

Cynosure Energy LLC

Federal 14/15-6-21

Frontier 28

Post Job Summary

Cement Surface Casing

Date Prepared: 01/07/2015
Job Date: 12/5/2014

Submitted by: Keven Nye – Grand Junction Cement Engineer

The Road to Excellence Starts with Safety

Sold To #: 373950	Ship To #: 3557152	Quote #:	Sales Order #: 0901903111
Customer: CYNOSURE ENERGY LLC		Customer Rep: Pat Blackmer	
Well Name: FEDERAL	Well #: 14/15-6-21	API/UWI #: 05-045-22454-00	
Field: KOKOPELLI	City (SAP): NEW CASTLE	County/Parish: GARFIELD	State: COLORADO
Legal Description: SE NE-21-6S-91W-2343FNL-720FEL			
Contractor:		Rig/Platform Name/Num: Frontier 28	
Job BOM: 7521			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HB50180		Srvc Supervisor: Dustin Hyde	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	1506ft		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		9.625	8.921	36	STC	J-55	0	1506	0	0
Open Hole Section			13.5				0	1540	0	0

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	9.625	1		1506	Top Plug	9.625	1	HES
Float Shoe	9.625	1			Bottom Plug			
Float Collar	9.625	1			SSR plug set			
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

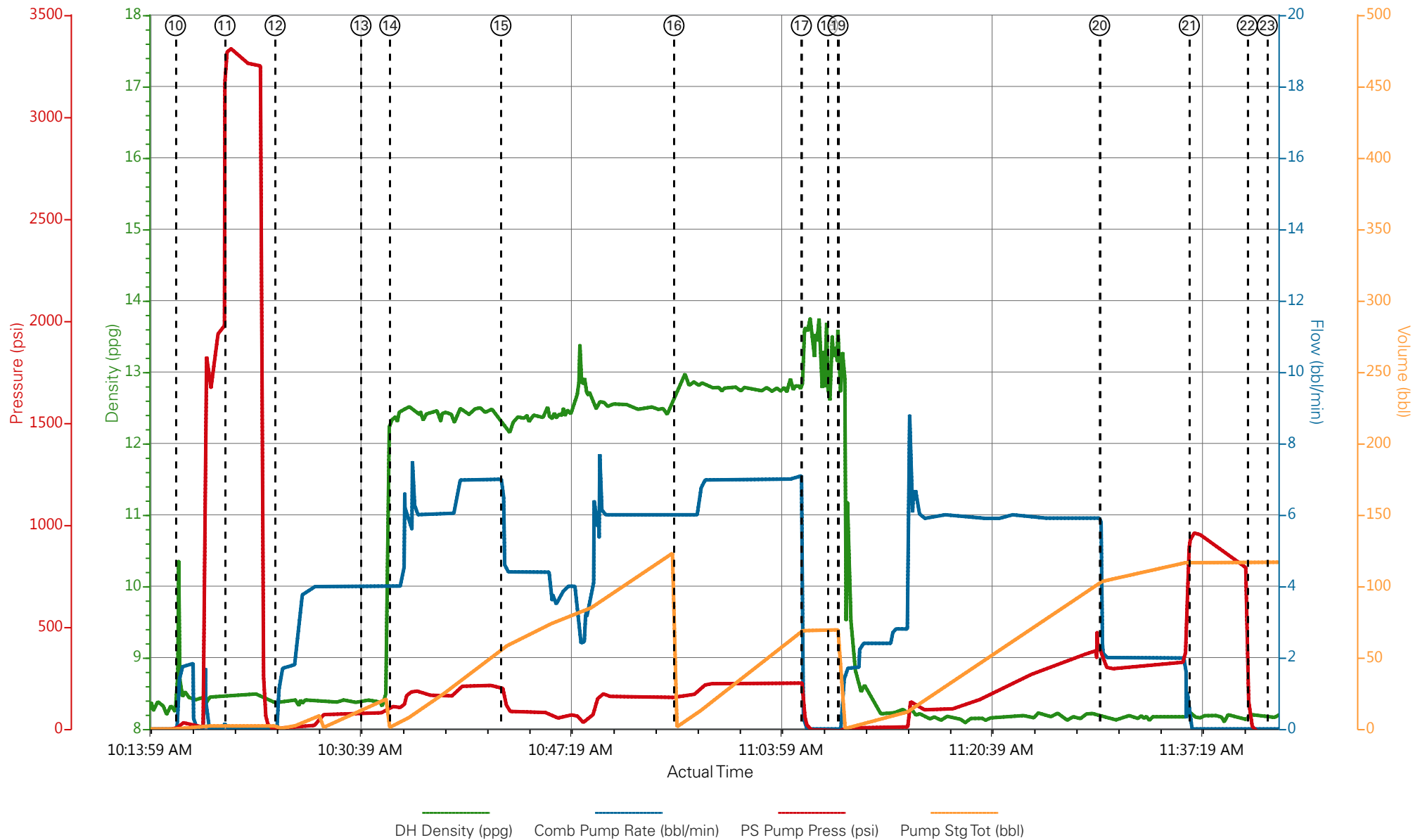
2	VariCem GJ5	VARICEM (TM) CEMENT	260	sack	12.3	2.45		6	14.17
14.10 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	VariCem GJ5	VARICEM (TM) CEMENT	160	sack	12.8	2.18		6	12.11
12.05 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	Displacement		113	bbl	8.6			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
5	Top Out Cement	HALCEM (TM) SYSTEM		sack	15.6	1.19			5.11
94 lbm		TYPE I / II CEMENT, BULK (101439798)							
5.11 Gal		FRESH WATER							
Cement Left In Pipe		Amount	44 ft		Reason		Shoe Joint		
Comment									

1.5 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	Call Out	Call Out	12/5/2014	03:30:00	USER					ON LOCATION ASAP
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/5/2014	06:15:00	USER					1 HT 400 PUMP TRUCK E#8, 2 660 BULK TRUCKS, 1 550 PICKUP
Event	3	Arrive At Loc	Arrive At Loc	12/5/2014	09:00:00	USER					RIG WAITING ON HES
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	12/5/2014	09:15:00	USER					PERFORMED JSA AND WATER TEST
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	12/5/2014	09:30:00	USER					
Event	6	Rig-Up Equipment	Rig-Up Equipment	12/5/2014	09:35:00	USER					1 HT 400 PUMP TRUCK E#8, 2 660 BULK TRUCKS, 1 550 PICKUP
Event	7	Rig-Up Completed	Rig-Up Completed	12/5/2014	10:00:00	USER					
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	12/5/2014	10:05:00	USER					ALL HES EMPLOYEES PRESENT WITH RIG CREW
Event	9	Start Job	Start Job	12/5/2014	10:10:26	COM8					TD 1540' OF 13 1/2" OH, TP 1506' OF 9 5/8" CSH 36# J-55, SJ 43.85', MUD 9.3 PPG
Event	10	Prime Pumps	Prime Lines	12/5/2014	10:16:14	COM8	8.33	2.0	35	2	FRESH WATER
Event	11	Test Lines	Test Lines	12/5/2014	10:20:09	COM8			3340		PRESSURE HELD @3340 PSI
Event	12	Pump Spacer 2	Pump Water Spacer	12/5/2014	10:24:08	COM8	8.33	4.0	80	20	FRESH WATER, RELEASE WAS OPEN ON FIRST PART OF SPACER RESET BBL COUNTER
Event	13	Check Weight	Check weight	12/5/2014	10:30:56	COM8					
Event	14	Pump Lead Cement	Pump Lead Cement	12/5/2014	10:33:13	COM8	12.3	7.0	180	113.4	260 SKS, 12.3 PPG, 2.45 YIELD, 14.17 GAL/SK
Event	15	Slow Rate	Slow Rate	12/5/2014	10:42:01	USER					SLOWED DUE TO BULK DELIVERY

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	16	Pump Tail Cement	Pump Tail Cement	12/5/2014	10:55:43	COM8	12.8	6.0	320	62	160 SKS, 12.8 PPG, 2.18 YIELD, 12.11 GAL/SK
Event	17	Shutdown	Shutdown	12/5/2014	11:05:49	USER					
Event	18	Drop Top Plug	Drop Top Plug	12/5/2014	11:07:54	COM8					VERIFIED BY TATTLE TAIL
Event	19	Pump Displacement	Pump Displacement	12/5/2014	11:08:43	COM8	8.33	6.0	460	103	FRESH WATER
Event	20	Slow Rate	Slow Rate	12/5/2014	11:29:27	USER	8.33	2.0	320	10	
Event	21	Bump Plug	Bump Plug	12/5/2014	11:36:33	COM8	8.33	2.0	350	113	PLUG BUMPED
Event	22	Check Floats	Check Floats	12/5/2014	11:41:09	USER			794		FLOATS HELD .5 BBL FLOW BACK AND 30 BBL OF CMT
Event	23	End Job	End Job	12/5/2014	11:42:43	COM8					
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	12/5/2014	12:00:00	USER					
Event	25	Rig-Down Equipment	Rig-Down Equipment	12/5/2014	12:15:00	USER					
Event	26	Rig-Down Completed	Rig-Down Completed	12/5/2014	14:00:00	USER					
Event	27	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/5/2014	14:30:00	USER					1 HT 400 PUMP TRUCK E#8, 2 660 BULK TRUCKS, 1 550 PICKUP
Event	28	Crew Leave Location	Crew Leave Location	12/5/2014	15:00:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT

CYNOSURE FED 14/15-6-21 9 5/8" SURFACE



- | | | | | | |
|---|--------------------------|---------------------|---------------------|---|------------------------------|
| ① Call Out | ⑥ Rig-Up Equipment | ⑪ Test Lines | ⑯ Pump Tail Cement | 21 Bump Plug | 26 Rig-Down Completed |
| ② Pre-Convoy Safety Meeting | ⑦ Rig-Up Completed | ⑫ Pump Water Spacer | ⑰ Shutdown | 22 Check Floats | 27 Pre-Convoy Safety Meeting |
| ③ Arrive At Loc | ⑧ Pre-Job Safety Meeting | ⑬ Check weight | ⑱ Drop Top Plug | 23 End Job | 28 Crew Leave Location |
| ④ Assessment Of Location Safety Meeting | ⑨ Start Job | ⑭ Pump Lead Cement | ⑲ Pump Displacement | 24 Post-Job Safety Meeting (Pre Rig-Down) | |
| ⑤ Pre-Rig Up Safety Meeting | ⑩ Prime Lines | ⑮ Slow Rate | 20 Slow Rate | 25 Rig-Down Equipment | |

▼ **HALLIBURTON** | iCem® Service

Created: 2014-12-05 05:10:04, Version: 4.0.248

Edit

Customer : CYNOSURE ENERGY LLC

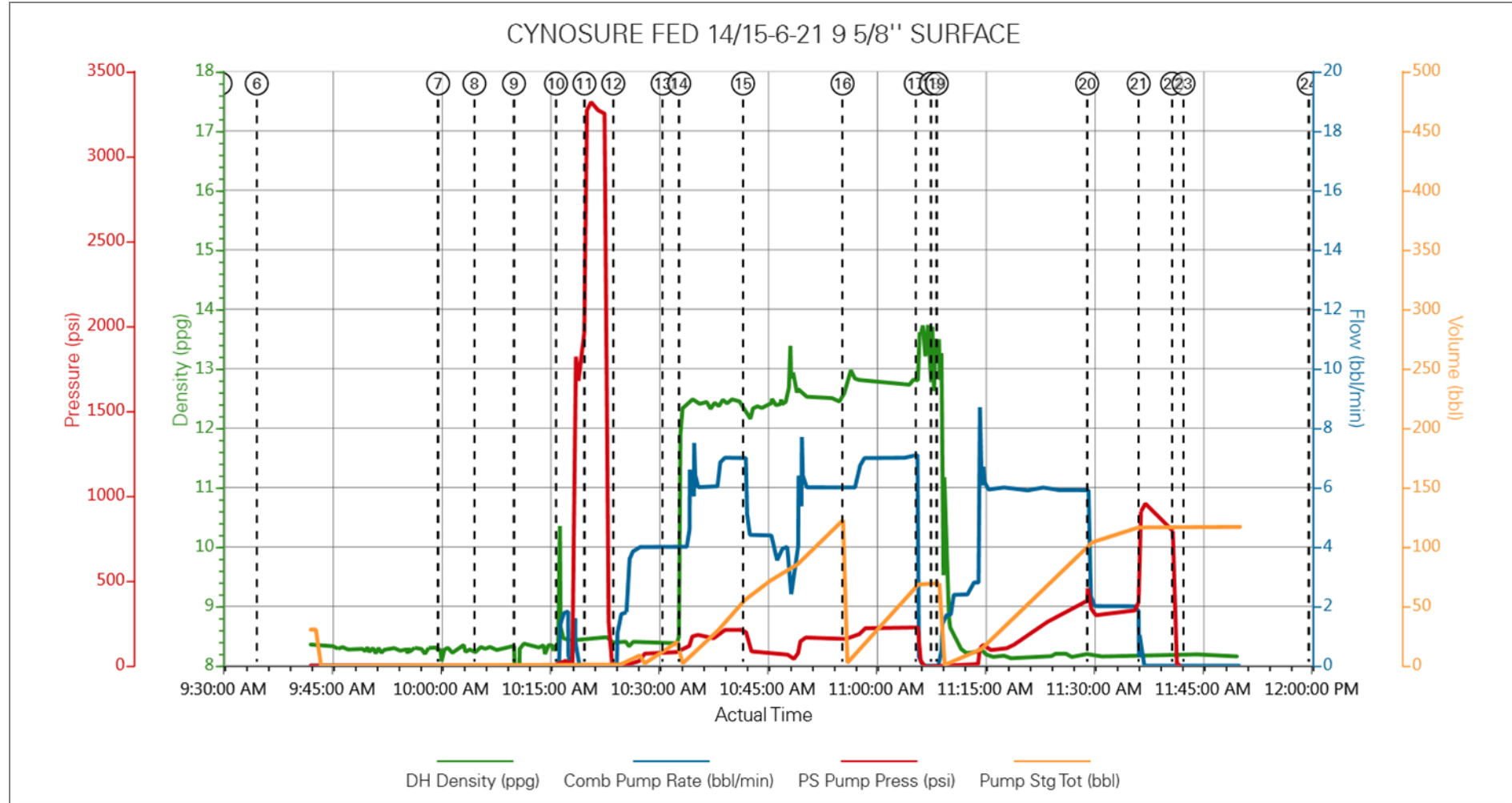
Job Date : 12/5/2014

Well : Fed 14/15-6-21

Representative : Pat Blackmer

Sales Order # : 901903111

ELITE # 8 : Dustin Hyde / Max Lobato



3.0 Custom Graphs

3.1 Custom Graph

HALLIBURTON

Water Analysis Report

Company: CYNOSURE

Submitted by: Dustin Hyde

Attention: J.TROUT

Lease FED

Well # 14/15-6-21

Date: 12/5/2014

Date Rec.: 12/5/2014

S.O.# 901903111

Job Type: SURFACE

Specific Gravity	<i>MAX</i>	1
pH	<i>8</i>	7
Potassium (K)	<i>5000</i>	200 Mg / L
Calcium (Ca)	<i>500</i>	120 Mg / L
Iron (FE2)	<i>300</i>	0 Mg / L
Chlorides (Cl)	<i>3000</i>	0 Mg / L
Sulfates (SO ₄)	<i>1500</i>	<200 Mg / L
Temp	<i>40-80</i>	56 Deg
Total Dissolved Solids		320 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 use.

Sales Order #: 0901903111	Line Item: 10	Survey Conducted Date: 12/6/2014
Customer: CYNOSURE ENERGY LLC		Job Type (BOM): CMT SURFACE CASING BOM
Customer Representative:		API / UWI: (leave blank if unknown) 05-045-22454-00
Well Name: FEDERAL		Well Number: 0080638657
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	12/6/2014
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HB43597
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

Sales Order #: 0901903111	Line Item: 10	Survey Conducted Date: 12/6/2014
Customer: CYNOSURE ENERGY LLC		Job Type (BOM): CMT SURFACE CASING BOM
Customer Representative:		API / UWI: (leave blank if unknown) 05-045-22454-00
Well Name: FEDERAL		Well Number: 0080638657
Well Type: DIRECTIONAL GAS	Well Country: USA	
H2S Present: No	Well State: COLORADO	Well County: GARFIELD

KEY PERFORMANCE INDICATORS

General	
Survey Conducted Date The date the survey was conducted	12/6/2014

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.	4
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
Pumping Hours Total number of hours pumping fluid on this job. Enter in decimal format.	1.5
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	5
Was this a Primary Cement Job (Yes / No) Primary Cement Job= Casing job, Liner job, or Tie-back job.	Yes
Number of Unplanned Shutdowns Unplanned shutdown is when injection stops for any period of time.	0
Customer Non-Productive Rig Time (hrs)	4

Sales Order #: 0901903111	Line Item: 10	Survey Conducted Date: 12/6/2014
Customer: CYNOSURE ENERGY LLC		Job Type (BOM): CMT SURFACE CASING BOM
Customer Representative:		API / UWI: (leave blank if unknown) 05-045-22454-00
Well Name: FEDERAL		Well Number: 0080638657
Well Type: DIRECTIONAL GAS	Well Country: USA	
H2S Present: No	Well State: COLORADO	Well County: GARFIELD

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.	
Reason For Non-Productive Rig Time	CREW RESET NOT LEGEL TILL 0400
Reason For Non-productive Rig Time (Cementing PSL Responsibility)	
Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment?	No
Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment?	
Did We Run Wiper Plugs?	Top
Did We Run Top And Bottom Casing Wiper Plugs?	
If a top plug was run, was the plug bumped? (Yes/No/N/A)	Yes
If a top plug was run, was the plug bumped? (Yes/No/N/A)	
If applicable, was Halliburton float equipment used? (Yes/No/N/A)	Not Available
If applicable, was Halliburton float equipment used? (Yes/No/N/A)	
If applicable, did the floats hold? (Yes/No/N/A)	Yes
If applicable, did the floats hold? (Yes/No/N/A)	
Mixing Density of Job Stayed in Designed Density Range (0-100%)	98
Density Range defined as +/- .20 ppg. Calculation: Total BBLs cment mixed at designed density divided by total BBLs of cement multiplied by 100	
Pump Rate (percent) of Job Stayed At Designed Pump Rate	97
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	
If applicable, were there returns throughout the job? (Yes/No/N/A)	Yes
If applicable, were there returns throughout the job? (Yes/No/N/A)	
Nbr of Remedial Plug Jobs Rqd - HES	0
Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES	
Nbr of Remedial Sqz Jobs Rqd - HES	0
Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES	