

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS -EBUS

Ft. Lupton District, COLORADO

Interchange B S22-30-20N Production

Job Date: Monday, May 16, 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 **Interchange B S22-30-20N** 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 50 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

Sold To #: 324725		Ship To #: 9007993		Quote #:		Sales Order #: 0907854245				
Customer: EXTRACTION OIL & GAS					Customer Rep: Manny					
Well Name: INTERCHANGE B			Well #: S22-30-20N			API/UWI #: 05-014-20851-00				
Field: WATTENBERG		City (SAP): BROOMFIELD		County/Parish: BROOMFIELD		State: COLORADO				
Legal Description: NE SW-10-1S-68W-2222FSL-1776FWL										
Contractor: ENSIGN DRLG				Rig/Platform Name/Num: ENSIGN 769						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX41066					Srvc Supervisor: Kyle Bath					
Job										
Formation Name										
Formation Depth (MD)		Top				Bottom				
Form Type				BHST						
Job depth MD		25042ft		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	1684	0	1684
Casing		5.5	4.892	17			0	25025	0	7860
Open Hole Section			8.75				1684	12000	1671	7860
Open Hole Section			8.5				12000	25042	7840	7860
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			25025		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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Tuned Prime	TUNED PRIME CEMENT SPACER SYS	50	bbl	11.5	3.81	1771	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	Cap	SBM CEM ELASTICEM™ SYS	565	sack	13	1.67	4712	8	8.34
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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 Lead Cement	SBM CEM FDP-C1371 SYS	1080	sack	13	1.56	7830	8	7.25

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
4	ElastiCem	SBM CEM ELASTICEM™ SYS	2340	sack	13.2	1.59	18158	8	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	Displacement	Displacement	580	bbl	8.33	0	24360	8	

Cement Left In Pipe	Amount	5 ft			Reason			Shoe Joint	
Mix Water:	pH ##	Mix Water Chloride: ## ppm			Mix Water Temperature: ## °F °C				
Cement Temperature:	## °F °C	Plug Displaced by: ## lb/gal kg/m3 XXXX			Disp. Temperature: ## °F °C				
Plug Bumped?	Yes/No	Bump Pressure: ##### psi MPa			Floats Held? Yes/No				
Cement Returns:	## bbl m3	Returns Density: ## lb/gal kg/m3			Returns Temperature: ## °F °C				
Comment 1353bbbls mix water total used.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Graph Label	Date	Time	Dwnhole Density (ppg)	Cmb Pump Rate (bbl/min)	Pump A Pressure (psi)	Cmb Stg Total (bbl)	Comments
1	Call Out	Call Out	5/15/2022	14:00:00					CREW CALLED OUT, REQUESTED ON LOCATION 22:00
2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	5/15/2022	20:00:00					PRE CONVOY SAFETY MEETING WITH ALL HES EE
3	Crew Leave Yard	Crew Leave Yard	5/15/2022	20:15:00					CREW DEPART YARD FOR LOCATION
4	Arrive At Loc	Arrive At Loc	5/15/2022	21:00:00					ARRIVE ON LOCATION, RECIEVED NUMBERS FROM CO REP, TD 25042, TP 25025, SJ 5, CSG 5.5 17#, PREV CSG 9 5/8 36# @ 1684, HOLE 8 34 TO 12000, 8.5 TO TD, MUD 10, TVD 7860, 360 CENTALIZERS, WATER TEST, TEMP 60, CHLORIDES 0, PH 7
5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	5/15/2022	21:15:00					SAFETY MEETING WITH ALL HES EE TO ASSESS ALL HAZARDS
6	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	5/15/2022	21:30:00					PRE RIG UP SAFETY MEETING WITH ALL HES EE
7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	5/15/2022	23:30:00	8.32	0.00	2.00	0.00	PRE JOB SAFETY MEETING WITH RIG CREW AND CO REP
8	Start Job	Start Job	5/16/2022	00:16:05	8.26	0.00	2.80	0.00	START RECORDING DATA
9	Drop Bottom Plug	Drop Bottom Plug	5/16/2022	00:16:44	8.20	0.00	0.63	0.00	LAUNCH BOTTOM PLUG

10	Test Lines	Test Lines	5/16/2022	00:17:54	8.27	0.00	223.61	1.35	TEST LINES TO 5300 PSI
11	Pump Spacer 1	Pump Spacer 1	5/16/2022	00:21:27	8.23	0.00	220.06	0.00	PUMP 50 BBLS TUNED PRIME SPACER 11.5 PPG 7 BPM 750 PSI
12	Check Weight	Check Weight	5/16/2022	00:23:59	11.64	6.53	743.57	10.31	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
13	Pump Cap Cement	Pump Cap Cement	5/16/2022	00:29:24	11.56	6.11	568.68	0.05	MIX AND PUMP 565 SKS 168 BBLS CAP CEMENT 13 PPG, 1.67 FT3/SK, 8.34 GAL/SK, 9 BPM 1200 PSI, CALCULATED TOCC SURFACE
14	Check Weight	Check Weight	5/16/2022	00:34:25	13.19	8.94	1200.58	39.09	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
15	Pump Lead Cement	Pump Lead Cement	5/16/2022	00:48:09	12.89	6.64	439.20	0.06	MIX AND PUMP 1080 SKS 300 BBLS LEAD CEMENT 13 PPG, 1.56 FT3/SK, 7.25 GAL/SK 9 BPM 1120 PSI, CALCULATED TOC 2416
16	Check Weight	Check Weight	5/16/2022	00:51:22	13.00	6.97	642.63	22.49	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
17	Pump Tail Cement	Pump Tail Cement	5/16/2022	01:21:00	12.85	8.23	707.41	0.14	MIX AND PUMP 2340 SKS 663 BBLS TAIL CEMENT 13.2 PPG, 1.59 FT3/SK, 7.76 GAL/SK 9 BPM 1200 PSI, CALCULATED TOTC 9082
18	Check Weight	Check Weight	5/16/2022	01:26:33	13.22	8.71	719.94	47.53	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
19	Check Weight	Check Weight	5/16/2022	02:34:46	13.09	9.02	1195.98	651.88	
20	Shutdown	Shutdown	5/16/2022	02:40:25	13.14	0.00	121.15	676.46	SHUTDOWN, WASH PUMPS AND LINES TO TANK
21	Drop Top Plug	Drop Top Plug	5/16/2022	02:49:06	7.90	0.00	7.00	693.76	LAUNCH TOP PLUG
22	Pump Displacement	Pump Displacement	5/16/2022	02:49:08	7.90	0.00	6.75	0.00	PUMP 580 BBLS MMCR DISPLACEMENT 10 BPM 3300 PSI, RECIEVED 50 BBLS TUNED PRIME SPACER AND 50 BBLS CEMENT TO SURFACE
23	Bump Plug	Bump Plug	5/16/2022	04:09:58	8.06	0.00	3772.69	577.70	BUMP PLUG AT 3100 PSI TOOK TO 3800 PSI
24	Other	Other	5/16/2022	04:11:15	8.03	0.00	3713.36	577.70	CHECK FLOATS, FLOATS HELD TOOK 8 BBLS BACK

25	End Job	End Job	5/16/2022	04:12:53	7.84	0.00	4.75	0.00	STOP RECORDING DATA, USED 1341 BBLS FRESH WATER
26	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	5/16/2022	04:15:00					PRE RIG DOWN SAFETY MEETING WITH ALL HES EE
27	Depart Location Safety Meeting	Depart Location Safety Meeting	5/16/2022	05:30:00					PRE DEPARTURE SAFETY MEETING WITH ALL HES EE
28	Crew Leave Location	Crew Leave Location	5/16/2022	06:00:00					THANK YOU FOR USING HALLIBURTON, KYLE BATH AND CREW

3.0 Attachments

3.1 Real Time iCem Job Chart

