk
Event	16	Shutdown	9/22/2015	13:48:06	USER					Wash up on top of plug
Event	17	Drop Top Plug	9/22/2015	13:50:04	COM5					
Event	18	Pump Displacement	9/22/2015	13:52:37	COM5	8.33	8.0	608	97.2	Fresh Water
Event	19	Slow Rate	9/22/2015	14:05:19	USER	8.33	2.0	345	10.0	Good returns throughout job
Event	20	Bump Plug	9/22/2015	14:10:18	COM5			382		28 bbls cement to surface
Event	21	Pressure Up	9/22/2015	14:11:43	USER			2003		Casing test - 2000 psi for 10 mintues
Event	22	Check Floats	9/22/2015	14:20:32	USER					Floats held – 1 bbl flowback
Event	23	End Job	9/22/2015	14:22:00	USER					40 lbs sugar used
Event	24	Pre-Rig Down Safety Meeting	9/22/2015	14:30:00	USER					
Event	25	Rig-Down Equipment	9/22/2015	14:40:00	USER					
Event	26	Pre-Convoy Safety Meeting	9/22/2015	15:15:00	USER					
Event	27	Crew Leave Location	9/22/2015	15:30:00	USER					Thank you for using Halliburton - Ed Deussen and crew

# PICEANCE ENERGY - Piceance 28-04W - 8 5/8" Surface



DH Density (ppg) 8.27 Comb Pump Rate (bbl/min) 6 PS Pump Press (psi) -17.7 Pump Stg Tot (bbl) 2.7

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- |   |   |  |  |
|---|---|--|--|
| ① Call Out n/a;n/a;n/a;n/a                              | ⑨ Start Job 8.4;0;-13.7;0               | ⑰ Drop Top Plug 16.79;0;-13.7;1.2              | 25 Rig-Down Equipment n/a;n/a;n/a;n/a        |
| ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a             | ⑩ Prime Lines 8.34;0.9;-2.7;0           | ⑱ Pump Displacement 13.41;1;-5.7;0             | 26 Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a |
| ③ Crew Leave Yard n/a;n/a;n/a;n/a                       | ⑪ Test Lines 8.42;0;3394.3;0.05         | ⑲ Slow Rate 8.24;4;434.3;2.14                  | 27 Crew Leave Location n/a;n/a;n/a;n/a       |
| ④ Arrive At Loc n/a;n/a;n/a;n/a                         | ⑫ Pump H2O Spacer 8.37;1;0.3;0          | 20 Bump Plug 8.26;1;924.3;2.39                 |  |
| ⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a | ⑬ Pump Lead Cement 10.09;4;58.3;0.02    | 21 Pressure Up 8.3;0;1969.3;2.4                |  |
| ⑥ Pre-Rig Up Safety Meeting 8.4;0;-10.7;0.99            | ⑭ Bottom Plug 12.43;8.1;312.3;1.48      | 22 Check Floats 8.27;0;148.3;2.4               |  |
| ⑦ Rig-up Equipment 8.4;0;-14.7;0                        | ⑮ Pump Tail Cement 12.66;8.06;215.3;1.2 | 23 End Job 8.26;0;-14.7;2.4                    |  |
| ⑧ Pre-Job Safety Meeting 8.4;0;-14.7;0                  | ⑯ Shutdown/Wash Up 13.22;0;54.3;1.2     | 24 Pre-Rig Down Safety Meeting n/a;n/a;n/a;n/a |  |

# HALLIBURTON

## Water Analysis Report

Company: PICEANCE ENERGY

Submitted by: ED DEUSSEN

Attention: J.TROUT

Lease FED

Well # 28-04W

Date: 9/22/2015

Date Rec.: 9/22/2015

S.O.# 902765815

Job Type: SURFACE

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>7</b>
Potassium (K)	<i>5000</i>	<b>0</b> Mg / L
Calcium (Ca)	<i>500</i>	<b>120</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>440</b> Mg / L

Respectfully: ED DEUSSEN

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 its



<b>Sales Order #:</b> 0902765815	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 9/22/2015
<b>Customer:</b> PICEANCE ENERGY LLC - EBUS		<b>Job Type (BOM):</b> CMT SURFACE CASING BOM
<b>Customer Representative:</b>		<b>API / UWI: (leave blank if unknown)</b> 05-077-09772-00
<b>Well Name:</b> PICEANCE		<b>Well Number:</b> 0080127652
<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	9/22/2015
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HB57194
Customer Participation	Did the customer participate in this survey? (Y/N)	No
Customer Representative	Enter the Customer representative name	
HSE	Was our HSE performance satisfactory? Circle Y or N	
Equipment	Were you satisfied with our Equipment? Circle Y or N	
Personnel	Were you satisfied with our people? Circle Y or N	
Customer Comment	Customer's Comment	

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

General	
<b>Survey Conducted Date</b>	9/22/2015
The date the survey was conducted	

Cementing KPI Survey	
<b>Type of Job</b>	0
Select the type of job. (Cementing or Non-Cementing)	
<b>Select the Maximum Deviation range for this Job</b>	Vertical
What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	
<b>Total Operating Time (hours)</b>	3.5
Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	
<b>HSE Incident, Accident, Injury</b>	No
HSE Incident, Accident, Injury. This should be recordable incidents only.	
<b>Was the job purpose achieved?</b>	Yes
Was the job delivered correctly as per customer agreed design?	
<b>Pumping Hours</b>	1.5
Total number of hours pumping fluid on this job. Enter in decimal format.	
<b>Type of Rig Classification Job Was Performed</b>	Drilling Rig (Portable)
Type Of Rig (classification) Job Was Performed On	
<b>Number Of JSAs Performed</b>	5
Number Of Jsas Performed	
<b>Was this a Primary Cement Job (Yes / No)</b>	Yes
Primary Cement Job= Casing job, Liner job, or Tie-back job.	
<b>Number of Unplanned Shutdowns</b>	0
Unplanned shutdown is when injection stops for any period of time.	
<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	99
<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	99
<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