

PICEANCE ENERGY LLC - EBUS

Gunderson 29-14E

**Patterson 306**

## **Post Job Summary**

# **Cement Surface Casing**

Date Prepared: 05/14/2015

Job Date: 05/02/2015

Submitted by: Aaron Katz – Grand Junction Cement Engineer

The Road to Excellence Starts with Safety

Sold To #: 344919	Ship To #: 3624343	Quote #:	Sales Order #: 0902371684
Customer: PICEANCE ENERGY LLC - EBUS		Customer Rep: ROGER FOSTER	
Well Name: GUNDERSON	Well #: 29-14E	API/UWI #: 05-077-10230-00	
Field: BUZZARD CREEK	City (SAP): COLLBRAN	County/Parish: MESA	State: COLORADO
Legal Description: SE NE-29-9S-93W-2407FNL-1168FEL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 306	
Job BOM: 7521			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HX41066		Srcv Supervisor: Jesse Slaughter	

### Job

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	1538ft 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	3	8.625	8.097	24	STC	J-55	0	1538	0	0
Open Hole Section			11				60	1548	0	0

### Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	8.625	1		1538	Top Plug	8.625	1	HES
Float Shoe	8.625	1			Bottom Plug	8.625	1	HES
Float Collar	8.625	1			SSR plug set	8.625		HES
Insert Float	8.625	1			Plug Container	8.625	1	HES
Stage Tool	8.625	1			Centralizers	8.625		HES

### Miscellaneous Materials

Gelling Agt	Conc	Surfactant	Conc	Acid Type	Qty	Conc
Treatment Fld	Conc	Inhibitor	Conc	Sand Type	Size	Qty

### 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	

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	VariCem GJ5	VARICEM (TM) CEMENT	192	sack	12.3	2.46		6	14.17
14.12 Gal		FRESH WATER							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/mi n</b>	<b>Total Mix Fluid Gal</b>
3	VariCem GJ5	VARICEM (TM) CEMENT	114	sack	12.8	2.18		6	12.11
12.05 Gal		FRESH WATER							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/mi n</b>	<b>Total Mix Fluid Gal</b>
4	Fresh Water Displacement	Fresh Water Displacement	95	bbl	8.3			9	
<b>Cement Left In Pipe</b>		<b>Amount</b>	43 ft		<b>Reason</b>		Shoe Joint		
<b>Comment</b>									

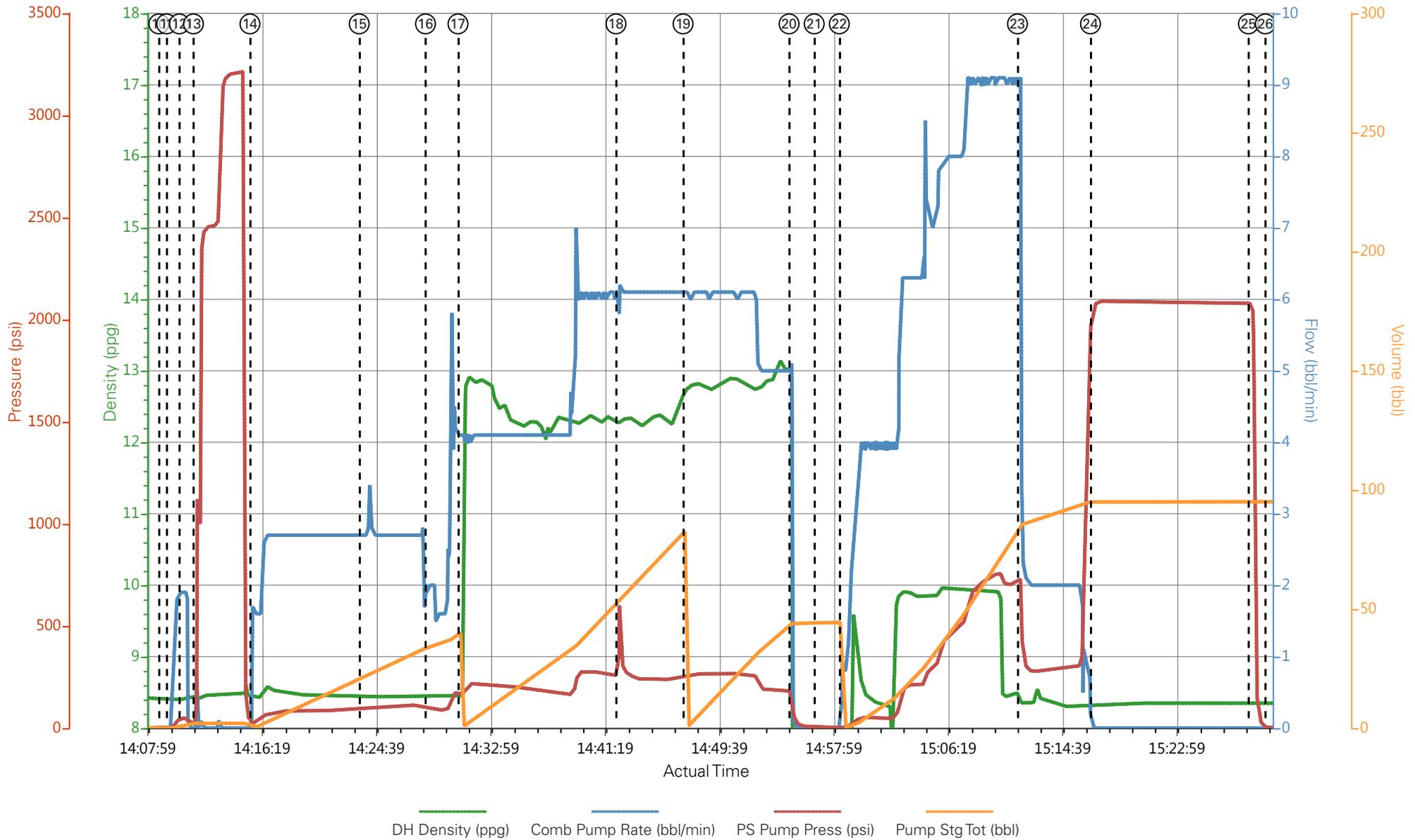
## 1.0 Real-Time Job Summary

### 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	PS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	5/1/2015	06:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	5/1/2015	09:20:00	USER					WITH ALL HES PERSONNEL
Event	3	Crew Leave Yard	5/1/2015	09:30:00	USER					
Event	4	Arrive At Loc	5/1/2015	11:00:00	USER					RIG WAS RUNNING CASING UPON HES ARRIVAL
Event	5	Assessment Of Location Safety Meeting	5/1/2015	11:10:00	USER					WITH ALL HES PERSONNEL
Event	6	Spot Equipment	5/1/2015	11:30:00	USER					
Event	7	Pre-Rig Down Safety Meeting	5/1/2015	11:40:00	USER					WITH ALL HES PERSONNEL
Event	8	Rig-Up Equipment	5/1/2015	11:50:00	USER					1 PUMP 2 BULK TRUCKS
Event	9	Pre-Job Safety Meeting	5/1/2015	13:50:00	USER					WITH ALL PERSONNEL
Event	10	Start Job	5/1/2015	14:09:00	COM7					TD 1548 FT, TP 1537.1 FT, SHOE 43 FT, CSG 8 5/8 IN 24 LB/FT, HOLE 11 IN, MUD WT 9.6 PPG
Event	11	Prime Pumps	5/1/2015	14:09:34	USER	8.33	2.0	50.0	2.0	FRESH WATER
Event	12	Drop Bottom Plug	5/1/2015	14:10:29	USER					PLUG LAUNCHED
Event	13	Test Lines	5/1/2015	14:11:31	COM7					TESTED LINES TO 3215 PSI PRESSURE HOLDING
Event	14	Pump H2O Spacer	5/1/2015	14:15:38	COM7	8.33	4.0	212.0	40.0	FRESH WATER
Event	15	Check weight	5/1/2015	14:23:36	COM7					SCALES SHOWING 11.9 PPG
Event	16	Check weight	5/1/2015	14:28:26	COM7					SCALES SHOWING 12.3 PPG
Event	17	Pump Lead Cement	5/1/2015	14:30:48	COM7	12.3	6.0	250.0	84.1	192 SKS AT 12.3 PPG, 2.46 FT3/SK, 14.17 GAL/SK
Event	18	Bump Plug	5/1/2015	14:42:18	USER			650.0		BOTTOM PLUG

Event	19	Pump Tail Cement	5/1/2015	14:47:12	COM7	12.8	6.0	210.0	44.3	114 SKS AT 12.8 PPG, 2.18 FT3/SK, 12.11 GAL/SK
Event	20	Shutdown	5/1/2015	14:54:55	USER					
Event	21	Drop Top Plug	5/1/2015	14:56:45	USER					PLUG LAUNCHED
Event	22	Pump Displacement	5/1/2015	14:58:35	COM7	9.6	9.0	740.0	95.0	WATER BASED MUD
Event	23	Slow Rate	5/1/2015	15:11:34	USER	8.33	2.0	306.0	85.0	SLOWED RATE 10 BBLS PRIOR TO CALCULATED DISPLACEMENT.
Event	24	Bump Plug	5/1/2015	15:16:53	COM7			2100.0		TESTED CASING AS SOON AS PLUG BUMPED AS PER COMPANY REP. FOR 10 MIN.
Event	25	Check Floats	5/1/2015	15:28:24	USER					FLOATS HOLDING. HES RETURNED 1 BBL H2O TO PUMP
Event	26	End Job	5/1/2015	15:29:37	COM7					PIPE WAS STATIC DURING JOB, GOOD CIRCULATION THROUGHOUT JOB. HES RETURNED 35 BBLS CEMENT TO SURFACE. USED 10 LB SUGAR FOR JOB
Event	27	Pre-Rig Down Safety Meeting	5/1/2015	15:40:47	USER					WITH ALL HES PERSONNEL
Event	28	Rig-Down Equipment	5/1/2015	15:45:00	USER					
Event	29	Pre-Convoy Safety Meeting	5/1/2015	16:20:00	USER					WITH ALL HES PERSONNEL
Event	30	Crew Leave Location	5/1/2015	16:30:00	USER					
Event	31	Comment	5/1/2015	16:31:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT DEPARTMENT. JESSE SLAUGHTER AND CREW.

# BLACK HILLS - GUNDERSON 29-14E - SURFACE



- ① Call Out      ③ Crew Leave Yard      ⑤ Assessment Of Location Safety Meeting      ⑦ Pre-Rig Down Safety Meeting      ⑨ Pre-Job Safety Meeting      ⑪ Prime Pumps      ⑬ Test Lines
- ② Pre-Convoy Safety Meeting      ④ Arrive At Loc      ⑥ Spot Equipment      ⑧ Rig-Up Equipment      ⑩ Start Job      ⑫ Drop Bottom Plug      ⑭ Pump H2O Spa



**HALLIBURTON** | iCem® Service

Created: 2015-05-01 07:32:40, Version: 4.1.107

[Edit](#)

Customer: PICEANCE ENERGY LLC - EBUS

Job Date: 5/1/2015 12:56:42 PM

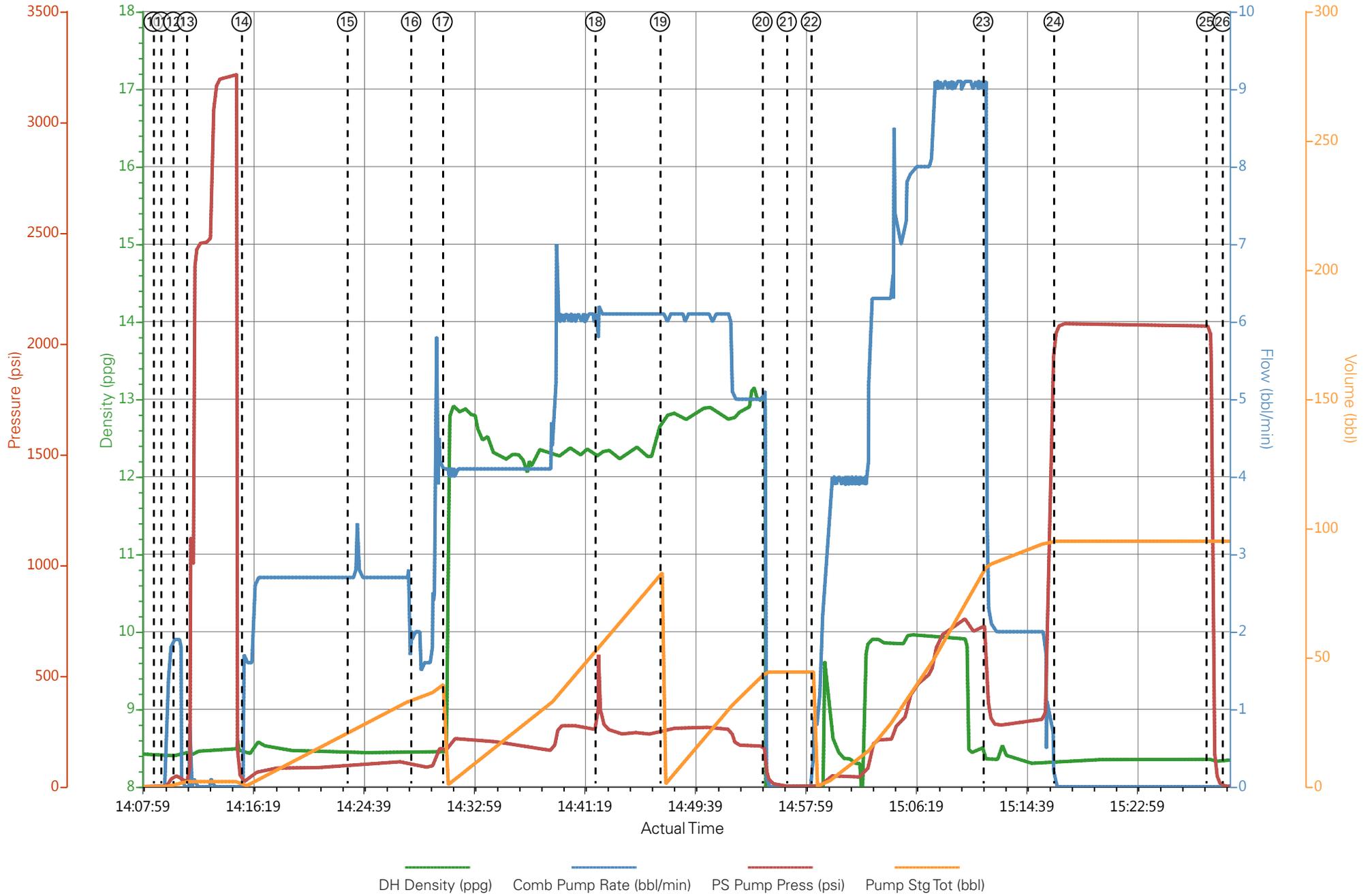
Well: GUNDERSON 29-14E

Representative: ROGER FOSTER

Sales Order #: 902371684

Elite #1: JESSE SLAUGHTER / DIRK BRENNECKE

# BLACK HILLS - GUNDERSON 29-14E - SURFACE



# HALLIBURTON

## Water Analysis Report

Company: BLACK HILLS

Date: 5/1/2015

Submitted by: JESSE SLAUGHTER

Date Rec.: \_\_\_\_\_

Attention: LAB

S.O.# 902371684

Lease GUNDERSON

Job Type: SURFACE

Well # 29-14E

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>6</b>
Potassium (K)	<i>5000</i>	<b>250 Mg / L</b>
Calcium (Ca)	<i>500</i>	<b>120 Mg / L</b>
Iron (FE2)	<i>300</i>	<b>0 Mg / L</b>
Chlorides (Cl)	<i>3000</i>	<b>0 Mg / L</b>
Sulfates (SO <sub>4</sub> )	<i>1500</i>	<b>UNDER 200 Mg / L</b>
Chlorine (Cl <sub>2</sub> )		<b>0 Mg / L</b>
Temp	<i>40-80</i>	<b>65 Deg</b>
Total Dissolved Solids		<b>200 Mg / L</b>

Respectfully: JESSE SLAUGHTER

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> 0902371684	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 5/1/2015
<b>Customer:</b> PICEANCE ENERGY LLC - EBUS		<b>Job Type (BOM):</b> CMT SURFACE CASING BOM
<b>Customer Representative:</b> ROGER FOSTER		<b>API / UWI: (leave blank if unknown)</b> 05-077-10230-00
<b>Well Name:</b> GUNDERSON		<b>Well Number:</b> 0080703217
<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	5/1/2015
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HB21762
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	

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

General	
<b>Survey Conducted Date</b>	5/1/2015
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>	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>	2
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>	6
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	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