

Cynosure Energy LLC

Federal 14/15-2-21

Frontier 28

Post Job Summary

Cement Production Casing

Date Prepared: 11/12/2014

Job Date: 11/01/2014

Submitted by: Patrick Ealey – Grand Junction Cement Engineer

The Road to Excellence Starts with Safety

Sold To #: 373950	Ship To #: 3557156	Quote #:	Sales Order #: 0901787336
Customer: CYNOSURE ENERGY LLC		Customer Rep: Pat Blackmer	
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: 7523			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HB50180		Srcv Supervisor: Dustin Hyde	
Job			

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	8167ft 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	1539	0	0
Casing		4.5	4	11.6	LTC	N-80	0	8197	0	0
Open Hole Section			8.75				1539	8197	0	0

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	4.5	1		8197	Top Plug	4.5	1	HES
Float Shoe	4.5	1			Bottom Plug	4.5	1	HES
Float Collar	4.5	1			SSR plug set	4.5	1	HES
Insert Float	4.5	1			Plug Container	4.5	1	HES
Stage Tool	4.5	1			Centralizers	4.5	1	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 ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Mud Flush III (Powder)	Mud Flush III	20	bbl	8.4			4	

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
2	EconoCem	ECONOCEM (TM) SYSTEM	300	sack	11.5	2.28		6	12.74
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	VersaCem	VERSACEM (TM) SYSTEM	350	sack	12.5	1.83		6	8.7
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	ExpandaCem	EXPANDACEM (TM) SYSTEM	900	sack	13.1	1.67		6	7.88
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
5	KCL Water Displacement	KCL Water Displacement	0	bbl	8.34			6	
Cement Left In Pipe			Amount	23.30ft			Reason		Shoe Joint
Comment									

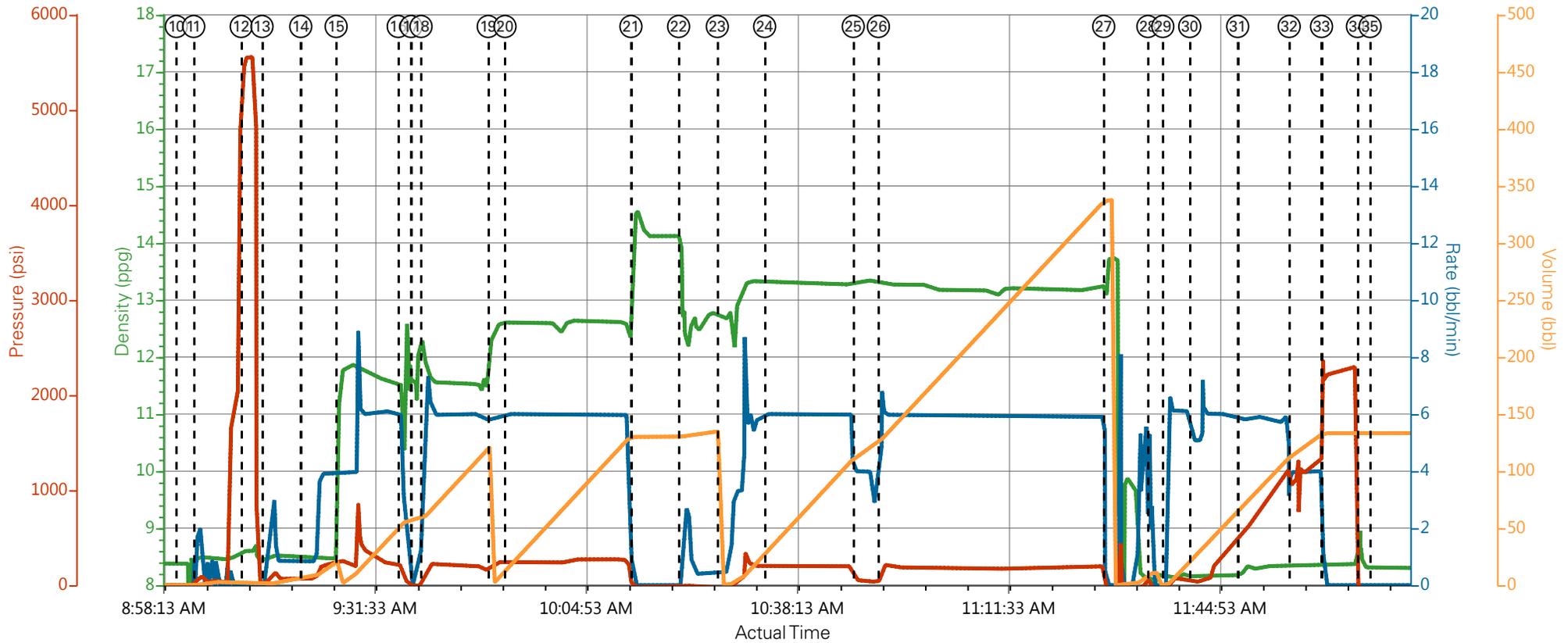
3.5 Job Event Log

Type	Seq. No.	Activity	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	10/31/2014	22:00:00	USER					IN FIELD TO BE ON LOC @ 0200
Event	2	Pre-Convoy Safety Meeting	11/1/2014	00:00:00	USER					
Event	3	Crew Leave Yard	11/1/2014	01:00:00	USER					2 660 BULK TRUCKS HT 400 PUMP TRUCK ELITE #8 AND PICKUP IN FIELD
Event	4	Arrive At Loc	11/1/2014	04:30:00	USER					RIG RIGGING DOWN CASER'S AND STARTED TO CIRCULATE
Event	5	Assessment Of Location Safety Meeting	11/1/2014	04:45:00	USER					
Event	6	Pre-Rig Up Safety Meeting	11/1/2014	05:00:00	USER					
Event	7	Rig-Up Equipment	11/1/2014	05:15:00	USER					
Event	8	Rig-Up Completed	11/1/2014	07:30:00	USER					
Event	9	Pre-Job Safety Meeting	11/1/2014	08:00:00	USER					MUD 9.0 PPG VIS 45
Event	10	Start Job	11/1/2014	09:00:41	COM5					TD 8197', TP 8167', SJ 23.30', OH 8 3/4", SURFACE CSG 9 5/8" 36# J-55 SET @ 1539', PRODUCTION CASING 4 1/2" 11.6# N-80.
Event	11	Prime Pumps	11/1/2014	09:03:25	COM5	8.33	2.0	82	2	FRESH WATER
Event	12	Test Lines	11/1/2014	09:10:55	COM5			5562		PRESSURE HELD @ 5562 PSI
Event	13	Pump Spacer 1	11/1/2014	09:14:12	COM5	8.4	4.0	234	20	80 LBS OF MUD FLUSH III
Event	14	Check Weight	11/1/2014	09:20:19	COM5					FIRST WEIGHT CHECKING DENSITY
Event	15	Pump Lead Cement	11/1/2014	09:25:54	COM5	11.5	6.0	234	121.8	300 SKS ECONOCEM, 11.5 PPG, 2.28 YIELD, 12.74 GAL / SK
Event	16	Slow Rate	11/1/2014	09:35:41	USER					POOR BULK DELIVERY
Event	17	Shutdown	11/1/2014	09:37:43	USER					SHUTDOW TO GET TUB CORRECT WEIGHT

Type	Seq. No.	Activity	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	18	Resume	11/1/2014	09:39:18	USER					RESUMED PUMPING
Event	19	Pump Cement	11/1/2014	09:49:53	COM5	12.5	6.0	250	114.1	350 SKS VERSACEM CMT, 12.5 PPG, 1.83 YIELD, 8.7 GAL / SK
Event	20	Check Weight	11/1/2014	09:52:32	USER					
Event	21	Shutdown	11/1/2014	10:12:25	USER					WENT TO SILO TO START MIXING TAIL AND BIN WAS PACKED OFF ENDED UP TRYING DIFFERENT POD
Event	22	Resume	11/1/2014	10:19:56	USER					GOT UP TO DENSITY AND RESUMED PUMPING
Event	23	Pump Tail Cement	11/1/2014	10:26:02	COM5	13.1	6.0	230	267.7	900 SKS EXTENDACEM CMT, 13.1 PPG, 1.67 YIELD, 7.88 GAL / SK. BARREL COUNTER WENT OVER BUT MIX WATER WAS RIGHT ON 6500 GAL
Event	24	Check Weight	11/1/2014	10:33:31	COM5					
Event	25	Slow Rate	11/1/2014	10:47:29	USER					SLOWED TO GO BACK TO POD WE HAD TROUBLE WITH
Event	26	Resume	11/1/2014	10:51:28	USER					
Event	27	Shutdown	11/1/2014	11:27:01	USER					
Event	28	Wash up	11/1/2014	11:33:59	COM5					
Event	29	Drop Top Plug	11/1/2014	11:36:21	COM5					VEPRIFIED BY CO. RE
Event	31	Slow Rate	11/1/2014	11:48:09	USER					COMPANY MAN HAD US SLOW UNTIL WE HAD RETURNS PICKED RATE BACK UP AT 35 BBLS AWAY
Event	30	Pump Displacement	11/1/2014	11:40:35	COM5	8.33	6.0	1116	126	1 BAG OF KCL PER 10 BBLS
Event	32	Slow Rate	11/1/2014	11:56:17	USER	8.33	4.0	1250	106	
Event	33	Bump Plug	11/1/2014	12:01:23	COM5	8.33	4.0	1600	126	PLUG BUMPED
Event	34	Check Floats	11/1/2014	12:07:03	USER			2200		FLOATS HELD 1 BBL FLOW BACK
Event	35	End Job	11/1/2014	12:09:03	COM5					
Event	36	Post-Job Safety Meeting (Pre Rig-	11/1/2014	12:30:00	USER					

Type	Seq. No.	Activity	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
		Down)								
Event	37	Rig-Down Equipment	11/1/2014	12:45:00	USER					
Event	38	Rig-Down Completed	11/1/2014	14:00:00	USER					
Event	39	Pre-Convoy Safety Meeting	11/1/2014	14:30:00	USER					
Event	40	Crew Leave Location	11/1/2014	14:45:00	USER					THANK YOU FOR USING HALLIBURTON CMT

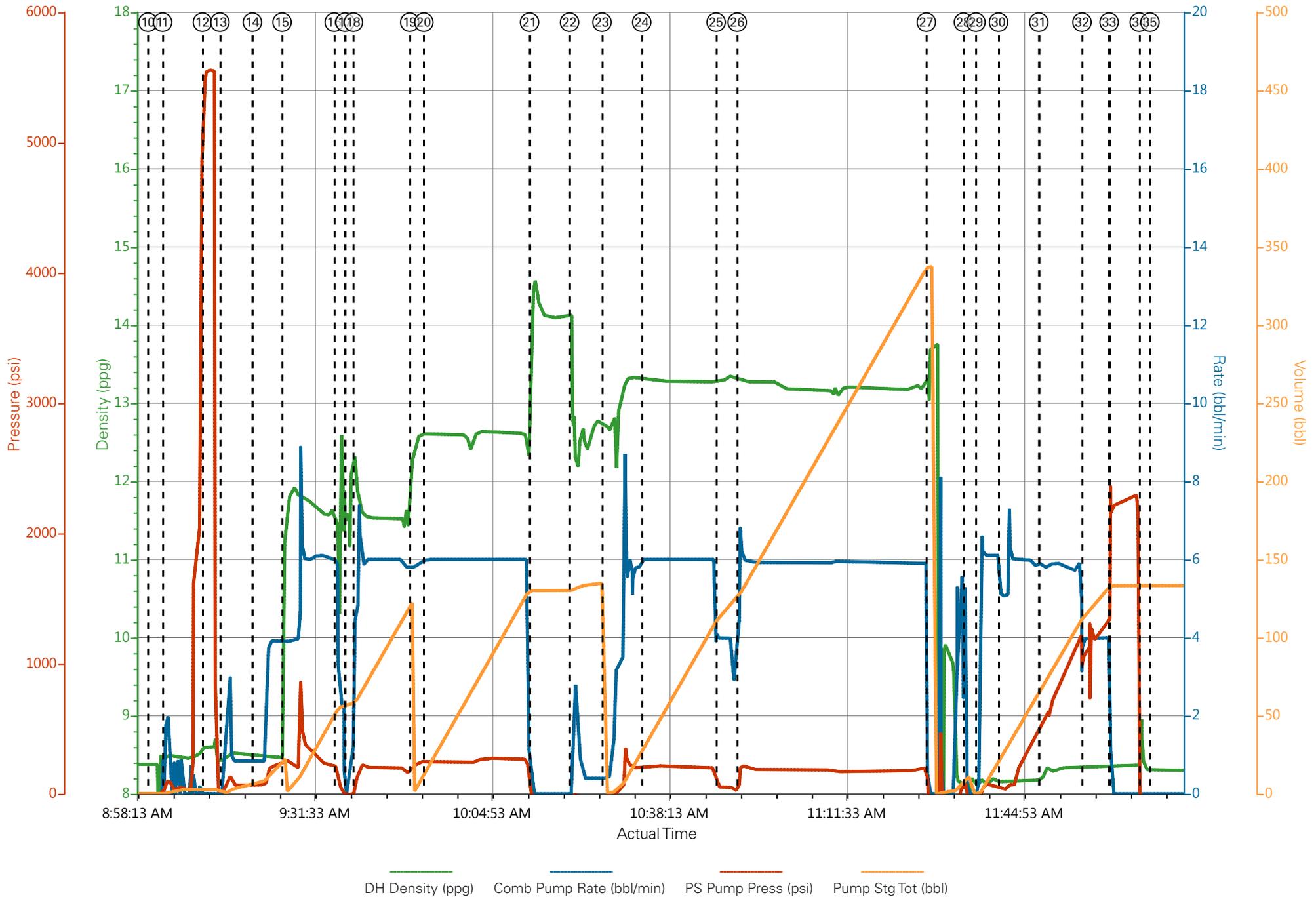
Cynosure - Federal - 14/15-2-21 - 4 1/2 Production Casing



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

① Call Out n/a;n/a;n/a;n/a ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a ③ Crew Leave Yard n/a;n/a;n/a;n/a ④ Arrive At Loc n/a;n/a;n/a;n/a ⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a ⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a ⑦ Rig-Up Equipment n/a;n/a;n/a;n/a ⑧ Rig-Up Completed 8.41;10.6;389;9.5 ⑨ Pre-Job Safety Meeting 8.38;0;-2;25.6 ⑩ Start Job 8.38;0;-1;0 ⑪ Prime Lines 8.48;1.7;82;0.4	⑫ Test Lines 8.61;0;5524;2.8 ⑬ Pump Mud Flush III 8.43;0;20;2.8 ⑭ Check weight 8.51;0.9;69;6.9 ⑮ Scavenger 11.35;3.9;257;0 ⑯ Slow Rate 11.48;5.9;211;53.8 ⑰ Shutdown 11.59;0;-11;57.3 ⑱ Resume 11.97;4.6;123;60.1 ⑲ Pump Lead Cement 12.36;5.8;202;123.1 ⑳ Check Weight 12.61;6;251;15.7 ㉑ Shutdown 13.9;0;-18;130.1 ㉒ Resume 12.82;0.9;-21;130.3	㉓ Pump Tail Cement 12.7;0.4;-30;0.1 ㉔ Check weight 13.3;6;210;30.4 ㉕ Slow Rate 13.29;4;52;113 ㉖ Resume 13.32;6.5;209;128.3 ㉗ Shutdown 13.5;0;-52;337.4 ㉘ Drop Top Plug 8.12;2.8;4;10.8 ㉙ Drop Top Plug 8.18;1.7;-26;0.1 ㉚ Slow Rate 8.17;5;38;24.2 ㉛ Pump Displacement 8.18;5.9;541;68 ㉜ Slow Rate 8.34;4;1077;114.3 ㉝ Bump Plug 8.37;0;2203.46;133.3	㉞ Check Floats 8.54;0;-45;133.3 ㉟ End Job 8.31;0;-49;133.3 ㊱ Post-Job Safety Meeting (Pre Rig-Down) n/a;n/a;n/a;n/a ㊲ Rig-Down Equipment n/a;n/a;n/a;n/a ㊳ Rig-Down Completed n/a;n/a;n/a;n/a ㊴ Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a ㊵ Crew Leave Location n/a;n/a;n/a;n/a
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Cynosure - Federal - 14/15-2-21 - 4 1/2 Production Casing



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

HALLIBURTON

Water Analysis Report

Company: CYNOSURE

Date: 11/1/2014

Submitted by: Dustin Hyde

Date Rec.: 11/1/2014

Attention: J.TROUT

S.O.# 901787336

Lease FEDERAL

Job Type: PRODUCTION

Well # 14-15-2-21

Specific Gravity	<i>MAX</i>	1
pH	<i>8</i>	7
Potassium (K)	<i>5000</i>	400 Mg / L
Calcium (Ca)	<i>500</i>	120 Mg / L
Iron (FE2)	<i>300</i>	3 Mg / L
Chlorides (Cl)	<i>3000</i>	500 Mg / L
Sulfates (SO ₄)	<i>1500</i>	400 Mg / L
Temp	<i>40-80</i>	48 Deg
Total Dissolved Solids		290 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 #: 0901787336	Line Item: 10	Survey Conducted Date: 11/1/2014
Customer: CYNOSURE ENERGY LLC		Job Type (BOM): CMT PRODUCTION CASING BOM
Customer Representative: PAT BLACKMER		API / UWI: (leave blank if unknown) 05-045-22458-00
Well Name: FEDERAL		Well Number: 0080638661
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	11/1/2014
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HB43597
Customer Participation	Did the customer participate in this survey? (Y/N)	Yes
Customer Representative	Enter the Customer representative name	PAT BLACKMER
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	

CUSTOMER SIGNATURE

Sales Order #: 0901787336	Line Item: 10	Survey Conducted Date: 11/1/2014
Customer: CYNOSURE ENERGY LLC		Job Type (BOM): CMT PRODUCTION CASING BOM
Customer Representative: PAT BLACKMER		API / UWI: (leave blank if unknown) 05-045-22458-00
Well Name: FEDERAL		Well Number: 0080638661
Well Type: DIRECTIONAL GAS	Well Country: USA	
H2S Present: No	Well State: COLORADO	Well County: GARFIELD

KEY PERFORMANCE INDICATORS

General	
Survey Conducted Date	11/1/2014
The date the survey was conducted	

Cementing KPI Survey	
Type of Job	0
Select the type of job. (Cementing or Non-Cementing)	
Select the Maximum Deviation range for this Job	Vertical
What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	
Total Operating Time (hours)	5
Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	
HSE Incident, Accident, Injury	No
HSE Incident, Accident, Injury. This should be recordable incidents only.	
Was the job purpose achieved?	Yes
Was the job delivered correctly as per customer agreed design?	
Pumping Hours	3
Total number of hours pumping fluid on this job. Enter in decimal format.	
Type of Rig Classification Job Was Performed	Drilling Rig (Portable)
Type Of Rig (classification) Job Was Performed On	
Number Of JSAs Performed	5
Number Of Jsas Performed	
Was this a Primary Cement Job (Yes / No)	Yes
Primary Cement Job= Casing job, Liner job, or Tie-back job.	
Number of Unplanned Shutdowns	0
Unplanned shutdown is when injection stops for any period of time.	
Customer Non-Productive Rig Time (hrs)	0

Sales Order #: 0901787336	Line Item: 10	Survey Conducted Date: 11/1/2014
Customer: CYNOSURE ENERGY LLC		Job Type (BOM): CMT PRODUCTION CASING BOM
Customer Representative: PAT BLACKMER		API / UWI: (leave blank if unknown) 05-045-22458-00
Well Name: FEDERAL		Well Number: 0080638661
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.	
Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment? Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment?	No
Did We Run Wiper Plugs? Did We Run Top And Bottom Casing Wiper Plugs?	Top
If a top plug was run, was the plug bumped? (Yes/No/N/A) If a top plug was run, was the plug bumped? (Yes/No/N/A)	Yes
If applicable, was Halliburton float equipment used? (Yes/No/N/A) If applicable, was Halliburton float equipment used? (Yes/No/N/A)	Not Available
If applicable, did the floats hold? (Yes/No/N/A) If applicable, did the floats hold? (Yes/No/N/A)	Yes
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	97
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	96
If applicable, were there returns throughout the job? (Yes/No/N/A) If applicable, were there returns throughout the job? (Yes/No/N/A)	Yes
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