

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

United States of America, COLORADO

Burroughs North 1

5.5" PRODUCTION

Job Date: Tuesday, February 14, 2017

Sincerely,

Derek Trier

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 **Burroughs North 1** 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, 50bbl of cement 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 [Ft. Lupton]

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 369404	Ship To #: 3617658	Quote #:	Sales Order #: 0903807705
Customer: EXTRACTION OIL & GAS		Customer Rep: SHANE HATFORD	
Well Name: BURROUGHS NORTH		Well #: 1	API/UWI #: 05-123-40459-00
Field: WATTENBERG	City (SAP): AULT	County/Parish: WELD	State: COLORADO
Legal Description: NE NE-14-7N-65W-760FNL-355FEL			
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 321	
Job BOM: 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Andrew Brennecke	
Job			

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	17394ft		Job Depth TVD 7330
Water Depth			Wk Ht Above Floor ²
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	1594	0	0
Casing		5.5	4.778	20			0	17394	0	0
Open Hole Section			8.5				1594	17400	0	7330

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe					Top Plug	5.5	1	KLX
Float Shoe	5.5	1	KLX	17394	Bottom Plug			
Float Collar	5.5	1	KLX	17341	SSR plug set			
Insert Float					Plug Container	5.5	1	HES
Stage Tool					Centralizers			

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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	11.5	3.74		4		
	0.30 gal/bbl	MUSOL A, 330 GAL TOTE - (790828)								
	149.34 lbm/bbl	BARITE, BULK (100003681)								
	35.40 gal/bbl	FRESH WATER								
	0.30 gal/bbl	DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								

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Cementing Job Summary

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
2	ElastiCem W/O CBL	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		5.5	7.48
7.48 Gal		FRESH WATER							
0.90 %		HR-5, 50 LB SK (100005050)							
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
3	ElastiCem Tail	ELASTICEM (TM) SYSTEM	2050	sack	13.2	1.57		8	7.49
7.49 Gal		FRESH WATER							
0.80 %		HR-5, 50 LB SK (100005050)							
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
4	Displacement	Displacement	383	bbl	8.33			10	
Cement Left In Pipe		Amount	53 ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride:		>200 ppm		Mix Water Temperature:		58°F
Cement Temperature:			Plug Displaced by:		8.4 lb/gal		Disp. Temperature:		
Plug Bumped?		Yes	Bump Pressure:		2845 psi MPa		Floats Held?		Yes
Cement Returns:		50 bbl	Returns Density:				Returns Temperature:		
Comment									

2.0 Real-Time Job Summary

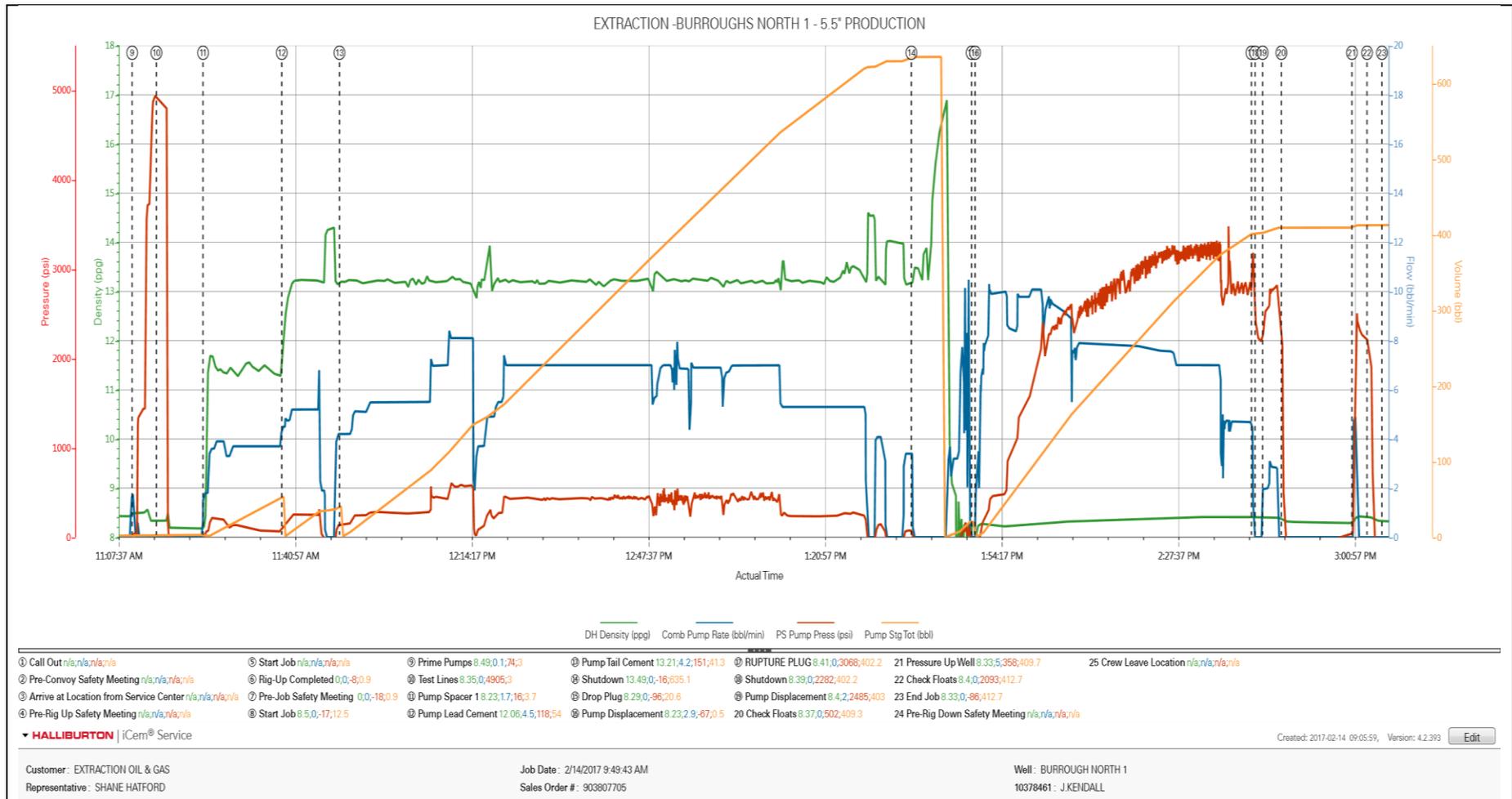
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	PS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	Call Out	2/14/2017	03:30:00	USER					
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/14/2017	05:45:00	USER					FOUND BULK TRUCK BLEW AIR PLUG IN TRACTOR LATE TO LOCATION
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	2/14/2017	08:30:00	USER					RIG FINISHED WITH CASING, ON LOCATION TIME REQUESTED 06:00 AM.
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	2/14/2017	08:45:00	USER					HES PRESENT, WAITING ON DRIVER TO ARRIVE
Event	6	Rig-Up Completed	Rig-Up Completed	2/14/2017	10:20:00	USER					1-ELITE, 2-660 BULK TRAILER, 2-FIELD BIN, 1-5.5" QUICK LATCH PLUG CONTAINER, 2" PUMP IRON, 4" SUCTION HOSE
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	2/14/2017	10:30:00	USER					ALL HES AND RIG CREW PRESENT
Event	8	Start Job	Start Job	2/14/2017	10:55:48	COM5	8.40	0.00	7.00	0.0	TD-17400', TP-17394', CSG-5.5" P110 20#, SJ-52.53', OH-7.875", SCG-0-1594', 9.625" 36#, MUD-9.0PPG
Event	9	Prime Pumps	Prime Pumps	2/14/2017	11:10:27	USER	8.49	2.00	104.00	3.0	FRESH WATER
Event	10	Test Lines	Test Lines	2/14/2017	11:15:01	COM5	8.35	0.00	4905.00	3.0	ALL PRESSURE HELD ON LINES
Event	11	Pump Spacer 1	Pump Spacer 1	2/14/2017	11:23:49	COM5	11.50	4.0	201.00	50.0	TUNED SPACER III, 11.5PPG, 3.74CF/SK, 23.7GAL/SK, 15GAL DUAL SPACER B, 15 GAL MUSAL
Event	12	Pump Lead Cement	Pump Lead Cement	2/14/2017	11:38:41	COM5	13.50	5.50	260.00	54.0	ELASTICEM W/O CBL 150 SKS, 13.2PPG, 1.57CF/SK, 7.48GAL/SK
Event	13	Pump Tail Cement	Pump Tail Cement	2/14/2017	11:49:34	COM5	13.50	8.00	576.00	41.3	ELASTICEM W/CBL 2050SKS, 13.2PPG, 1.57CF/SK, 7.49GAL/SK
Event	14	Shutdown	Shutdown	2/14/2017	13:37:30	USER					WASHED PUMPS AND LINES TO CATCH

											TANK	
Event	15	Drop Plug	Drop Plug	2/14/2017	13:48:51	USER						PLUG LOADED INTO CASING BY KLX
Event	16	Pump Displacement	Pump Displacement	2/14/2017	13:49:31	COM5	8.33	10.00	3310.00	383.2		FRESH WATER
Event	17	Other	RUPTURE PLUG	2/14/2017	14:41:40	USER	8.41	3.00	3200.00	383.5		PLUG RUPTURED 3200PSI
Event	18	Shutdown	Shutdown	2/14/2017	14:42:22	USER	8.39	0.00	2282.00	383.5		
Event	19	Pump Displacement	Pump Displacement	2/14/2017	14:43:47	USER	8.40	5.00	2804.00	392.5		PUMPED 5 BBL WET SHOE 2804PSI
Event	20	Check Floats	Check Floats	2/14/2017	14:47:19	USER	8.37	0.00	2358.00	392.5		UNSURE ON FLOATS, 3BBLs BACK
Event	21	Pressure Up Well	Pressure Up Well	2/14/2017	15:00:38	USER	8.33	5.00	2645.00	397.5		PUMPED 3 BBLs BACK INTO CASING
Event	22	Check Floats	Check Floats	2/14/2017	15:03:29	USER	8.40	0.00	2093.00	397.5		FLOATS HELD 3 BBLs BACK
Event	23	End Job	End Job	2/14/2017	15:06:18	COM5	8.33	0.00	-86.00	397.5		50BBLs CEMENT BACK TO SURFACE
Event	24	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	2/14/2017	15:10:00	USER						ALL HES PRESENT
Event	25	Crew Leave Location	Crew Leave Location	2/14/2017	16:45:00	USER						THANK YOU FOR CHOOSING HALLIBURTON, ANDREW BRENNECKE AND CREW

3.0 Attachments

3.1 5.5 PRODUCTION.png



3.2 5.5 PRODUCTION-Custom Results.png

