

HALLIBURTON

iCem[®] Service

SRC ENERGY INC-EBUS

For: SRC

Date: Sunday, August 25, 2019

Bost Farm

Operator Eric Barranco Elite 11368474

Job Date: Saturday, August 24, 2019

Sincerely,

Steve Markovich and Geoff Miller

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the cement 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 29 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 #: 3901343	Quote #:	Sales Order #: 0905919708
Customer: SRC ENERGY INC-EBUS		Customer Rep: Lovel Young	
Well Name: BOST FARM		Well #: 4C-11-L2	API/UWI #: 05-123-47664-00
Field: WATTENBERG	City (SAP): WINDSOR	County/Parish: WELD	State: COLORADO
Legal Description: SW NW-7-5N-66W-1375FNL-1121FWL			
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 462	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA/HB41307		Srvc Supervisor: Steven Markovich	

Job

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	17177ft 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	LTC	J-55	0	1801	0	0
Casing		5.5	4.778	20	TXP-BTC	P110IC	0	17177	0	0
Open Hole Section			8.5				1801	17195	0	0

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5			17177	Top Plug	5.5		HES
Float Shoe	5.5				Bottom Plug	5.5		HES
Float Collar	5.5				SSR plug set	5.5		HES
Insert Float	5.5				Plug Container	5.5		HES
Stage Tool	5.5				Centralizers	5.5		HES

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	Tuned Prime Cement Spacer	SBM FDP-C1337-18 CEMENT SPACER SYS	124	bbl	10.5	3.84			
		146.19 lbm/bbl BARITE, BULK (100003681)							
		0.50 gal/bbl DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							

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	1203	sack	13.2	1.57		8	7.52
0.10 %		FE-2 (100001615)							
0.20 %		SCR-100 (100003749)							
7.52 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	1082	sack	13.2	2.04		8	9.79
9.79 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	MMCR Displacement	MMCR Displacement	20	bbl	8.34			8	
0.25 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	287	bbl	8.33			8	
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			8	
0.2140 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
Cement Left In Pipe	Amount	0 ft			Reason			Wet Shoe	
Mix Water:	pH 07	Mix Water Chloride:	00 ppm		Mix Water Temperature:	73 °F °C			

Comment Pump 377bbls of H2O. First 20bbls with MMCR, 287bbls with clay web, then the final 70 with MMCR. Pumped at 10bbl/min and slowed rate with pressure increase. Spacer to surface at 245bbls away. Cement to surface at 348bbls away bringing 29bbls to surface. Bumped plug at 377bbls away. Final lift pressure was 2579psi. Brought pressure 500psi over and held. Kicked in pumps at 2bbl/min to shear WSS. WSS sheered at 5155psi then pumped a 6bbl wet shoe at 4bbl/min. After 3bbls back floats held. Estimated Top of Tail Cement 7598'.

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	DS Pump Press <i>(psi)</i>	Comb Pump Rate <i>(bbl/min)</i>	Pump Stg Tot <i>(bbl)</i>	Recirc Density <i>(ppg)</i>	Comments
Event	1	Other	Call Out	8/23/2019	17:00:00	USER						Job called out with an on location time of 0000.
Event	2	Crew Leave Yard	Crew Leave Yard	8/23/2019	21:00:00	USER						JSA with HES crew on driving safety and route to rig.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	8/23/2019	22:00:00	USER						Arrived on location, rig was still running casing. Had 2500' to run with his problem are coming up in a few hundred feet.
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	8/23/2019	22:15:00	USER						JSA and Haard hunt with HES crew.
Event	5	Safety Meeting	Safety Meeting	8/24/2019	03:54:31	USER	8.29	-20.00	0.00	31.20	8.44	Geoff Miller led safety meeting. Going over job safety and procedure.
Event	6	Start Job	Start Job	8/24/2019	04:00:29	COM4	8.29	-20.00	0.00	31.20	8.45	Mixed up spacer. Rig was completing its 2 bottoms up at rate of 10bbl/min with seeing gas units as high as 10,000. Rig had issues landing out. Tried multiple times and finally decided to pull off landing joint and then pump. Down time was 2 and a half hours.
Event	7	Start Job	Start Job	8/24/2019	06:31:19	COM4	8.31	-2.00	0.00	31.20	10.43	TD 17195' TP 17177' FC 17130.85' WSS 17072.12' 5 1/2" 20# Production Casing, 8 1/2" Open Hole, 9 5/8"

											36# Surface Casing set at 1801, TVD 7146' Mud weight was a 11.4 going in.	
Event	8	Test Lines	Test Lines	8/24/2019	06:35:16	COM4	8.32	28.00	0.00	34.60	10.43	Set kicks out to 500psi to check low pressure kick outs. Increase pressure to 6500psi and hold.
Event	9	Drop Bottom Plug	Drop Bottom Plug	8/24/2019	06:40:42	COM4	8.30	34.00	0.00	34.70	10.43	Plugs were loaded into HES head. Plugs were dropped and loaded in front of company rep.
Event	10	Pump Spacer 1	Pump Spacer 1	8/24/2019	06:41:34	COM4	8.30	8.00	0.00	0.00	10.43	Pumped 124bbls of 10.5ppg Spacer(Weight was verified with pressurized scales). Spacer should have been 11.5ppg 3.84yield with a total amount of 80bbls. Pumped at 5bbl/min 260psi. Added 40 gallons of Musol and Dual B on the fly.
Event	11	Pump Lead Cement	Pump Lead Cement	8/24/2019	07:05:05	COM4	13.07	560.00	6.00	0.10	13.27	Pumped 336bbls (1203sks) of 13.2ppg 1.57yield Lead Cement. Pumped at 8bbl/min 406psi. Weight verified by pressurized scales.
Event	12	Shutdown	Shutdown	8/24/2019	07:47:18	COM4	-0.12	19.00	0.00	317.40	13.40	Rig took a gas kick and we were instructed to shutdown. We were shutdown for 6 mins for the rig to apply back pressure.
Event	13	Pump Tail Cement	Pump Tail Cement	8/24/2019	07:52:45	COM4	13.10	463.00	8.30	0.10	13.23	Pump 393bbls (1082sks) of 13.2ppg 2.04yield Tail Cement. Pumped at 8bbl/min 560psi.
Event	14	Shutdown	Shutdown	8/24/2019	08:42:34	COM4	13.34	135.00	0.00	396.70	-0.06	Shutdown and clean pumps and line.

Event	15	Drop Top Plug	Drop Top Plug	8/24/2019	08:53:14	COM4	8.09	18.00	0.00	416.50	8.38	Plugs pre-loaded into HES head, Plugs loaded and dropped in front of company rep.
Event	16	Pump Displacement	Pump Displacement	8/24/2019	08:53:22	COM4	5.71	16.00	0.00	416.50	8.38	Pump 377bbls of H2O. First 20bbls with MMCR, 287bbls with clayweb, then the final 70 with MMCR. Pumped at 10bbl/min and slowed rate with pressure increase. Spacer to surface at 245bbls away. Cement to surface at 348bbls away bringing 29bbls to surface.
Event	17	Bump Plug	Bump Plug	8/24/2019	09:38:54	COM4	8.35	2592.00	2.90	385.70	8.37	Bumped plug at 377bbls away. Final lift pressure was 2579psi. Brought pressure 500psi over and held.
Event	18	Other	Other	8/24/2019	09:41:35	USER	8.43	5155.00	1.90	388.70	8.37	Kicked in pumps at 2bbl/min to shear WSS. WSS sheered at 5155psi then pumped a 6bbl west shoe at 4bbl/min.
Event	19	End Job	End Job	8/24/2019	09:45:58	COM4	8.13	13.00	0.00	0.00	8.37	Thank you Steve Markovich and crew.

3.0 Attachments

3.1 Operator Eric Barranco Elite 11368474-Custom Results .png

