

Piceance Energy LLC- EBUS

Piceance 28-02W

**Patterson 306**

# **Post Job Summary**

## **Cement Surface Casing**

Date Prepared: 09/22/2015

Job Date: 09/18/2015

Submitted by: Evan Russell – Grand Junction Cement Engineer

The Road to Excellence Starts with Safety

Sold To #: 344919	Ship To #: 3123915	Quote #:	Sales Order #: 0902755124
Customer: PICEANCE ENERGY LLC - EBUS		Customer Rep:	
Well Name: PICEANCE	Well #: 28-02W	API/UWI #: 05-077-09770-00	
Field: VEGA	City (SAP): COLLBRAN	County/Parish: MESA	State: COLORADO
Legal Description: SW NW-28-9S-93W-1522FNL-1181FWL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 306	
Job BOM: 7521			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA/HX41066		Srvc Supervisor:	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	1559ft	Job Depth TVD	1559'
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 (LT&C)		0	1559		0
Open Hole Section			11				60	1609		0

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	8.625			1559	Top Plug	8.625	1	HES
Float Shoe	8.625				Bottom Plug	8.625	1	HES
Float Collar	8.625			1512.47	SSR plug set	8.625		
Insert Float	8.625				Plug Container	8.625	1	HES
Stage Tool	8.625				Centralizers	8.625		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			6		
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	14.17	
14.17 Gal		FRESH WATER								

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	VariCem GJ5	VARICEM (TM) CEMENT	120	sack	12.8	2.18		8	12.11
12.11 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	Fresh Water Displacement	Fresh Water Displacement	96	bbl	8.3			8	
<b>Cement Left In Pipe</b>									
<b>Amount</b>		46 ft			<b>Reason</b>			Shoe Joint	
<b>Mix Water:</b>		<b>Mix Water Chloride:</b>			<b>Mix Water Temperature:</b>				
<b>Cement Temperature:</b>		<b>Plug Displaced by:</b> 8.33 PPG			<b>Disp. Temperature:</b>				
<b>Plug Bumped?</b> YES		<b>Bump Pressure:</b> 390 PSI			<b>Floats Held?</b> YES				
<b>Cement Returns:</b> 17 BBLS		<b>Returns Density:</b>			<b>Returns Temperature:</b>				
<b>Comment</b>									

## 1.0 Real-Time Job Summary

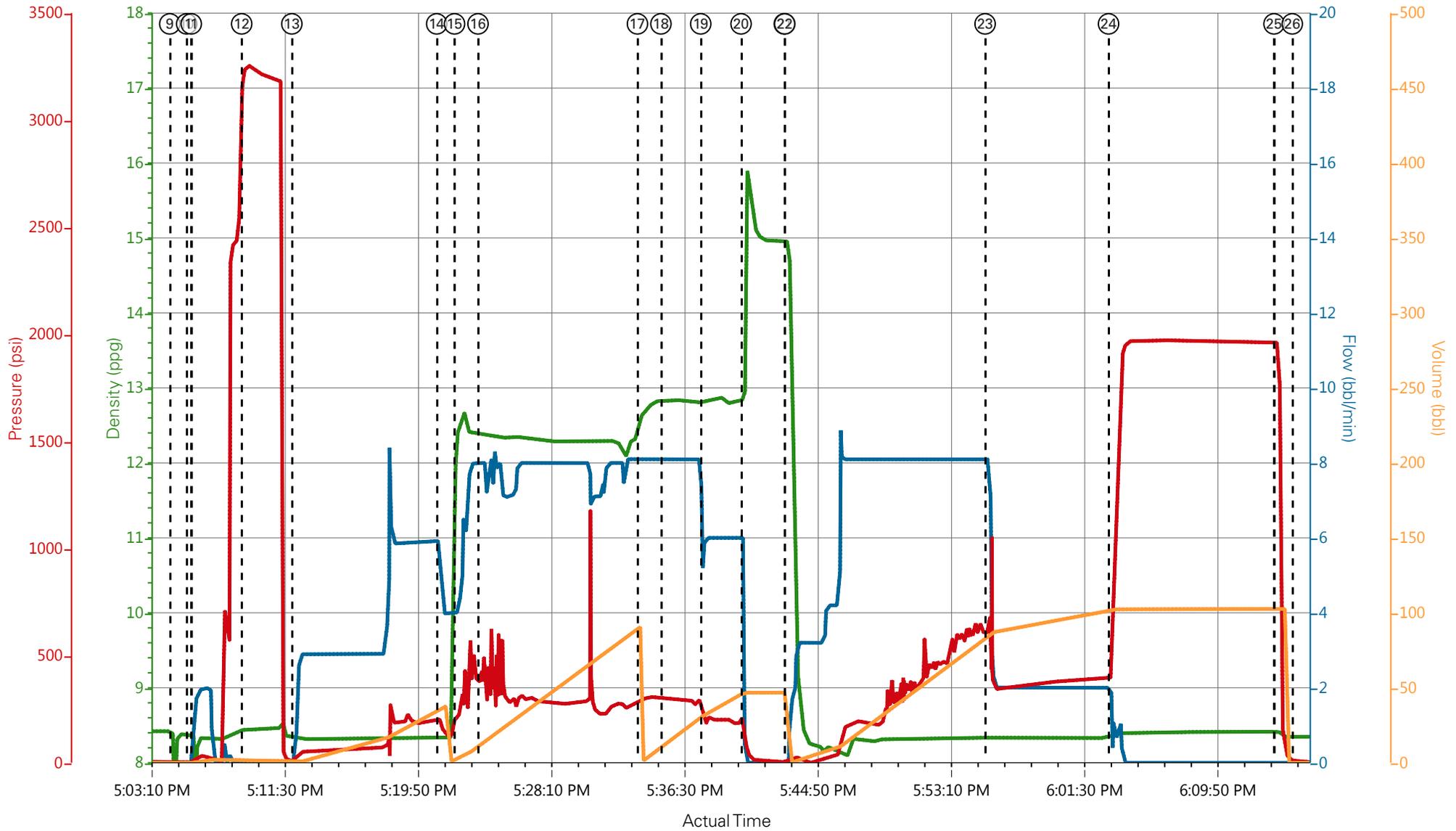
### 1.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Crew Leave Yard	Crew Leave Yard	9/18/2015	00:00:00	USER					1 HT 400 PUMP TRUCK E8, 1 660 BULK TRUCK, 1 550 SERVICE PICKUP
Event	2	Call Out	Call Out	9/18/2015	11:00:00	USER					CREW CALLED FOR JOB ON LOCATION @1700
Event	3	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	9/18/2015	11:45:00	USER					HES CREW PRESENT
Event	4	Arrive At Loc	Arrive At Loc	9/18/2015	14:00:00	USER					RIG RUNNING CSG UPON HES ARRIVAL
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	9/18/2015	14:30:00	USER					PERFORMED JSA AND WATER TEST
Event	6	Other	Spot Equipment	9/18/2015	14:45:00	USER					1 HT 400 PUMP TRUCK E8, 1 660 BULK TRUCK, 1 550 SERVICE PICKUP
Event	7	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	9/18/2015	15:00:00	USER					HAD SAFETY MEETING AND STARTED RIGGING UP
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	9/18/2015	16:29:14	USER					ALL HES AND RIG CREWS PRESENT
Event	9	Start Job	Start Job	9/18/2015	17:04:30	USER					TD 1609', TP 1559', SJ 46.53', OH 11", CSG 8 5/8" 24# J-55, MUD 9.3 PPG

Event	10	Drop Bottom Plug	Drop Bottom Plug	9/18/2015	17:05:33	USER						VERIFIED BY CO REP
Event	11	Prime Pumps	Prime Lines	9/18/2015	17:05:50	COM8	8.33	2.0	30	2		PRIME LINES WITH FRESH WATER 2 BBLS
Event	12	Test Lines	Test Lines	9/18/2015	17:08:59	COM8				3200		PRESSURE HELD @ 3200 PSI
Event	13	Pump Spacer 1	Pump H2O Spacer	9/18/2015	17:12:08	COM8	8.33	6.0	200	35		FRESH WATER 40 BBLS
Event	14	Slow Rate	Slow Rate	9/18/2015	17:21:11	USER	8.33	4.0	140	5		SLOWED TO GO INTO CMT
Event	15	Pump Lead Cement	Pump Lead Cement	9/18/2015	17:22:18	COM8	12.3	8.0	290	84		192 SKS VARICEM CMT, 12.3 PPG, 2.46 YIELD, 14.17 GAL/SK
Event	16	Check Weight	Check weight	9/18/2015	17:23:46	COM8						BALANCED MUD CUP MATCHED RECIRC DENSITY
Event	17	Pump Tail Cement	Pump Tail Cement	9/18/2015	17:33:45	COM8	12.8	8.0	300	47		120 SKS VARICEM CMT, 12.8 PPG, 2.18 YIELD, 12.11 GAL/SK
Event	18	Check Weight	Check weight	9/18/2015	17:35:13	COM8						BALANCED MUD CUP MATCHED RECIRC DENSITY
Event	19	Slow Rate	Slow Rate	9/18/2015	17:37:42	USER						SLOWED TO END CMT
Event	20	Shutdown	Shutdown	9/18/2015	17:40:13	USER						END OF CMT WASHING UP ON TOP OF PLUG

Event	21	Drop Top Plug	Drop Top Plug	9/18/2015	17:42:56	COM8						VERIFIED BY TATTLE TAIL
Event	22	Pump Displacement	Pump Displacement	9/18/2015	17:42:58	COM8	8.33	8.0	650	86		FRESH WATER
Event	23	Slow Rate	Slow Rate	9/18/2015	17:55:29	USER	8.33	2.0	360	10		SLOWED TO BUMP PLUG
Event	24	Bump Plug	Bump Plug	9/18/2015	18:03:13	COM8	8.33	2.0	390	96		PLUG BUMPED. BROUGHT PRESSURE UP TO 1971 PSI FOR A 10 MINUTE CSG TEST.
Event	25	Check Floats	Check Floats	9/18/2015	18:13:33	USER				1968		FLOATS HELD .75 BBL FLOW BACK
Event	26	End Job	End Job	9/18/2015	18:14:42	USER						17 BBLS CMT TO SURFACE USED 30 LBS SUGAR
Event	27	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	9/18/2015	18:30:00	USER						HES CREW PRESENT
Event	28	Rig-Down Completed	Rig-Down Completed	9/18/2015	19:30:00	USER						NO INJURIES TO REPORT
Event	29	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	9/18/2015	19:45:00	USER						1 HT 400 PUMP TRUCK E8, 1 660 BULK TRUCK, 1 550 SERVICE PICKUP
Event	30	Crew Leave Location	Crew Leave Location	9/18/2015	20:00:00	USER						THANK YOU FOR USING HALLIBURTON CMT

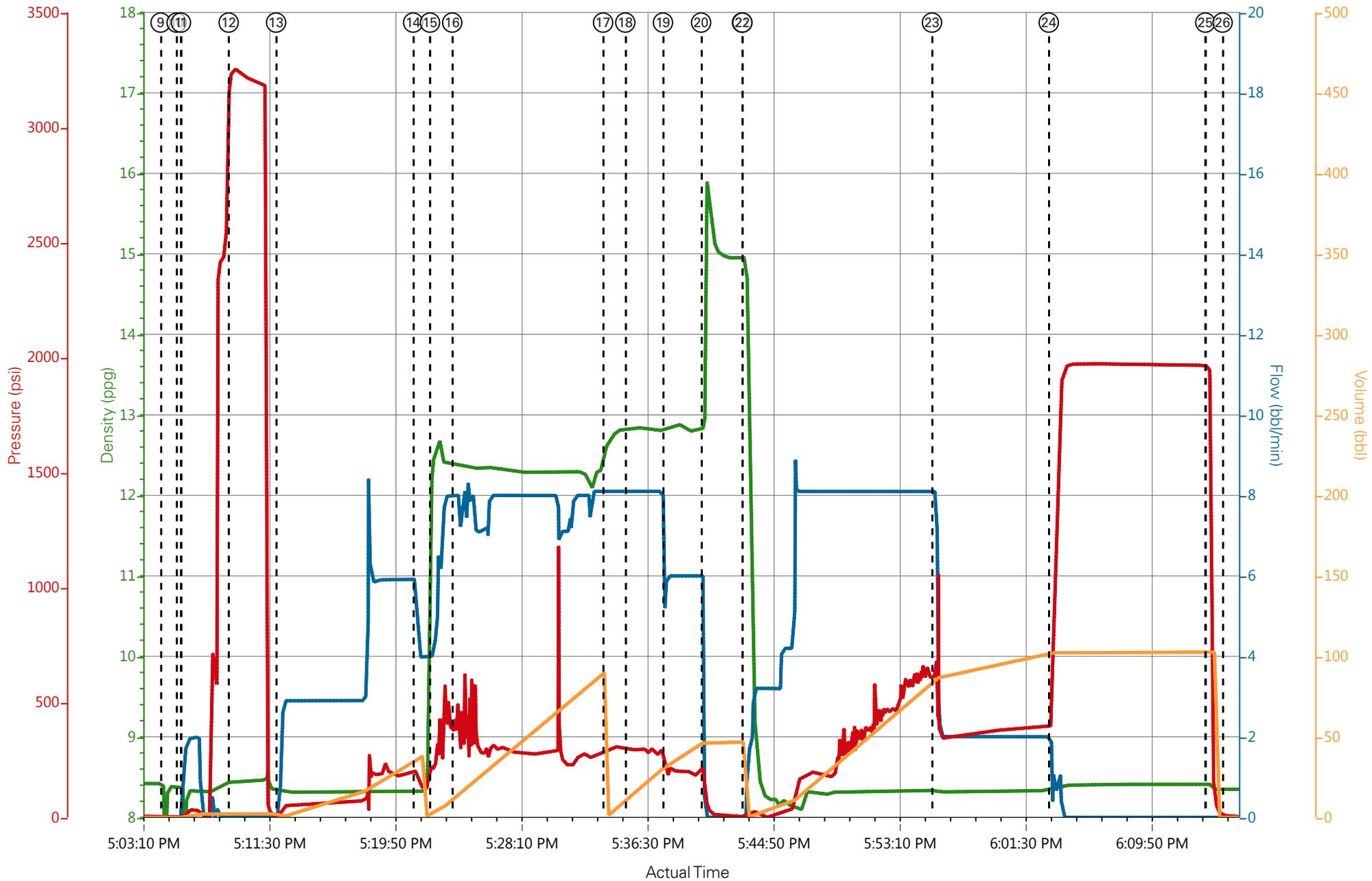
PICEANCE ENERGY PICEANCE FED 28-02W 8 5/8" SURFACE



DH Density (ppg) 8.34    Comb Pump Rate (bbl/min) 0    PS Pump Press (psi) 2    Pump Stg Tot (bbl) 0

- ⑨ Start Job    ⑪ Prime Lines    ⑬ Pump H2O Spacer    ⑮ Pump Lead Cement    ⑰ Pump Tail Cement    ⑲ Slow Rate    21 Drop Top Plug    23 Slow Rate    25 Check Floats    27 Post-Job Sa
- ⑩ Drop Bottom Plug    ⑫ Test Lines    ⑭ Slow Rate    ⑯ Check weight    ⑱ Check weight    20 Shutdown    22 Pump Displacement    24 Bump Plug    26 End Job    28 Rig-Down C

PICEANCE ENERGY PICEANCE FED 28-02W 8 5/8" SURFACE



DH Density (ppg) 8.34    Comb Pump Rate (bbl/min) 0    PS Pump Press (psi) 2    Pump Stg Tot (bbl) 0

# HALLIBURTON

## Water Analysis Report

Company: PICEANCE

Submitted by: Dustin Hyde

Attention: \_\_\_\_\_

Lease: PICEANCE FED

Well #: 28-02W

Date: 9/18/2015

Date Rec.: 9/18/2015

S.O.#: 902275124

Job Type: SURFACE

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
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>65</b> Deg
Total Dissolved Solids		<b>425</b> Mg / L

Respectfully: Dustin Hyde

Title: Cement 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> 0902755124	<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 SURFACE CASING BOM
<b>Customer Representative:</b> MATT SETTLES		<b>API / UWI: (leave blank if unknown)</b> 05-077-09770-00
<b>Well Name:</b> PICEANCE		<b>Well Number:</b> 0080127650
<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.	HB43597
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>	9/18/2015
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>	Deviated
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>	4
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)	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	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	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