HALLIBURTON

iCem® Service

SRC ENERGY INC-EBUS

BOST FARM 31C-11-L

Sincerely,

Alexandria Dionigi

Legal Notice

Disclaimer:

All information in this report is provided subject to the terms and conditions which govern the services provided by Halliburton. Halliburton personnel use their best efforts in gathering information and their best judgment in interpreting it, but any interpretation, research, analysis or recommendation furnished by Halliburton are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and empirical relationships and assumptions are not infallible, and with respect to which professionals in the industry may differ. iCem 3D Displacement results are used to understand how fluids intermix during a cement job. Simulation and 3D displacement results are not intended as and should not be used as a replacement for bond logs in determining top of cement. Current 3D model calculations are known to model more volume than the input volume for standard cases due to known calculation improvements required. For rotational cases, the modeled volume will be impacted by the same calculations impacting the standard cases, as well as additional constraints imposed to make the calculation time required operationally feasible. Therefore, until further notice, 3D displacement results should not be used for replacement of a bond log, or used as an identifier of top of cement. HALLIBURTON IS UNABLE TO GUARANTEE THE ACCURACY OF ANY CHART INTERPRETATION, RESEARCH ANALYSIS, OR JOB RECOMMENDATION and any interpretation or recommendation is not for use of or reliance upon by any third party. The customer has full responsibility for any of its decisions which are based on the information provided in this report.

Table of Contents

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Bost Farm 31C-11-L** cement **Job Type** casing job. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

Approximately 10 bbls of cement were returned to surface.

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

Halliburton Fort Lupton

The Road to Excellence Starts with Safety

Sold To #: 359915	**Ship To #:** 3901235	**Quote #:**	**Sales Order #:** 0905812653
Customer: SRC ENERGY INC-EBUS		**Customer Rep:** Lovel Young	
Well Name: BOST FARM	**Well #:** 31C-11-L		**API/UWI #:** 05-123-47662-00
Field: WATTENBERG	**City (SAP):** WINDSOR	**County/Parish:** WELD	**State:** COLORADO
Legal Description: SW NW-7-5N-66W-1435FNL-1120FWL			
Contractor: PRECISION DRLG		**Rig/Platform Name/Num:** PRECISION 462	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB41307		**Srvc Supervisor:** Michael Loughran	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	17221ft		**Job Depth TVD**	7141
Water Depth			**Wk Ht Above Floor**	5
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	LTC	J-55	0	1817	0	1817
Casing		5.5	4.778	20	TXP-BTC	P110IC	0	17221	0	7141
Open Hole Section			8.5				1817	17221	1817	7141

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	5.5					**Top Plug**	5.5	1	
Float Shoe	5.5			17221		**Bottom Plug**	5.5	1	
WSS	5.5			17118		**SSR plug set**	5.5		
Insert Float	5.5					**Plug Container**	5.5	1	HES
Stage Tool	5.5					**Centralizers**	5.5		

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	Tuned Prime Cement Spacer	SBM FDP-C1337-18 CEMENT SPACER SYS	80	bbl	12.5	2.79		6	
146.19 lbm/bbl		**BARITE, BULK (100003681)**							
0.50 gal/bbl		**DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)**							

0.25 gal/bbl	**D-AIR 3000L, 5 GAL PAIL (101007444)**
1 lbm/bbl	**FE-2 (100001615)**
0.50 gal/bbl	**MUSOL(R) A, 5 GAL PAIL (100064220)**

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	ElastiCem	ELASTICEM (TM) SYSTEM	1205	sack	13.2	1.57		8	7.54
0.15 %		**FE-2 (100001615)**							
0.25 %		**SCR-100 (100003749)**							
7.54 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	NeoCem	NeoCem TM	1081	sack	13.2	2.04		8	9.75
9.71 Gal		**FRESH WATER**							
0.08 %		**SCR-100 (100003749)**							

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	MMCR Displacement	MMCR Displacement	20	bbl	8.34			10	
0.20 gal/bbl		**MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)**							

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	Water	Water	290	bbl	8.33			7.5	
1 gal/Mgal		**CLA-WEB - BULK (101985043)**							

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
6	MMCR Displacement	MMCR Displacement	70	bbl	8.34			7.5	
0.20 gal/bbl		**MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)**							

Cement Left In Pipe	**Amount**	0.00 ft	Reason	**Wet Shoe Joint**

Mix Water:	pH 7	**Mix Water Chloride:**	Less 200 ppm	Mix Water Temperature:	**69 °F**
Cement Temperature:		**Plug Displaced by:**	8.33 lb/gal	Disp. Temperature:	
Plug Bumped?	Yes	**Bump Pressure:**	2920 psi	Floats Held?	**Yes**
Cement Returns:		**Returns Density:**		Returns Temperature:	

Comment Full returns throughout job, Plug bumped at 2920 psi, Pumped 6 bbl wet shoe, Floats held, 2.5 bbl. Back. 10 bbl. Cement to surface. Top of cement =Surface

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	7/6/2019	17:00:00	USER					Crew called out for on location time of 2300 hrs 4/6/2019
Event	2	Arrive At Loc	Arrive At Loc	7/6/2019	21:20:00	USER					Arrive at location, Rig running casing, Meet with customer, TP 17221 20# P-110, TD 17236, 8.50 Hole, WSS 17118, TVD 7141, PC 1817' 9.625 J-55 36#, WF 10.4 OBM, 3rd Party Top and Bottom plug provided by customer, Water 69 Deg., PH 7, Chlorides and sulfates less that 200 ppm
Event	3	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	7/6/2019	21:30:00	USER					Pre rig up safety meeting
Event	4	Rig-Up Equipment	Rig-Up Equipment	7/6/2019	21:40:00	USER					Rig up all service lines and iron to buffer zone
Event	5	Pre-Job Safety Meeting	Pre-Job Safety Meeting	7/7/2019	04:20:00	USER	7.75	0.00	-15.00	0.00	Discuss job procedures, Discuss job hazards and hazards of Halliburton Equipment.
Event	6	Start Job	Start Job	7/7/2019	04:46:52	COM4	7.79	0.00	0.00	0.00	Begin recording data
Event	7	Test Lines	Test Lines	7/7/2019	04:48:59	COM4	7.94	0.00	4.00	1.50	Test lines 6500 psi
Event	8	Drop Bottom Plug	Drop Bottom Plug	7/7/2019	04:53:31	COM4	7.90	0.00	8.00	1.60	Verified by Lovel
Event	9	Pump Spacer 1	Pump Spacer 1	7/7/2019	04:54:26	COM4	7.90	0.00	5.00	0.00	80 bbls Tuned Prime Spacer 12.5 ppg, 2.79 yield, 16.6

											gal/sack. 40 gal Musol, 40 gal Dual B Surfactant, D-Air
Event	10	Pump Lead Cement	Pump Lead Cement	7/7/2019	05:08:53	COM4	12.67	5.80	223.00	55.30	1205 sacks ELASTICEM, 336.94 bbl.,13.2 ppg, 1.57 Yield, 7.54 gal/sack
Event	11	Pump Tail Cement	Pump Tail Cement	7/7/2019	05:57:13	COM4	13.13	7.90	685.00	378.70	1081 Sacks NEOCEM 392.75 bbl., 2.04 Yield, 9.75 gal/Sack
Event	12	Shutdown	Shutdown	7/7/2019	06:56:21	COM4	1.83	0.00	84.00	449.00	Shutdown
Event	13	Clean Lines	Clean Lines	7/7/2019	06:58:27	USER	8.58	2.20	54.00	2.30	Shut in well, Clean Pumps and lines
Event	14	Drop Top Plug	Drop Top Plug	7/7/2019	07:04:59	COM4	4.72	0.00	62.00	21.50	Top plug verified by Lovel
Event	15	Pump Displacement	Pump Displacement	7/7/2019	07:06:23	COM4	7.56	0.00	27.00	0.00	380 bbl. Fresh water displace. 10 gal Micro Matrix retarder in first 20 bbl. and 10 gal Micro Matrix retarder in last 70 bbl. Cla Web and BE-3 Throughout. See cement at 370 into displace. Approx. 10 bbl. cement to surface. Top of cement = Surface
Event	16	Bump Plug	Bump Plug	7/7/2019	07:58:36	COM4	8.24	0.00	2954.00	396.10	500 psi over final circ. pressure of 2430 psi @ 4 bbl./min., Bump to 2920 psi.
Event	17	Pressure Up	Pressure Up	7/7/2019	07:59:51	USER	8.29	2.10	4417.00	1.90	Pressure up to shift WSS. Shifts at 5200 psi. Pump 6 bbl. wet shoe
Event	18	Check Floats	Check Floats	7/7/2019	08:03:41	USER	8.20	0.00	2021.00	10.50	Floats hold, 2.5 bbl. back
Event	19	End Job	End Job	7/7/2019	08:05:08	COM4	7.64	0.00	4.00	10.50	Stop recording data
Event	20	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	7/7/2019	08:15:00	USER					JSA safe Rig-Down
Event	21	Rig-Down Equipment	Rig-Down Equipment	7/7/2019	08:15:00	USER					Rig down equipment

Event	22	Crew Leave Location	Crew Leave Location	7/7/2019	10:00:00	USER	Thanks for choosing Halliburton Energy Services!

3.0 Attachments

3.1 SRC BOST FARM 31C-11-L- Job Chart.png