

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Monday, August 22, 2016

Winder South #1

Production

Job Date: Sunday, August 21, 2016

Sincerely,
Lauren Roberts

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Winder South #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.

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]

The Road to Excellence Starts with Safety

Sold To #: 369404	Ship To #: 3749842	Quote #:	Sales Order #: 0903485911
Customer: EXTRACTION OIL & GAS		Customer Rep: HUGH MCGRAW	
Well Name: WINDER SOUTH		Well #: 1	API/UWI #: 05-123-43402-00
Field: WATTENBERG	City (SAP): WINDSOR	County/Parish: WELD	State: COLORADO
Legal Description: SE NE-9-6N-67W-2306FNL-528FEL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 346	
Job BOM: 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA/HX38199		Srvc Supervisor: Shayne Bitton	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	16906ft		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	1550		0
Casing		5.5	4.778	20			0	16813	0	0
Open Hole Section			7.875				1550	16960	1550	7190

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5				Top Plug	5.5		HES
Float Shoe	5.5			16913	Bottom Plug	5.5		HES
Float Collar	5.5			16911	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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	11.5	3.74		5		
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)							
0.30 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)							
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	150	sack	13.2	1.572		7	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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	ElastiCem W/ Super CBL	ELASTICEM (TM) SYSTEM	1950	sack	13.2	1.57		7	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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	Displacement	Displacement	373	bbl	8.33			10	
Cement Left In Pipe		Amount	0 ft		Reason			Shoe Joint	
Comment									

2.0 Real-Time Job Summary

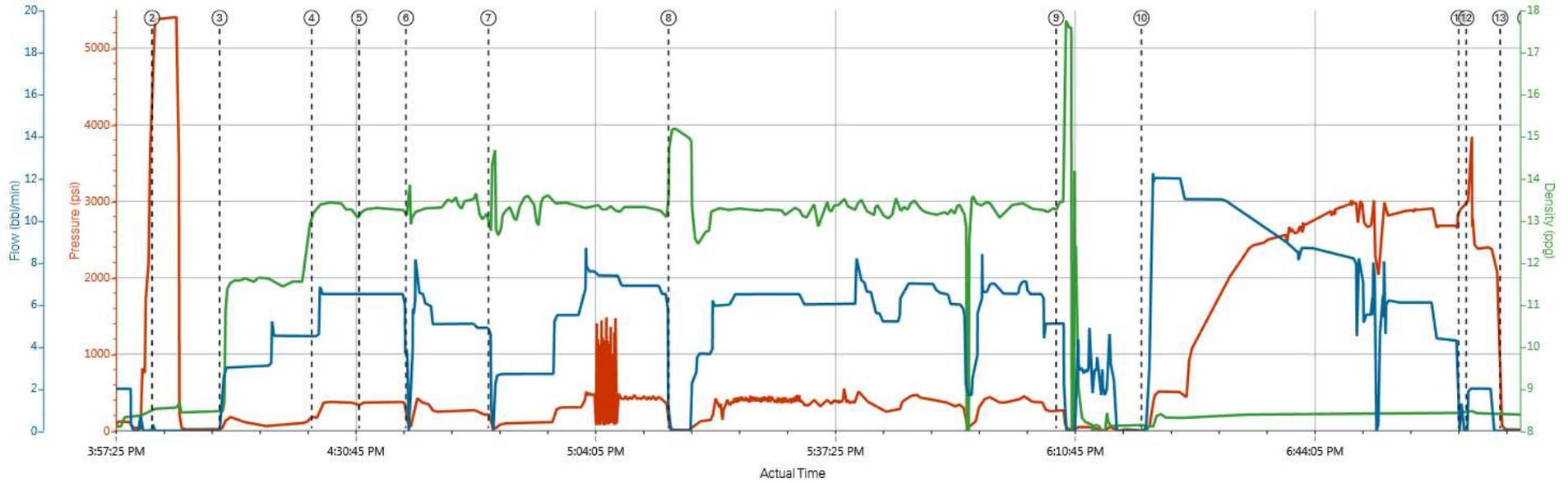
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Downhole Density (ppg)	Pump Rate (bbl/min)	Pump Pressure (psi)	Pump Total (bbl)	Comments
Event	1	Start Job	Start Job 15:56	8/21/2016	15:56:22	COM1	8.30	0.00	11.00	0.0	Start job, fill lines with 5 bbls of FW ahead. Returns verified.
Event	2	Pressure Test	Pressure Test 16:02	8/21/2016	16:02:45	USER	8.53	0.00	5524.00	5.1	Pressure test to 5000 psi. pressure test was conducted in accordance with HMS.
Event	3	Pump Spacer	Pump Spacer 16:12	8/21/2016	16:12:08	USER	8.45	1.70	43.00	5.2	pumped 50 bbls of 11.5 ppg tuned spacer III. density was verified with pressurized mud scales in accordance with HMS.
Event	4	Pump Lead Cement	Pump Lead Cement 16:24	8/21/2016	16:24:56	COM1	13.22	4.50	189.00	52.7	pumped 150 sks of ElastiCem at 13.2 ppg, 1.572 ft3/sk and 7.48 gal/sk. density was verified with pressurized mud scales in accordance with HMS.
Event	5	Pump Tail Cement	Pump Tail Cement 16:31	8/21/2016	16:31:32	COM1					Pumped 1950 sks of ElastiCem at 13.2 ppg , 1.57 ft3/sk and 7.49 gal/sk. density was verified with pressurized mud scales in accordance with HMS.
Event	6	Shutdown	Shutdown 16:38	8/21/2016	16:38:03	USER	13.50	0.00	58.00	134.4	Shutdown incurred due to bulk cement delivery issues.
Event	7	Shutdown	Shutdown 16:49	8/21/2016	16:49:31	USER	12.73	1.70	135.00	193.3	Shut-down incurred due to RCM mixing bulk throttling valve not responding.
Event	8	Shutdown	Shutdown 17:14	8/21/2016	17:14:33	USER	15.13	0.10	3.00	321.1	Shutdown incurred due to RCM mixing sleeve pack off.
Event	9	Shutdown	Shutdown 18:08	8/21/2016	18:08:27	USER	13.45	5.10	267.00	628.0	Shutdown after pumping tail cement. Pumps and lines flushed to catch tank. KLX rep and HES dropped 3rd party plug. Plug launch confirmed.
Event	10	Pump Displacement	Pump Displacement 18:20	8/21/2016	18:20:19	COM1	8.14	0.00	-13.00	646.5	Pumped 373 bbls of FW displacement. KLX rep on mixing unit throughout displacement.
Event	11	Shutdown	Shutdown 19:04	8/21/2016	19:04:26	USER	8.44	1.30	2937.00	1010.9	Shutdown after pumping 373 bbls of FW

displacement. Final circulating pressure was 2619 psi.

Event	12	Pump Displacement	Pump Displacement 19:05	8/21/2016	19:05:28	USER	8.46	2.00	3198.00	1011.2	Pumped 5 bbls after disc burst for wet shoe
Event	13	Shutdown	Shutdown 19:10	8/21/2016	19:10:11	USER	8.39	0.00	10.00	1017.6	shutdown after pumping wet shoe. Checked floats, got 3 bbls back.
Event	14	End Job	End Job 19:13	8/21/2016	19:13:41	USER	8.38	0.00	-16.00	1017.6	End Job.

Custom Results



DS Pump Press (psi) DH Density (ppg) Comb Pump Rate (bbl/min)

- ① Start Job 15:56 -2;8.3;0 ④ Pump Lead Cement 16:24 180;13.22;4.5 ⑦ Shutdown 16:49 139;12.73;1.7 ⑩ Pump Displacement 18:20 5;8.14;0 ⑬ Shutdown 19:10 40;8.39;0
- ② Pressure Test 16:02 5382;8.53;0 ⑤ Pump Tail Cement 16:31 386.42;13.19;6.5 ⑧ Shutdown 17:14 18;16.13;0.1 ⑪ Shutdown 19:04 2909;8.44;1.3 ⑭ End Job 19:13 12;8.38;0
- ③ Pump Spacer 16:12 31;8.45;1.7 ⑥ Shutdown 16:38 68;13.5;0 ⑨ Shutdown 18:08 276;13.45;5.1 ⑫ Pump Displacement 19:05 3153;8.46;2

