

HALLIBURTON

iCem® Service

BISON OIL & GAS II LLC-EBUS

Ross 8-60 18-7-5 Production

Job Date: Thursday, June 02, 2022

Sincerely,

Meghan Van Zyl

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 **Ross 8-60 18-7-5** cement **Production** 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 no cement was returned to surface, but received 30bbls spacer.

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

Sold To #: 324725		Ship To #: 9120664		Quote #:		Sales Order #: 0907897778				
Customer: BISON OIL & GAS II LLC-EBUS				Customer Rep: Kenny Graham						
Well Name: ROSS 8-60			Well #: 18-7-5			API/UWI #: 05-123-51444				
Field:		City (SAP): BRIGGSDALE		County/Parish: WELD			State: COLORADO			
Legal Description:										
Contractor: ENSIGN DRLG				Rig/Platform Name/Num: ENSIGN 140						
Job BOM: 7523 7523										
Well Type: OIL										
Sales Person: HALAMERICA\HX41066				Srvc Supervisor: Nicholas Roles						
Job										
Formation Name										
Formation Depth (MD)		Top				Bottom				
Form Type				BHST						
Job depth MD		15516ft		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			0	1955	0	1955
Casing		5.5	4.892	17			0	15516	0	6391
Open Hole Section			8.5				1955	15523	1955	6391
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5					Top Plug	5.5	1	CITADEL	
Float Shoe	5.5			15516		Bottom Plug	5.5	1	CITADEL	
Float Collar	5.5			15511		SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5	1	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 ft³/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Tuned Prime Cement Spacer	TUNED PRIME CEMENT SPACER SYS	50	bbl	11.5	3.74	1775	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
2	ElastiCem	SBM CEM ELASTICEM™ SYS	565	sack	13	1.66	4689	9	8.3
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	IsoBond	SBM CEM FDP-C1371 SYS	550	sack	13	1.55	3971	9	7.22
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	ElastiCem	SBM CEM ELASTICEM™ SYS	1340	sack	13.2	1.59	10398	9	7.76
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	MMCR Displacement	MMCR Displacement	20	bbl	8.33	0	840	9.25	
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	Displacement	Displacement	340	bbl	8.33		14280	10	
Cement Left In Pipe		Amount	5 ft		Reason			Shoe Joint	
Mix Water:	pH 7	Mix Water Chloride:	>3000 ppm		Mix Water Temperature:			65 °F °C	
Cement Temperature:	## °F °C	Plug Displaced by:	8.33 lb/gal		Disp. Temperature:			65 °F °C	
Plug Bumped?	Yes	Bump Pressure:	2700 psi MPa		Floats Held?			Yes	
Cement Returns:	0 bbl m3	Returns Density:	## lb/gal kg/m3		Returns Temperature:			## °F °C	
Comment Got 30bbls spacer to surface. Est TOT-7685', TOL-3960'. 856bbls mix water total used.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Graph Label	Date	Time	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
1	Call Out	Call Out	6/1/2022	16:00:00					Called out by service coordinator for OL time of 2200.
2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/1/2022	19:00:00					Discuss all hazards associated with journey, directions to destination, complete journey management if needed, and ensure all convoy is fit for duty.
3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	6/1/2022	19:15:00					Depart from service center or other job site.
4	Arrive at Location from Service Center	Arrive at Location from Service Center	6/1/2022	19:45:00					Upon arrival to location, signed in with onsite safety personnel. Met with company man and discussed job specific requirements and specifications.
5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/1/2022	20:00:00					Held pre rig up JSA for hazards, hazard hunt with crew, and discussed plan for spotting equipment and rigging up lines for job. Discussed muster points and closest emergency location as well as coordinates.
6	Rig-Up Equipment	Rig-Up Equipment	6/1/2022	20:15:00					Begin rig up with crew.
7	Rig-Up Completed	Rig-Up Completed	6/1/2022	21:15:00					Complete rig up for job to nearest point before red zone.
8	Other	Other	6/1/2022	23:00:00					Mix water test results- PH-7, Chlo-0, Temp-65F.

9	Safety Meeting - Pre Job	Safety Meeting - Pre Job	6/2/2022	01:20:00	7.97	0.00	20.00	0.00	Held job specific hazards as well as confirming job procedure with co man and rest of crew associated with job.
10	Start Job	Start Job	6/2/2022	01:38:03	7.98	0.00	0.00	0.00	TD-15523', OH-8.5",TP-5.5" 17#-15516, FC-15511',TVD-6391', SURF-1955' 9.625" 36#, MUD 9.5#
11	Drop Bottom Plug	Drop Bottom Plug	6/2/2022	01:39:19	8.32	3.20	320.00	1.90	Dropped by HES supervisor, witnessed by company man.
12	Test Lines	Test Lines	6/2/2022	01:40:21	8.32	0.00	88.00	3.10	Pumped 5bbls fresh water to fill lines at 4bpm 320psi, shut manifold, and performed 500psi k/o function test, followed with 5th gear stall at 1800psi, proceeded to bring pressure to 4500psi, held well and no leaks.
13	Pump Spacer 1	Pump Spacer 1	6/2/2022	01:46:46	8.27	0.00	14.00	0.00	Pumped 50bbls of 11.5# 3.74y 23.65g/s FDP Spacer with 10g D-air at 6bpm 447psi.
14	Check Weight	Check Weight	6/2/2022	01:49:34	11.47	3.90	395.00	9.90	Weight verified with pressurized mud scales.
15	Pump Cap Cement	Pump Cap Cement	6/2/2022	01:56:39	12.52	5.90	397.00	0.00	Pumped 565sks or 167bbls of 13# 1.66y 8.3g/s Elasticem at 9bpm 498psi.
16	Check Weight	Check Weight	6/2/2022	01:57:52	13.00	5.80	506.00	7.20	Weight verified with pressurized mud scales.
17	Pump Lead Cement	Pump Lead Cement	6/2/2022	02:15:42	13.03	9.20	843.00	168.30	Pumped 550sks 152bbls 13# 1.55y 7.22g/s Gasstop at 9bpm 1000psi.
18	Check Weight	Check Weight	6/2/2022	02:18:10	12.84	8.70	902.00	18.50	Weight verified with pressurized mud scales.
19	Pump Tail Cement	Pump Tail Cement	6/2/2022	02:35:19	12.85	8.90	1073.00	161.00	Pumped 1340sks or 379.5bbls 13.2# 1.59y 7.76g/s Elasticem at 9bpm 1200psi.
20	Check Weight	Check Weight	6/2/2022	02:38:35	13.27	9.30	1059.00	29.90	Weight verified with pressurized mud scales.
21	Check Weight	Check Weight	6/2/2022	02:44:31	13.32	8.60	834.00	81.80	Weight verified with pressurized mud scales.

22	Check Weight	Check Weight	6/2/2022	02:51:39	13.29	8.70	767.00	143.00	Weight verified with pressurized mud scales.
23	Shutdown	Shutdown	6/2/2022	03:21:58	13.56	0.00	101.00	398.20	Shutdown, washed up through pumps and lines with fresh water. Pumped total of 15bbls until clean.
24	Drop Top Plug	Drop Top Plug	6/2/2022	03:31:01	8.32	0.00	-25.00	14.70	Dropped by HES supervisor, witnessed by company man.
25	Pump Displacement	Pump Displacement	6/2/2022	03:31:03	8.33	0.00	-25.00	14.70	Pumped 360bbls fresh water at 10bpm, first 20bbls with 10gal MMCR.
26	Bump Plug	Bump Plug	6/2/2022	04:23:19	8.36	0.00	2697.00	370.20	Slowed down at 340bbls away to 5bpm, final circulating pressure-2200psi. Bump pressure-2700psi.
27	Other	Other	6/2/2022	04:24:40	8.35	0.00	2737.00	370.20	Released pressure and got 3.5bbls back. Floats held.
28	End Job	End Job	6/2/2022	04:27:57	8.32	0.00	-13.00	370.20	Got 30bbls spacer to surface. Est TOT-7685', TOL-3960'.
29	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/2/2022	04:30:00	8.32	0.00	-13.00	0.00	Held safety meeting with crew prior to rig down, discussed possibility of trapped pressure, swing radius, slips trips and falls, pinch points and risks associated with rig down.
30	Rig Down Lines	Rig Down Lines	6/2/2022	04:45:00					Begin rig down
31	Rig-Down Completed	Rig-Down Completed	6/2/2022	06:00:00					Rig down complete with no injuries, spills or damage to equipment.
32	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/2/2022	06:15:00					Held safety meeting with convoy, discussed trip hazards, directions and all crew fit for duty prior to departure.
33	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	6/2/2022	06:30:00					Depart location, if applicable journey will be submitted.

3.0 Attachments

3.1 Real Time iCem Job Chart

