

Cynosure Energy LLC

Federal 14/15-5-21

Frontier 28

Post Job Summary

Cement Surface Casing

Date Prepared: 11/30/2014

Job Date: 11/26/2014

Submitted by: Evan Russell – Grand Junction Cement Engineer

The Road to Excellence Starts with Safety

Sold To #: 373950	Ship To #: 3557119	Quote #:	Sales Order #: 0901869104
Customer: CYNOSURE ENERGY LLC		Customer Rep: BOYD COTTAM	
Well Name: FEDERAL	Well #: 14/15-5-21	API/UWI #: 05-045-22457-00	
Field: KOKOPELLI	City (SAP): NEW CASTLE	County/Parish: GARFIELD	State: COLORADO
Legal Description: SE NE-21-6S-91W-2341FNL-728FEL			
Contractor:		Rig/Platform Name/Num: Frontier 28	
Job BOM: 7521			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HB50180		Srcv Supervisor: Thomas Ponder	
Job			

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	1440ft 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	1440	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		1440	Top Plug	9.625	1	HES
Float Shoe	9.625	1			Bottom Plug	9.625		
Float Collar	9.625	1		1395.3	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		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/mi n	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/mi n	Total Mix Fluid Gal
4	Displacement	FRESH WATER DISPLACEMENT	111	bbl	8.33			8	
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
5	Top Out Cement	HALCEM (TM) SYSTEM	25	sack	15.6	1.19		1	5.11
94 lbm		TYPE I / II CEMENT, BULK (101439798)							
5.11 Gal		FRESH WATER							
Cement Left In Pipe	Amount	45 ft			Reason	Shoe Joint			
Comment									

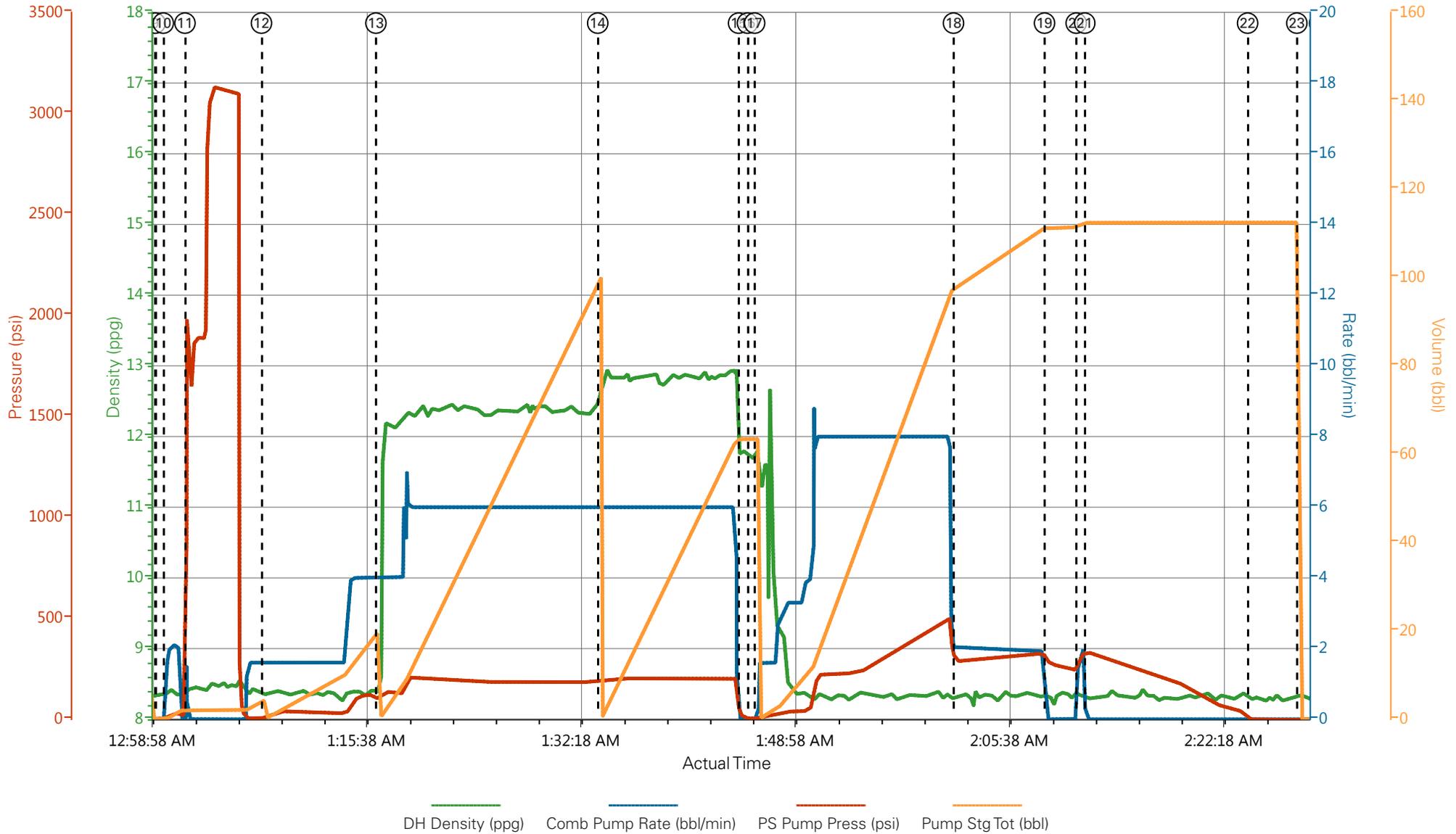
1.1 Job Event Log

Type	Seq. No.	Activity	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comment
Event	1	Call Out	11/25/2014	08:00:00	USER					ON LOCATION TIME @ 1400 ON 11/25/2014
Event	2	Pre-Convoy Safety Meeting	11/25/2014	10:45:00	USER					ALL HES INVOLVED WITH CONVOY PRESENT FOR MEETING
Event	3	Crew Leave Yard	11/25/2014	11:00:00	USER					ALL VEHICLES IN THE CONVOY LEFT YARD AT THE SAME TIME
Event	4	Arrive At Loc	11/25/2014	14:00:00	USER					RIG HAD JUST STARTED RUNNING CASING WHEN THE CREW ARRIVED ON LOCATION
Event	5	Assessment Of Location Safety Meeting	11/25/2014	23:15:00	USER					TD - 1550', TP 1525.5', SJ - 44.7', MUD - 9.6 PPG, OPEN HOLE - 13 1/2", SURFACE CASING - 9 5/8" 36# J-55
Event	6	Pre-Rig Up Safety Meeting	11/25/2014	23:30:00	USER					JSA PERFORMED
Event	7	Rig-Up Equipment	11/25/2014	23:45:00	USER					1 - 550 PICKUP TRUCK, 1 - ELITE PUMING UNIT, 3 - 660 CUFT BULK TRAILERS, 2" CIRCULATING IRON, 9 5/8" PLUG CONTAINER WITH QUICK LATCH, 9 5/8" CIRCULATING SWAGE, 9 5/8" TOP PLUG
Event	8	Pre-Job Safety Meeting	11/26/2014	00:45:00	USER					RIG HAD PROBLEMS GETTING CASING TO THE BOTTOM, ENDED UP CUTTING CASING SHORT, CASING NOW SET @ 1440' INSTEAD OF THE 1525.5', CIRCULATED LAST 4 JOINTS DOWN INCLUDING LANDING JOINT, STOPPED

										CIRCULATING ON THE WELL @ 2300 WHEN RIGGING DOWN THE CASING CREW
Event	9	Start Job	11/26/2014	00:59:26	COM7					RIGGED UP FLOOR WITH PLUG CONTAINER AND STAND PIPE, PRIMED UP THE PUMP
Event	10	Prime Pumps	11/26/2014	01:00:04	COM7	8.33	2	31	2	FILL LINES WITH FRESH WATER
Event	11	Test Lines	11/26/2014	01:01:45	COM7		.1	3133	.1	GOOD PRESSURE TEST NO LEAKS IN THE LINES
Event	12	Pump Spacer 1	11/26/2014	01:07:42	COM7	8.33	4	103	20	FRESH WATER, WEIGHED UP FIRST TUB OF CEMENT
Event	13	Pump Lead Cement	11/26/2014	01:16:36	COM7	12.3	6	211	98.2	225 SKS 12.3 PPG 2.45 FT3/SK 14.17 GAL/SK
Event	14	Pump Tail Cement	11/26/2014	01:33:51	COM7	12.8	6	205	62.1	160 SKS 12.3 PPG 2.18 FT3/SK 12.11 GAL/SK
Event	15	Shutdown	11/26/2014	01:44:48	USER					
Event	16	Drop Top Plug	11/26/2014	01:45:30	USER					PLUG DROP VERIFIED VIA TATTLE TELL
Event	17	Pump Displacement	11/26/2014	01:46:03	COM7	8.33	8	500	97.9	FRESH WATER, THE FIRST 10 BBL USED TO WASH UP MIXING TUB
Event	18	Slow Rate	11/26/2014	02:01:31	USER	8.33	2	288	12	GOOD RETURNS THROUGH OUT THE JOB, ONLY CIRCULATED 1 BBL OF CEMENT TO SURFACE, CALCULATED 31.5 BBL BASED ON NEW PIPE TALLY
Event	19	Shutdown	11/26/2014	02:08:36	USER				110	PLUG DID NOT BUMP AT CALCULATED DISPLACEMENT, PUMPED 2 BBL EXTRA AS PER CO REP REQUEST
Event	20	Pump Displacement	11/26/2014	02:11:04	USER	8.33	1	325	1	PUMPED 1 MORE BBL OF WATER TO TRY AND BUMP PLUG
Event	21	Shutdown	11/26/2014	02:11:43	USER				111	PLUG STILL DID NOT BUMP, PRESSURE FELL OFF DUE TO

										A LEAK AT THE LANDING JOINT CONNECTION
Event	22	Check Floats	11/26/2014	02:24:23	USER		40	111		FLOATS HELD, 1/4 BBL BACK TO THE DISPLACEMENT TANKS
Event	23	End Job	11/26/2014	02:28:13	COM7					WAIT ON CEMENT TO BUILD GEL STRENGTH AND SEE HOW FAR IT FALLS BEFORE CO REP WILL RELEASE THE CREW
Event	24	Clean Lines	11/26/2014	02:29:59	USER					WASH UP PUMP AND BLOW DOWN
Event	25	Start Job	11/26/2014	06:56:25	COM7					RIGGED UP TO CELLAR, CEMENT FELL APPROX 4 FT
Event	26	Pump Cement	11/26/2014	06:57:15	USER	15.6	6X5	25	5	25 SKS 15.6 PPG 1.19 FT3/SK 5.11 GAL/SK
Event	27	Pump Water	11/26/2014	07:05:21	USER	8.33	1	45	3	FRESH WATER TO CLEAR LINES
Event	28	Shutdown	11/26/2014	07:07:53	USER					CO REP SAID CEMENT WAS GOOD
Event	29	End Job	11/26/2014	07:17:09	USER					THANK YOU FOR CHOOSING HALLIBURTON, THOMAS PONDER AND CREW

CYNOSURE - FEDERAL 14/15-5-21 - 9.625 IN SURFACE



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

- | | | | | |
|---|--------------------------|---------------------|----------------|----------------|
| ① Call Out | ⑦ Rig-Up Equipment | ⑬ Pump Lead Cement | ⑰ Shutdown | 25 Start Job |
| ② Pre-Convoy Safety Meeting | ⑧ Pre-Job Safety Meeting | ⑭ Pump Tail Cement | ⑱ Shutdown | 26 Pump Cement |
| ③ Crew Leave Yard | ⑨ Start Job | ⑮ Shutdown | ⑲ Shutdown | 27 Pump Water |
| ④ Arrive At Loc | ⑩ Prime Pumps | ⑯ Drop Top Plug | ⑳ Check Floats | 28 Shutdown |
| ⑤ Assessment Of Location Safety Meeting | ⑪ Test Lines | ⑰ Pump Displacement | ㉑ End Job | 29 End Job |
| ⑥ Pre-Rig Up Safety Meeting | ⑫ Pump Spacer 1 | ⑱ Slow Rate | ㉒ Clean Lines | |

▼ **HALLIBURTON** | iCem[®] Service

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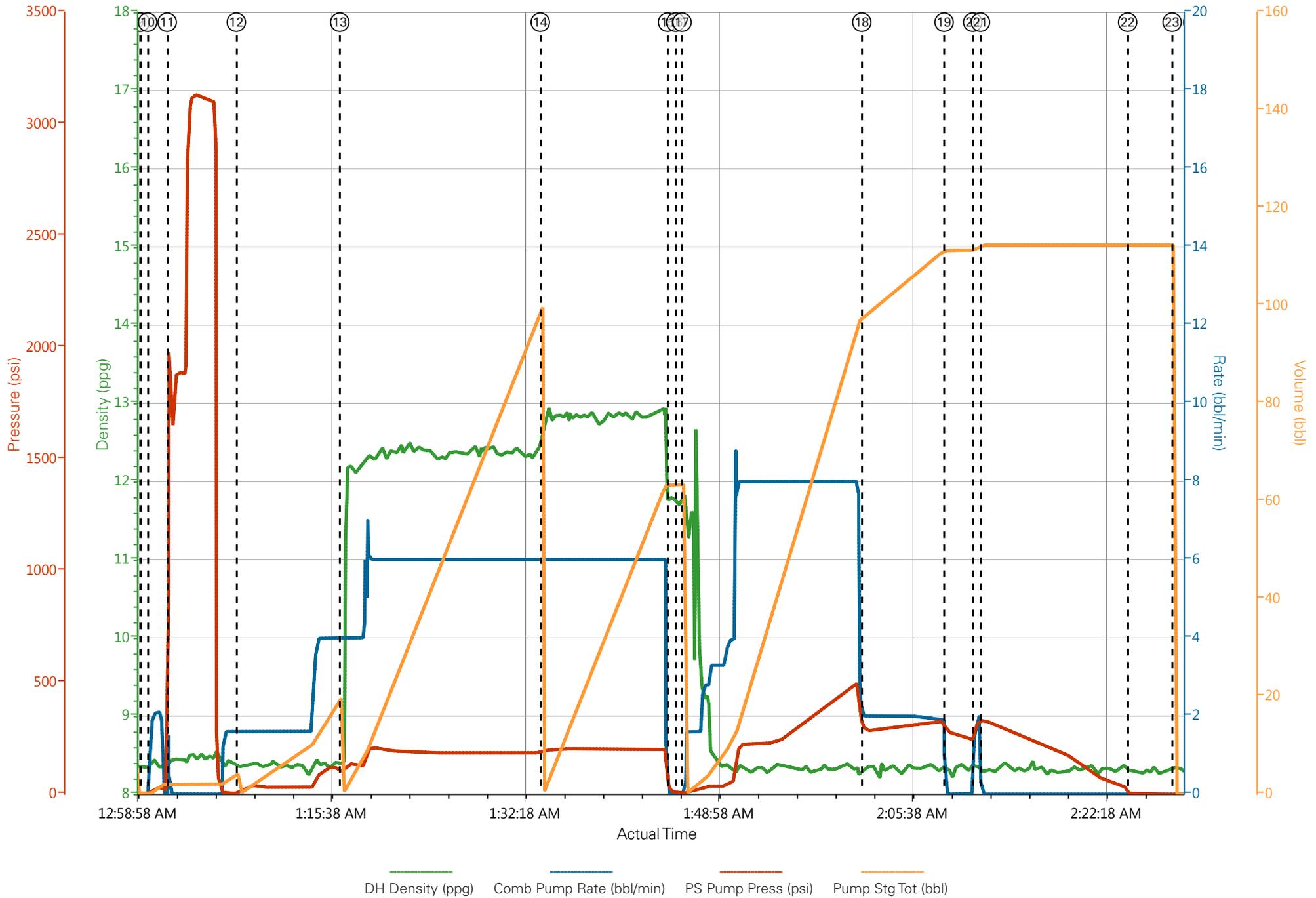
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Customer : COACHMAN ENERGY HOLDINGS LLC
 Representative : BOYD COTTAM

Job Date : 11/26/2014 12:12:48 AM
 Sales Order # : 901869104

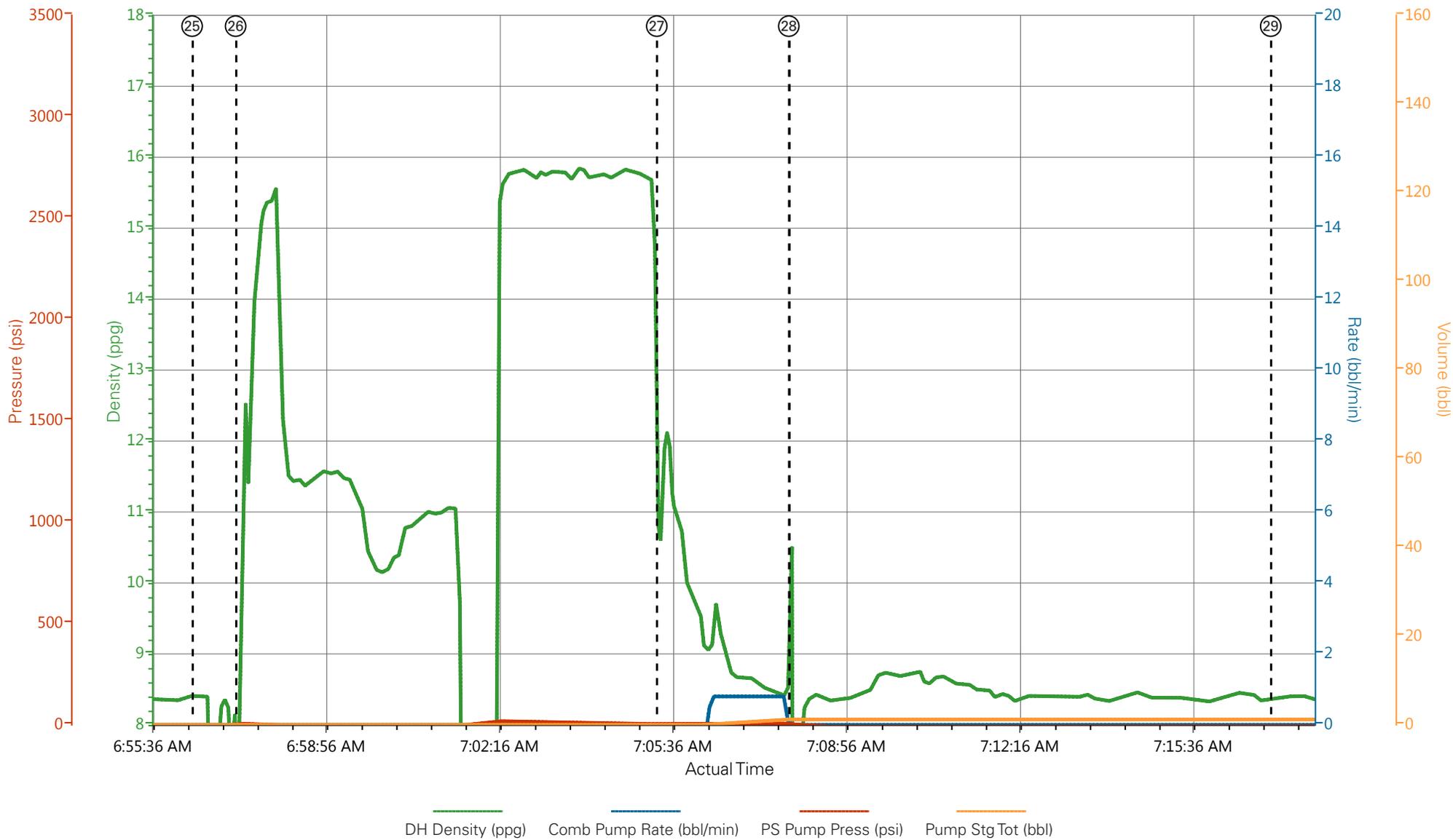
Well : FEDERAL 14/15-5-21
 ELITE #6 : TRAVIS BROWN / THOMAS PONDER

CYNOSURE - FEDERAL 14/15-5-21 - 9.625 IN SURFACE



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

CYNOSURE - FEDERAL 14/15-5-21 - 9.625 IN SURFACE



- | | | | | |
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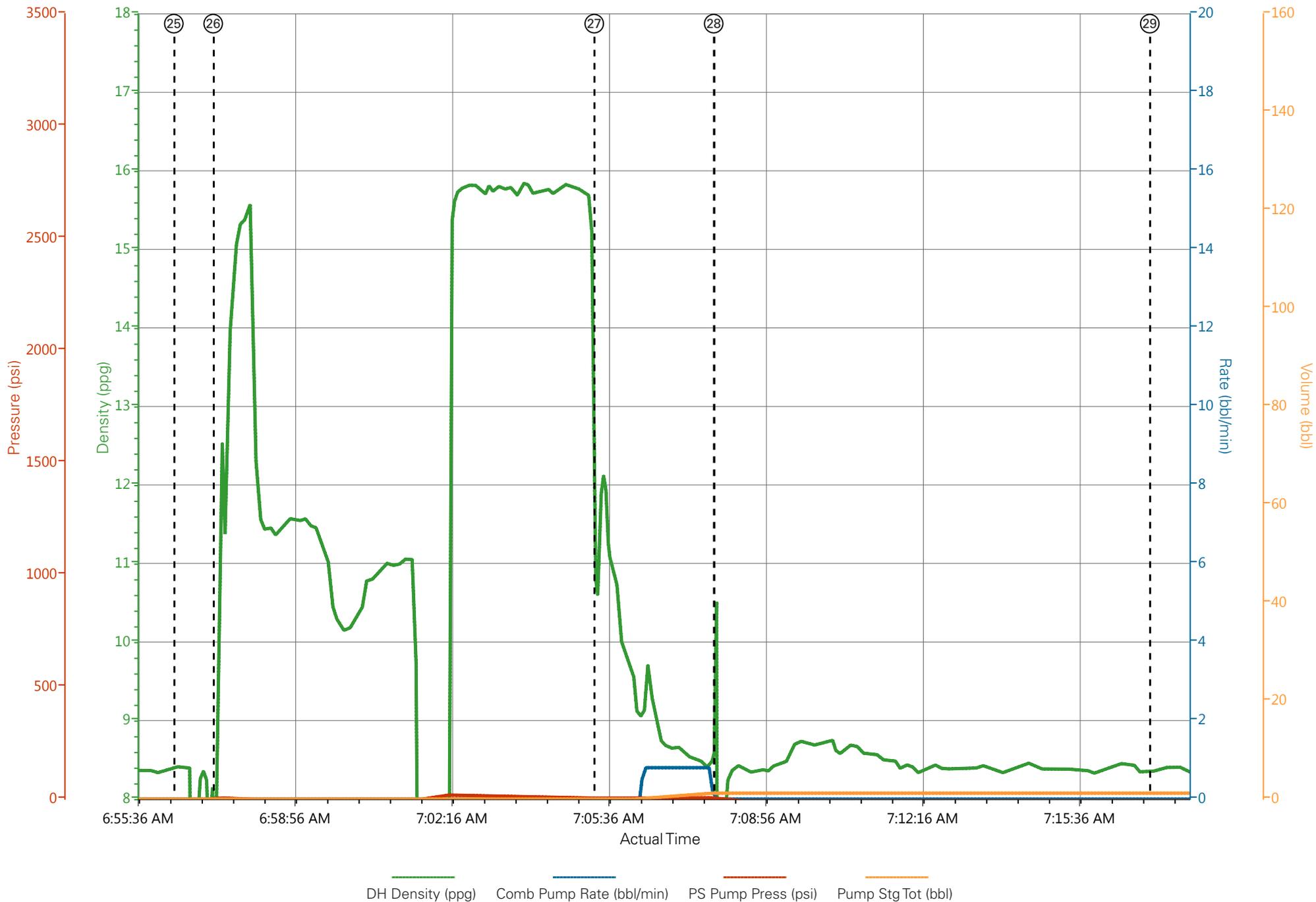
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Customer : COACHMAN ENERGY HOLDINGS LLC
 Representative : BOYD COTTAM

Job Date : 11/26/2014 12:12:48 AM
 Sales Order # : 901869104

Well : FEDERAL 14/15-5-21
 ELITE #6 : TRAVIS BROWN / THOMAS PONDER

CYNOSURE - FEDERAL 14/15-5-21 - 9.625 IN SURFACE



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

HALLIBURTON

Company: CYNOSURE Date: 11/26/2014
Submitted by: THOMAS PONDER Date Rec.: 11/26/2014
Attention: LARRY COOKSEY S.O.# 901869104
Lease FEDERAL Job Type: SURFACE
Well # 14/15-5-21

Specific Gravity	<i>MAX</i>	1
pH	<i>8</i>	7
Potassium (K)	<i>5000</i>	250 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
Carbonates hardness		
Temp	<i>40-80</i>	31.4 Deg
Total Dissolved Solids		530 Mg / L

Respectfully: THOMAS PONDER

Title: CEMENTING SUPERVISOR

Location: GRAND JCT, CO

Sales Order #: 0901869104	Line Item: 10	Survey Conducted Date: 11/26/2014
Customer: CYNOSURE ENERGY LLC		Job Type (BOM): CMT SURFACE CASING BOM
Customer Representative:		API / UWI: (leave blank if unknown) 05-045-22457-00
Well Name: FEDERAL		Well Number: 0080638623
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	11/26/2014
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

Sales Order #: 0901869104	Line Item: 10	Survey Conducted Date: 11/26/2014
Customer: CYNOSURE ENERGY LLC		Job Type (BOM): CMT SURFACE CASING BOM
Customer Representative:		API / UWI: (leave blank if unknown) 05-045-22457-00
Well Name: FEDERAL		Well Number: 0080638623
Well Type: DIRECTIONAL GAS	Well Country: USA	
H2S Present: No	Well State: COLORADO	Well County: GARFIELD

KEY PERFORMANCE INDICATORS

General	
Survey Conducted Date	11/26/2014
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)	6
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?	
Operating Hours (Pumping Hours)	3
Total number of hours pumping fluid on this job. Enter in decimal format.	
Customer Non-Productive Rig Time (hrs)	0
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.	
Type of Rig Classification Job Was Performed	Drilling Rig (Portable)
Type Of Rig (classification) Job Was Performed On	
Number Of JSAs Performed	6
Number Of Jsas Performed	
Number of Unplanned Shutdowns	0
Unplanned shutdown is when injection stops for any period of time.	
Was this a Primary Cement Job (Yes / No)	Yes

Sales Order #: 0901869104	Line Item: 10	Survey Conducted Date: 11/26/2014
Customer: CYNOSURE ENERGY LLC		Job Type (BOM): CMT SURFACE CASING BOM
Customer Representative:		API / UWI: (leave blank if unknown) 05-045-22457-00
Well Name: FEDERAL		Well Number: 0080638623
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