

Cynosure Energy LLC

Federal 14/15-4-21

Frontier 28

Post Job Summary

Cement Surface Casing

Date Prepared: 12/03/2014

Job Date: 11/16/2014

Submitted by: Patrick Ealey – Grand Junction Cement Engineer

The Road to Excellence Starts with Safety

Sold To #: 373950	Ship To #: 3557100	Quote #:	Sales Order #: 0901836628
Customer: CYNOSURE ENERGY LLC		Customer Rep: BOYD COTTAM	
Well Name: FEDERAL		Well #: 14/15-4-21	API/UWI #: 05-045-22459-00
Field: KOKOPELLI	City (SAP): NEW CASTLE	County/Parish: GARFIELD	State: COLORADO
Legal Description: SE NE-21-6S-91W-2339FNL-736FEL			
Contractor:		Rig/Platform Name/Num: Frontier 28	
Job BOM: 7521			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HB80977		Srvc Supervisor: Thomas Ponder	
Job			

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	1539ft		Job Depth TVD
Water Depth			Wk Ht Above Floor 4ft
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	1539	0	0
Open Hole Section			13.5				0	1550	0	0

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625	1		1539		Top Plug	9.625	1	HES
Float Shoe	9.625	1				Bottom Plug	9.625		
Float Collar	9.625	1		1493		SSR plug set	9.625		
Insert Float	9.625	1				Plug Container	9.625	1	HES
Stage Tool	9.625	1				Centralizers	9.625		

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	225	sack	12.3	2.45		7	14.17	

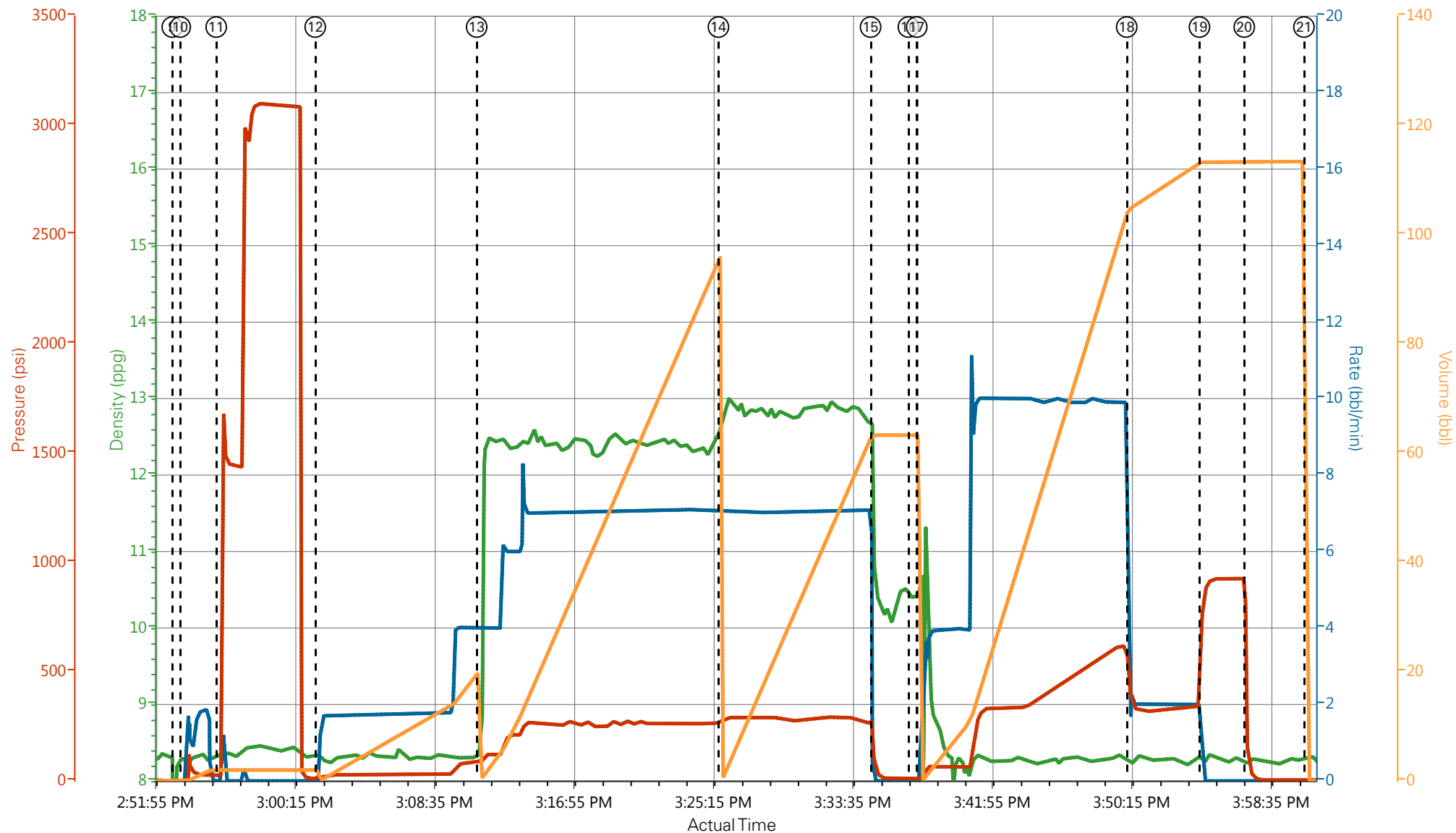
14.10 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	VariCem GJ5	VARICEM (TM) CEMENT	160	sack	12.8	2.18		7	12.11
12.05 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	Displacement		115.4	bbl	8.6			10	
Cement Left In Pipe		Amount	46 ft		Reason		Shoe Joint		
Comment									

3.1 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)	Comment
Event	1	Call Out	11/15/2014	18:30:00	USER					ON LOCATION TIME @ 0100 11/16/2014
Event	2	Pre-Convoy Safety Meeting	11/15/2014	20:30:00	USER					ALL HES INVOLVED WITH CONVOY PRESENT FOR THE MEETING
Event	3	Crew Leave Yard	11/15/2014	20:45:00	USER					ALL VEHICLES IN CONVOY LEFT YARD AT THE SAME TIME
Event	4	Arrive At Loc	11/16/2014	00:30:00	USER					RIG WAS STILL PULLING DRILL PIPE WHEN THE CREW ARRIVED ON LOCATION
Event	5	Assessment Of Location Safety Meeting	11/16/2014	13:00:00	USER					TD - 1550', TP - 1538.7', SJ - 45.7', OPEN HOLE - 13 1/2", SURFACE CASING - 9 5/8" 36# J-55
Event	6	Pre-Rig Up Safety Meeting	11/16/2014	13:15:00	USER					JSA PERFORMED
Event	7	Rig-Up Equipment	11/16/2014	13:30:00	USER					1 - 550 PICK UP TRUCK, 1 - ELITE PUMPING UNIT, 2 - 660 CUFT BULK TRAILERS, 9 5/8" PLUG CONTAINER AND QUICK LATCH, 9 5/8" TOP PLUG, 2" CIRCULATING IRON, 9 5/8" CIRCULATING SWAGE
Event	8	Pre-Job Safety Meeting	11/16/2014	14:30:00	USER					ALL HES PRESENT, RIG CREW PRESENT
Event	9	Start Job	11/16/2014	14:53:05	COM6					RIG UP FLOOR, RUN STEEL HOSE FROM STAND PIPE TO PLUG CONTAINER
Event	10	Prime Pumps	11/16/2014	14:53:34	COM6	8.33	2	27	2	FILL LINES WITH FRESH WATER
Event	11	Test Lines	11/16/2014	14:55:43	COM6		.1	3100	.1	GOOD PRESSURE TEST NO LEAKS IN THE LINES
Event	12	Pump Spacer 1	11/16/2014	15:01:38	COM6	8.33	4	90	20	FRESH WATER
Event	13	Pump Lead Cement	11/16/2014	15:11:17	COM6	12.3	7	275	98.2	225 SKS 12.3 PPG 2.45 FT3/SK 14.17 GAL/SK, DOWNHOLE DENSOMETER WAS SPARATIC TOOK MULTIPLE MUD CUPS TO ENSURE DENSITY WAS CORRECT

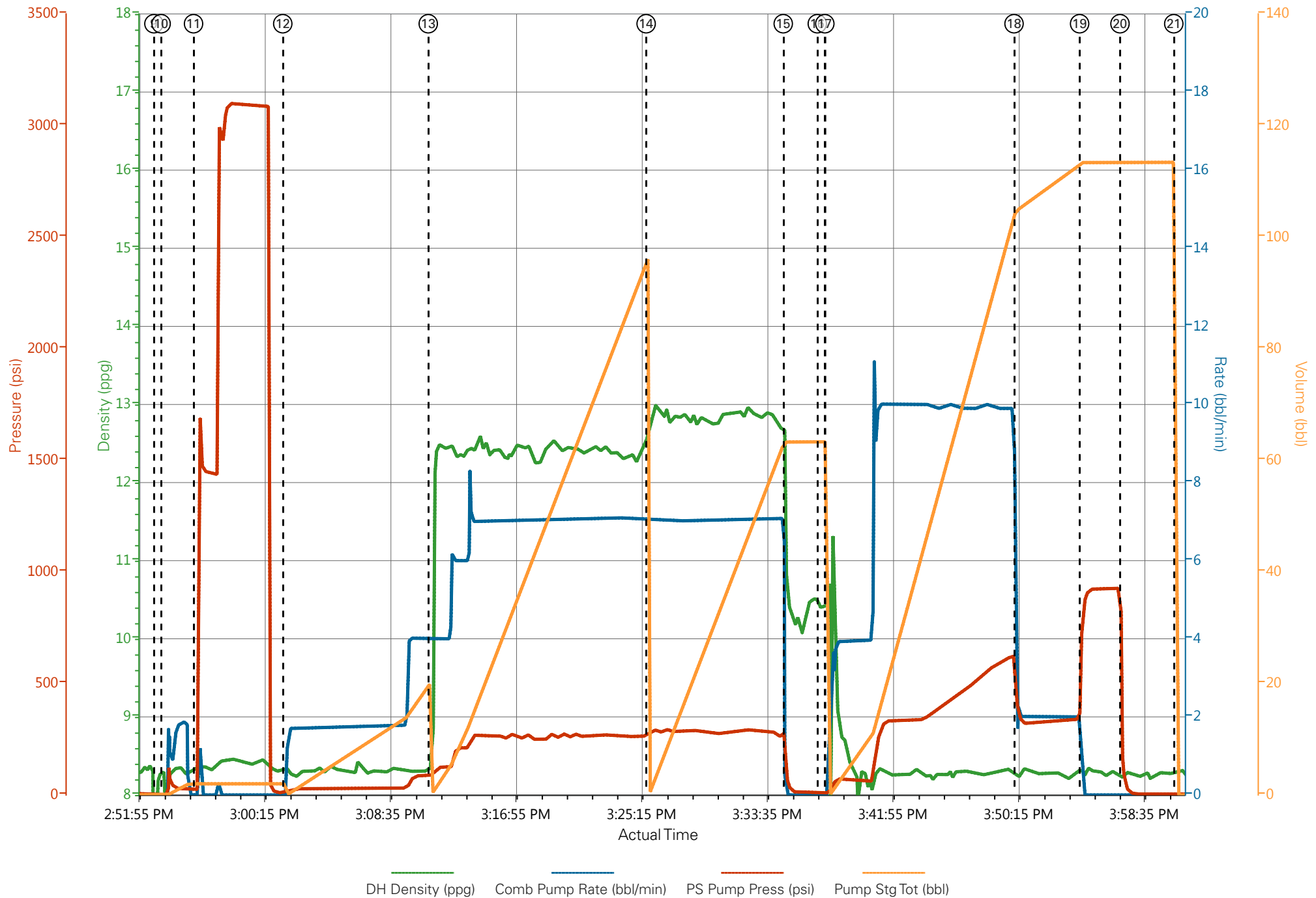
Event	14	Pump Tail Cement	11/16/2014	15:25:44	COM6	12.8	7	285	62.1	160 SKS 12.8 PPG 2.18 FT3/SK 12.11 GAL/SK, DOWNHOLE DENSOMETER WAS SPARATIC TOOK MULTIPLE MUD CUPS TO ENSURE DENSITY WAS CORRECT
Event	15	Shutdown	11/16/2014	15:34:50	USER					
Event	16	Drop Top Plug	11/16/2014	15:37:05	USER					PLUG DROP VERIFIED VIA TATTLE TELL
Event	17	Pump Displacement	11/16/2014	15:37:35	COM6	8.33	10	630	105.4	FRESH WATER, FIRST 10 BBL USED TO WASH UP MIXING TUB
Event	18	Slow Rate	11/16/2014	15:50:08	USER	8.33	2	315	10	GOOD RETURNS THROUGH OUT THE JOB, CIRCULATED 6 BBL OF CEMENT TO SURFACE
Event	19	Bump Plug	11/16/2014	15:54:29	COM6		2	340	115.4	PLUG BUMPED
Event	20	Check Floats	11/16/2014	15:57:09	USER			875	115.4	FLOATS HELD, 3/4 BBL BACK TO THE DISPALCEMENT TANKS
Event	21	End Job	11/16/2014	16:00:43	COM6					THANK YOU FOR CHOOSING HALLIBURTON, THOMAS PONDER AND CREW

CYNOSURE - FEDERAL 14/15-4-21 - 9.625 IN SURFACE



- | | | | | | | |
|-----------------------------|---|--------------------------|-----------------|--------------------|---------------------|----------------|
| ① Call Out | ④ Arrive At Loc | ⑦ Rig-Up Equipment | ⑩ Prime Pumps | ⑬ Pump Lead Cement | ⑯ Drop Top Plug | ⑲ Bump Plug |
| ② Pre-Convoy Safety Meeting | ⑤ Assessment Of Location Safety Meeting | ⑧ Pre-Job Safety Meeting | ⑪ Test Lines | ⑭ Pump Tail Cement | ⑰ Pump Displacement | ⑳ Check Floats |
| ③ Crew Leave Yard | ⑥ Pre-Rig Up Safety Meeting | ⑨ Start Job | ⑫ Pump Spacer 1 | ⑮ Shutdown | ⑱ Slow Rate | ㉑ End Job |

CYNOSURE - FEDERAL 14/15-4-21 - 9.625 IN SURFACE



HALLIBURTON

Company:	<u>CYNOSURE</u>	Date:	<u>11/16/2014</u>
Submitted by:	<u>THOMAS PONDER</u>	Date Rec.:	<u>11/16/2014</u>
Attention:	<u>LARRY COOKSEY</u>	S.O.#	<u>901836628</u>
Lease	<u>FEDERAL</u>	Job Type:	<u>SURFACE</u>
Well #	<u>14/15-4-21</u>		

Specific Gravity	<i>MAX</i>	<i>1</i>
pH	<i>8</i>	<i>7</i>
Potassium (K)	<i>5000</i>	<i>0</i> Mg / L
Calcium (Ca)	<i>500</i>	<i>120</i> Mg / L
Iron (FE2)	<i>300</i>	<i>0</i> Mg / L
Chlorides (Cl)	<i>3000</i>	<i>0</i> Mg / L
Sulfates (SO ₄)	<i>1500</i>	<i><200</i> Mg / L
Carbonates hardness		
Temp	<i>40-80</i>	<i>31</i> Deg
Total Dissolved Solids		<i>185</i> Mg / L

Respectfully: THOMAS PONDER

Title: CEMENTING SUPERVISOR

Location: GRAND JCT, CO

Sales Order #: 0901836628	Line Item: 10	Survey Conducted Date: 11/16/2014
Customer: CYNOSURE ENERGY LLC		Job Type (BOM): CMT SURFACE CASING BOM
Customer Representative:		API / UWI: (leave blank if unknown) 05-045-22459-00
Well Name: FEDERAL		Well Number: 0080638604
Well Type: DIRECTIONAL GAS	Well Country: USA	
H2S Present: No	Well State: COLORADO	Well County: 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	11/16/2014
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HX41187
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	

CUSTOMER SIGNATURE

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KEY PERFORMANCE INDICATORS

General	
Survey Conducted Date The date the survey was conducted	11/16/2014

Cementing KPI Survey	
Type of Job Select the type of job. (Cementing or Non-Cementing)	0
Select the Maximum Deviation range for this Job What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	Deviated
Total Operating Time (hours) Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	3
HSE Incident, Accident, Injury HSE Incident, Accident, Injury. This should be recordable incidents only.	No
Was the job purpose achieved? Was the job delivered correctly as per customer agreed design?	Yes
Operating Hours (Pumping Hours) Total number of hours pumping fluid on this job. Enter in decimal format.	1
Customer Non-Productive Rig Time (hrs) 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.	0
Type of Rig Classification Job Was Performed Type Of Rig (classification) Job Was Performed On	Drilling Rig (Portable)
Number Of JSAs Performed Number Of Jsas Performed	6
Number of Unplanned Shutdowns Unplanned shutdown is when injection stops for any period of time.	0
Was this a Primary Cement Job (Yes / No)	Yes

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Well Type: DIRECTIONAL GAS	Well Country: USA	
H2S Present: No	Well State: COLORADO	Well County: GARFIELD

Primary Cement Job= Casing job, Liner job, or Tie-back job.	
Did We Run Wiper Plugs? Did We Run Top And Bottom Casing Wiper Plugs?	Top
Mixing Density of Job Stayed in Designed Density Range (0-100%) Density Range defined as +/- .20 ppg. Calculation: Total BBLs cement mixed at designed density divided by total BBLs of cement multiplied by 100	99
Was Automated Density Control Used? Was Automated Density Control (ADC) Used ?	Yes
Pump Rate (percent) of Job Stayed At Designed Pump Rate 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
Nbr of Remedial Sqz Jobs Rqd - Competition Number Of Remedial Squeeze Jobs Required After Primary Job Performed By Competition	0
Nbr of Remedial Plug Jobs Rqd - HES Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES	0
Nbr of Remedial Sqz Jobs Rqd - HES Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES	0