HALLIBURTON

iCem® Service

EXTRACTION OIL & GAS

Interchange B N35-20-5C Production

Sincerely,

Meghan Jacobs

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 N35-20-5C** 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 54 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 #: 369404	**Ship To #:** 3901349	**Quote #:**	**Sales Order #:** 0905692511
Customer: EXTRACTION OIL & GAS-EBUS		**Customer Rep:** Manny Parras	
Well Name: INTERCHANGE B	**Well #:** N35-20-5C		**API/UWI #:** 05-014-20772-00
Field: WATTENBERG	**City (SAP):** BROOMFIELD	**County/Parish:** BROOMFIELD	**State:** COLORADO
Legal Description: NE SW-10-1S-68W-2492FSL-1620FWL			
Contractor: PATTERSON-UTI ENERGY		**Rig/Platform Name/Num:** PATTERSON 901	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		**Srvc Supervisor:** Thomas Haas	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	18705ft		**Job Depth TVD**	8045
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	0	9.625	8.921	36			0	1652	0	1652
Casing	0	5.5	4.892	17	BTC	P-110	0	18705	0	8045
Open Hole Section			8.75				1652	18720	1652	8045

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
						Top Plug	5.5	1	NCS
Float Shoe	5.5	1	NCS	18705		**Bottom Plug**	5.5	1	NCS
Float Collar	5.5	1	NCS	18700					
						Plug Container	5.5	1	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	FDP-C1337-18	SBM FDP-C1337-18 CEMENT SPACER SYS	50	bbl	12.5	2.74	16.6	8	1701

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	585	sack	13.2	1.6	7.75	8	4534

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	GasStop	ELASTICEM (TM) SYSTEM	615	sack	13.2	1.6	7.7	8	4736

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	ELASTICEM (TM) SYSTEM	1128	sack	13.2	1.57	7.66	8	13351

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			8	
0.50 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
6	Displacement	Displacement	414	bbl	8.33			8	

Cement Left In Pipe	**Amount**	NONE	Reason	**Shoe Joint**

Mix Water:	pH 7	**Mix Water Chloride:**	<300 ppm	Mix Water Temperature:	**61 °F**
Cement Temperature:	N/A	**Plug Displaced by:**	8.33 lb/gal F.W.	Disp. Temperature:	**58 °F**
Plug Bumped?	Yes	**Bump Pressure:**	2400 psi	Floats Held?	**Yes**
Cement Returns:	54 bbl	**Returns Density:**	N/A	Returns Temperature:	**N/A**

PUMPED CALCULATED DISPLACEMENT, PLUS 5 BBL WET SHOE, PLUG DID NOT LAND, RELEASED PRESSURE FLOATS DID NOT HOLD. BLED BACK 7 BBL AND TRIED PUMPING BACK IN 6 TIMES TO SEE IF FLOATS WOULD HOLD, FLOW RATE OF RETURNS DECREASED AFTER EACH ATEMPT. FLOATS NEVER DID HOLD, SHUT WELL IN AT MANIFOLD WITH PRESSURE GAUGE. HES RECOMMENDED TO HOLD PRESSURE ON WELL FOR 8 HRS.54 BBL CEMENT TO SURFACE

2.0 Real-Time Job Summary

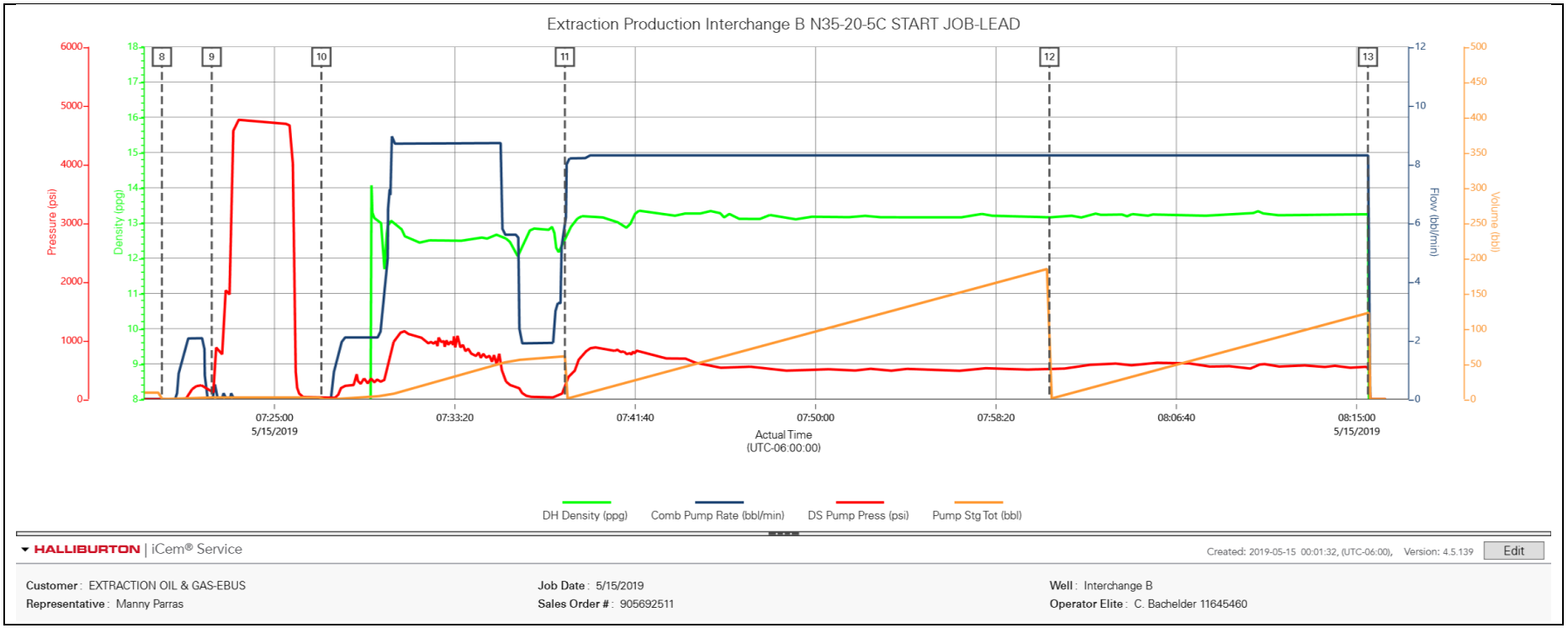
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	5/14/2019	15:00:00	USER				CREW CALLED OUT AT 15:00 5/14/2019, REQUESTED ON LOCATION 23:00 5/14/2019. CREW PICKED UP CEMENT, CHEMICALS (25 GAL D-AIR, 1538 GAL FDP LATEX, 10 GAL MMCR), 100 LBS SUGAR, AND PLUG CONTAINER FROM FORT LUPTON,CO. BULK 660: 11645217/11633846 Bulk 660: 12644881 SOFT SIDE: 12240040/12051660 PUMP ELITE: 11897034/11645460.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/14/2019	21:45:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW
Event	3	Crew Leave Yard	Crew Leave Yard	5/14/2019	22:00:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	5/14/2019	23:00:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625” 36# @ 1652', CASING: 5.5" 17# @ 18705', 5' SHOE JOINT, 8.5" OPEN HOLE, TVD @ 8045', 10 PPG WELL FLUID, FRESH WATER DISPLACEMENT.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	5/14/2019	23:10:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	5/14/2019	23:20:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	5/15/2019	06:45:00	USER	0.00	0.00	-3.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	5/15/2019	07:19:48	COM4	0.00	0.00	-3.00	START JOB DATA RECORDING.
Event	9	Test Lines	Test Lines	5/15/2019	07:22:06	COM4	0.00	0.00	120.00	PRESSURE TESTED LINES TO 4900 PSI, 500 PSI KICK OUT AT 900 PSI, 5TH GEAR STALL AT 1870 PSI.

Event	10	Pump Spacer 1	Pump Spacer 1	5/15/2019	07:27:10	COM4	0.00	0.00	16.00	PUMP 50 BBLS OF FDP SPACER @ 12.5 LB/GAL, ADDED 10 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	11	Pump Cement	Pump Cap Cement	5/15/2019	07:38:25	COM4	12.58	5.70	181.00	PUMP 585 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.6 YIELD, 7.75 GAL/SK, 166.7 BBLS, CALCULATED TOC @ SURFACE, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	12	Pump Lead Cement	Pump Lead Cement	5/15/2019	08:00:48	COM4	13.16	8.30	517.00	PUMP 615 SKS OF GASSTOP @ 13.2 LB/GAL, 1.6 YIELD, 7.7 GAL/SK, 175.3 BBLS, CALCULATED TOL 2464', MIX WATER MIXED WITH 1538 GAL OF LATEX AND 20 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Other	Mechacnical Trouble	5/15/2019	08:15:31	USER	13.24	8.30	560.00	FLECS SHUT DOWN TO LOW BATTERY VOLTAGE. 10 VOLTS. SHUTDOWN, HOOKED PICK UP BATTERY TO FLECS BATTERY VIA JUMPER CABLES, RESTARTED FLECS, RESUMED PUMPING JOB.
Event	14	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	5/15/2019	11:00:00	USER				DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	15	Rig-Down Completed	Rig-Down Completed	5/15/2019	13:00:00	USER				ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL.
Event	16	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/15/2019	13:20:00	USER				DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	17	Crew Leave Location	Crew Leave Location	5/15/2019	13:30:00	USER				THANK YOU FOR USING HALLIBURTON - THOMAS HAAS AND CREW.

3.0 Attachments

3.1 Interchange B N35-20-5C Production – Start of Job Chart



3.2 End of Job Chart