

Cynosure Energy LLC

Federal 14-15-2-21

**Frontier 28**

## **Post Job Summary**

# **Cement Surface Casing**

Date Prepared: 10/29/2014

Job Date: 10/23/2014

Submitted by: Patrick Ealey – Grand Junction Cement Engineer

*The Road to Excellence Starts with Safety*

Sold To #: 373950		Ship To #: 3557156		Quote #:		Sales Order #: 0901767755	
Customer: CYNOSURE ENERGY LLC				Customer Rep: Darwin			
Well Name: FEDERAL			Well #: 14/15-2-21			API/UWI #: 05-045-22458-00	
Field: KOKOPELLI		City (SAP): NEW CASTLE		County/Parish: GARFIELD		State: COLORADO	
Legal Description: SE NE-21-6S-91W-2377FNL-750FEL							
Contractor:				Rig/Platform Name/Num: Frontier 28			
Job BOM: 7521							
Well Type: DIRECTIONAL GAS							
Sales Person: HALAMERICA\HX23209				Srvc Supervisor: Brandon Reeves			
Job							

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	1515ft		Job Depth TVD
Water Depth			Wk Ht Above Floor 5ft
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		9.625	8.921	36	STC	J-55	0	1515	0	0
Open Hole Section			13.5				0	1539	0	0

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625			1515		Top Plug	9.625	1	HES
Float Shoe	9.625					Bottom Plug	9.625		HES
Float Collar	9.625					SSR plug set	9.625		HES
Insert Float	9.625					Plug Container	9.625	1	HES
Stage Tool	9.625					Centralizers	9.625		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 Spacer	Fresh Water Spacer	20	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	
2	VariCem GJ5	VARICEM (TM) CEMENT	270	sack	12.3	2.45		8	14.17	

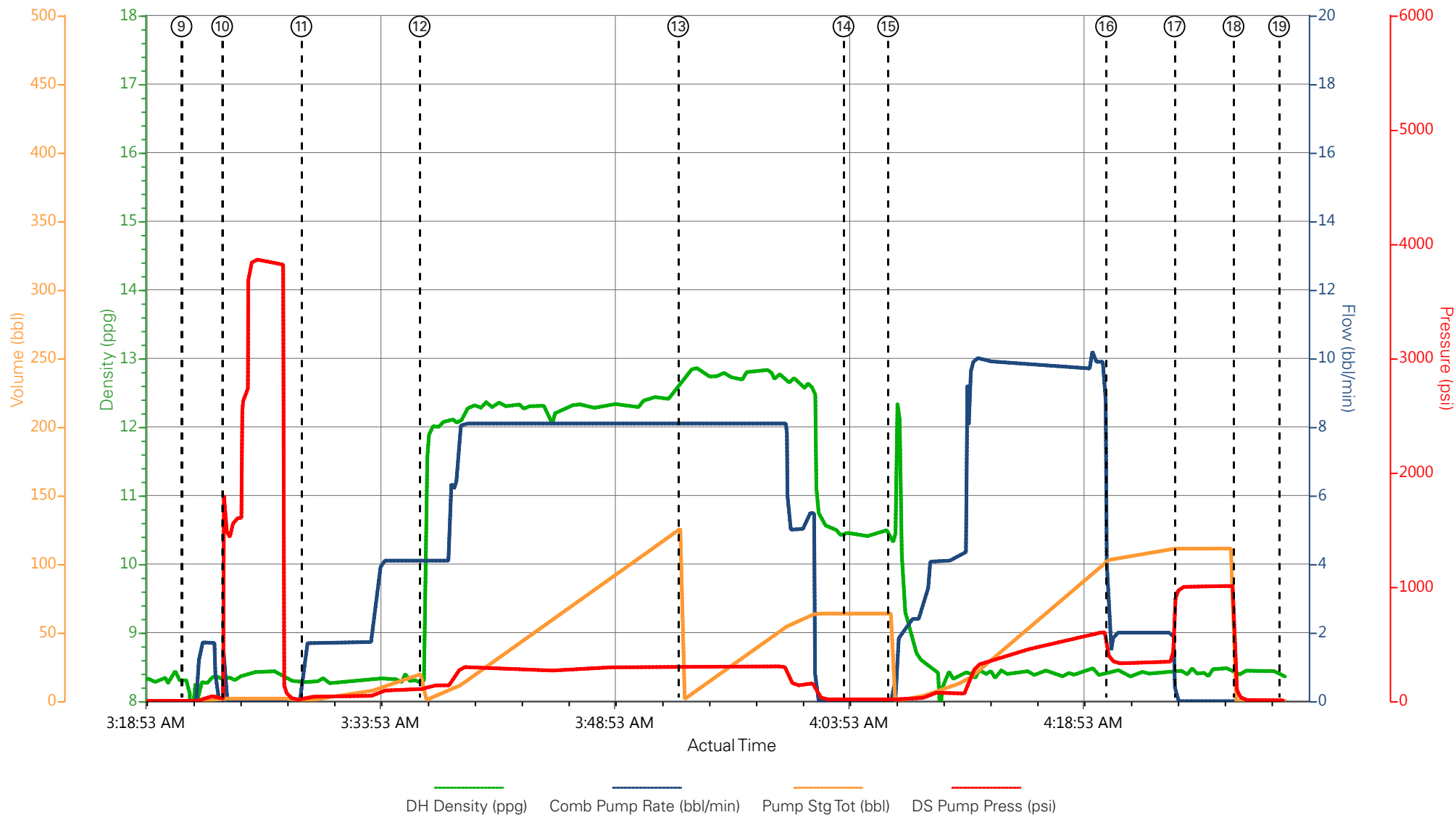
14.10 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	VariCem GJ5	VARICEM (TM) CEMENT	160	sack	12.8	2.18		8	12.11
12.05 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	Displacement		113	bbl	8.6			10	
Cement Left In Pipe		Amount	43.25 ft		Reason		Shoe Joint		
Comment									

## 1.1 Job Event Log

Type	Seq. No.	Activity	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	DS Pump Press (psi)	Comment
Event	1	Call Out	10/22/2014	16:30:21	USER					
Event	2	Depart from Service Center or Other Site	10/22/2014	18:30:23	USER					
Event	3	Arrive at Location from Service Center	10/22/2014	20:15:43	USER					REQUESTED ON LOCATION TIME WAS 20:30
Event	4	Assessment Of Location Safety Meeting	10/23/2014	01:00:00	USER					
Event	5	Other	10/23/2014	02:00:00	USER					
Event	6	Pre-Rig Up Safety Meeting	10/23/2014	02:20:12	USER					
Event	7	Rig-Up Equipment	10/23/2014	02:30:34	USER					
Event	8	Pre-Job Safety Meeting	10/23/2014	03:00:00	USER					
Event	9	Start Job	10/23/2014	03:21:21	COM5	8.32	0.00	0.0	2.00	TD-1539' TP-1514.82' SJ-43.25' MW-9.9 PPG. HOLE-13 1/2" CASING-9 5/8" 36 PPF. J-55
Event	10	Test Lines	10/23/2014	03:23:56	COM5	8.32	0.00	1.9	3845.00	TESTED LINES TO 3845 PSI.
Event	11	Pump Spacer 1	10/23/2014	03:29:01	COM5	8.27	4.00	20.0	110.00	20 BBLS. FRESH WATER SPACER
Event	12	Pump Lead Cement	10/23/2014	03:36:35	COM5	12.31	8.00	117.8	300.00	270 SKS. @ 12.3 PPG. 2.45 YIELD 14.17 GAL/SK.
Event	13	Pump Tail Cement	10/23/2014	03:53:08	COM5	12.83	8.00	62.1	309.00	160SKS. @ 12.8 PPG. 2.18 YIELD 12.11 GAL/SK.
Event	14	Drop Top Plug	10/23/2014	04:03:43	USER	10.44	0.00	0.0	14.00	HES PROVIDED THE TOP PLUG.

Event	15	Pump Displacement	10/23/2014	04:06:34	COM5	8.34	10.00	0.0	570.00	FRESH WATER DISPLACEMENT.
Event	16	Other	10/23/2014	04:20:31	COM5	8.40	2.00	103.0	330.00	SLOW RATE TO LAND THE PLUG.
Event	17	Bump Plug	10/23/2014	04:24:54	COM5	8.45	2.00	113.0	350.00	PLUG LANDED AT 350 PSI. PRESSURED UP TO 985 PSI.
Event	18	Other	10/23/2014	04:28:40	COM5	8.28	0.00	0.0	0.00	FLOATS HELD. .5 BBL.OF FLOW BACK.
Event	19	End Job	10/23/2014	04:31:35	COM5					THE WELL WAS CIRCULATED BEFORE STARTING THE JOB. GOOD CIRCULATION THROUGHOUT THE JOB. THE PIPE WAS NOT RECIPROCATED. CIRCULATED 50 BBLS.OF CEMENT TO SURFACE,.

# CYNOSURE ENERGY LLC - FEDERAL 14-15-2-21 - 9 5/8" SURFACE



- |  |                                       |                                  |
|--|---------------------------------------|----------------------------------|
| ① Call Out n/a;n/a;n/a;n/a                                 | ⑧ Pre-Job Safety Meeting 8.4;0;14.8;1 | ⑮ Pump Displacement 10.33;0;0;14 |
| ② Depart from Service Center or Other Site n/a;n/a;n/a;n/a | ⑨ Start Job 8.32;0;0;2                | ⑯ Slow Rate 8.4;2.4;103.2;378    |
| ③ Arrive at Location from Service Center n/a;n/a;n/a;n/a   | ⑩ Test Lines 8.32;0;1.9;1551          | ⑰ Bump Plug 8.45;0;111.3;968     |
| ④ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a    | ⑪ Pump Water Spacer 8.27;1.7;0.1;16   | ⑱ Check Floats 8.28;0;0;90       |
| ⑤ Spot Equipment n/a;n/a;n/a;n/a                           | ⑫ Pump Lead Cement 8.3;4.1;0;107      | ⑲ End Job 8.42;0;0;7.4           |
| ⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a                | ⑬ Pump Tail Cement 12.63;8.1;0.1;309  |                                  |
| ⑦ Rig-Up Equipment n/a;n/a;n/a;n/a                         | ⑭ Drop Top Plug 10.44;0;63.9;14       |                                  |

▼ **HALLIBURTON** | iCem® Service

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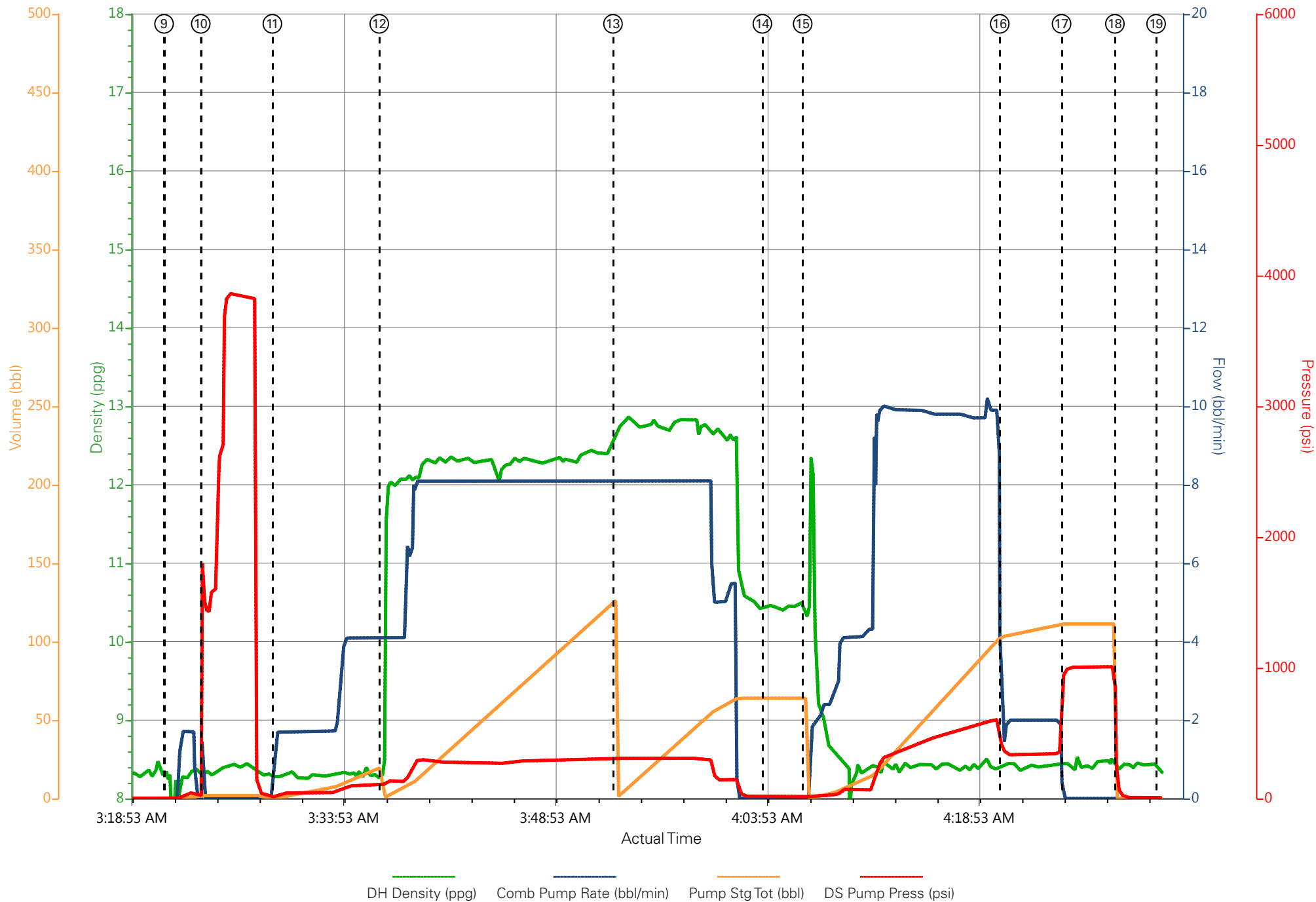
Edit

Customer: CYNOSURE ENERGY LLC  
Representative: BRANDON REEVES

Job Date: 10/23/2014  
Sales Order #: 901767755

Well: FEDERAL 14-15-2-21  
Elite / Operator: ELITE 3 / KEVIN BENNETT

# CYNOSURE ENERGY LLC - FEDERAL 14-15-2-21 - 9 5/8" SURFACE



# HALLIBURTON

## Water Analysis Report

Company: CYNOSURE ENERGY

Submitted by: BRANDON REEVES

Attention: J. TROUT

Lease FEDERAL

Well # 14-15-2-21

Date: 10/22/2014

Date Rec.: 10/22/2014

S.O.# 901767755

Job Type: SURFACE

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>7.1</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>UNDER 200</b> Mg / L
Chlorine (Cl <sub>2</sub> )		<b>0</b> Mg / L
Temp	<i>40-80</i>	<b>54</b> Deg
Total Dissolved Solids		<b>280</b> Mg / L

Respectfully: BRANDON REEVES

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> 0901767755	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 10/23/2014
<b>Customer:</b> CYNOSURE ENERGY LLC		<b>Job Type (BOM):</b> CMT SURFACE CASING BOM
<b>Customer Representative:</b>		<b>API / UWI: (leave blank if unknown)</b> 05-045-22458-00
<b>Well Name:</b> FEDERAL		<b>Well Number:</b> 0080638661
<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> GARFIELD

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	10/23/2014
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HBT9414
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> The date the survey was conducted	10/23/2014

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.	Vertical
<b>Total Operating Time (hours)</b> Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	2
<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.	1
<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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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?	Top
<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)	N/A
<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