

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Date: Saturday, August 13, 2016

### **Winder South #1**

Surface

Job Date: Thursday, August 11, 2016

Sincerely,  
Lauren Roberts

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Winder South #1** cement **Surface** 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.

**27 bbl. 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 #: 3749842		Quote #:		Sales Order #: 0903476903					
Customer: EXTRACTION OIL & GAS -				Customer Rep: Todd Stevens							
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: 7521											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HB71271				Srv Supervisor: Brandon Parker							
<b>Job</b>											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST							
Job depth MD		1561ft		Job Depth TVD							
Water Depth				Wk Ht Above Floor 2							
Perforation Depth (MD)		From		To							
<b>Well Data</b>											
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	1561	0	1553
Open Hole Section				13.5				0	1561	0	1553
<b>Tools and Accessories</b>											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	9.625	1	weatherford	1561		Top Plug	9.625	1	weatherford		
Float Shoe	9.625					Bottom Plug	9.625		HES		
Float Collar	9.625	1	weatherford			SSR plug set	9.625		HES		
Insert Float	9.625					Plug Container	9.625	1	HES		
Stage Tool	9.625					Centralizers	9.625	18	weatherford		
<b>Fluid Data</b>											
Stage/Plug #: 1											
Fluid #	Stage Type	Fluid Name		Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Fresh Water	Fresh Water		10	bbl	8.33			4		
Stage/Plug #: 2											
Fluid #	Stage Type	Fluid Name		Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
2	SwiftCem	SWIFTCEM (TM) SYSTEM		175bbl	565sack	13.5	1.74		6	9.19	
		9.19 Gal		FRESH WATER							

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**Cementing Job Summary**

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
3	Displacement	FW Displacement	117.3	bbl	8.33			8		
<b>Cement Left In Pipe</b>		<b>Amount</b>	43.4 ft		<b>Reason</b>			Shoe Joint		
<b>Mix Water:</b>		<b>pH ##</b>	<b>Mix Water Chloride:##</b>		<b>ppm</b>		<b>Mix Water Temperature:##</b>			
<b>°F °C</b>		<b>Plug Displaced by:##</b>		<b>lb/gal kg/m3 XXXX</b>		<b>Disp. Temperature:##</b>				
<b>°F °C</b>		<b>Plug Bumped?Yes/No</b>		<b>Bump Pressure:####</b>		<b>psi MPa</b>		<b>Floats Held?Yes/No</b>		
<b>Cement Returns:##</b>		<b>bbl m3</b>		<b>Returns Density:##</b>		<b>lb/gal kg/m3</b>		<b>Returns Temperature:##</b>		
<b>°F °C</b>		<b>Comment</b>								

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

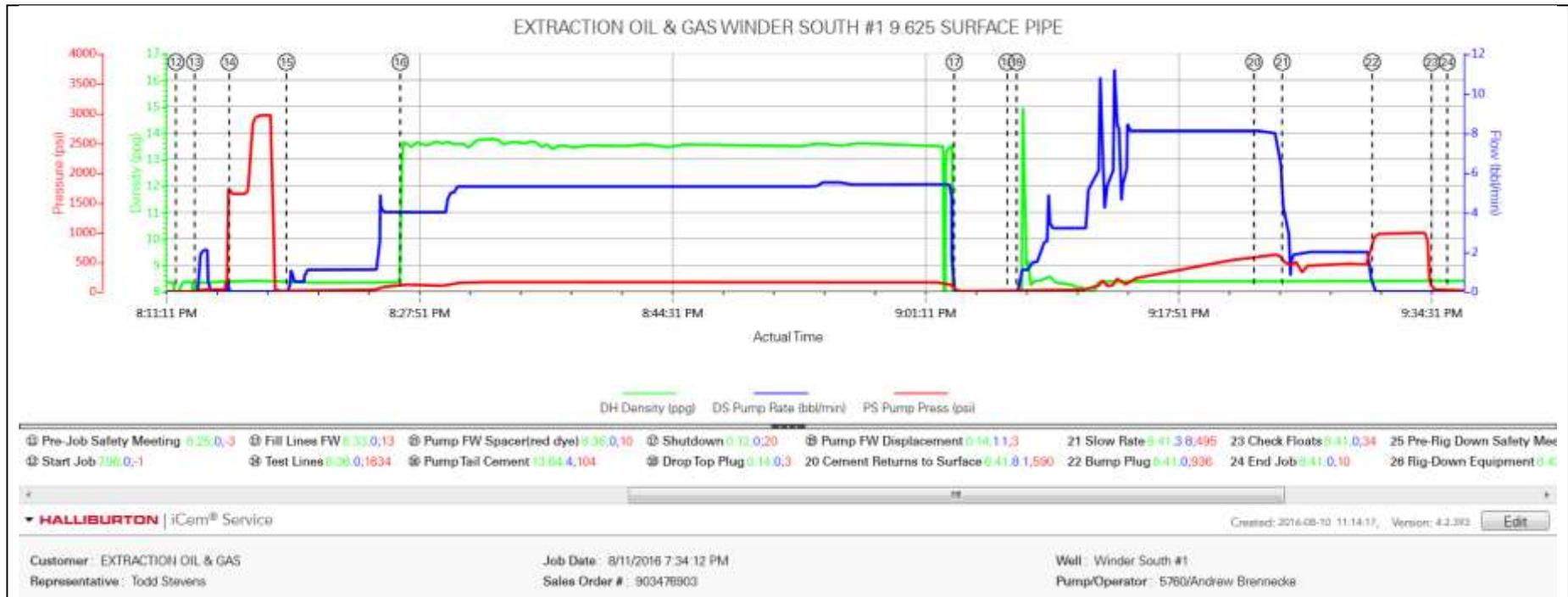
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Downhole Density <i>(ppg)</i>	Driv-Side Pump Rate <i>(bbl/min)</i>	Pass-Side Pump Pressure <i>(psi)</i>	Comments
Event	1	Call Out	Call Out	8/11/2016	13:30:00	USER				crew called out to 9.625 surface pipe, 1 red tiger pump trk, 2 660 trailers loaded with 565sks of swiftcem cmt and 1 cmt pickup trk.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/11/2016	15:45:00	USER				meeting with all HES personnel to discuss safety/hazards associated with travel also covered convoy order and route travel.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	8/11/2016	16:00:00	USER				
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	8/11/2016	17:30:00	USER				met with Extraction company rep Todd Stevens and went over job numbers, water sources and iron placement for job in hand. company rep signed work order contract
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	8/11/2016	17:32:00	USER				water temp 77, ph 7, sul <200, iron 0 and chloride 0. tp 1561, sj43.40, fc 1517.60, 13.5"oh, 9.625 j55 36# casing wf 8.6, cnt 18, top plug only, weatherford floats
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/11/2016	17:40:00	USER				meeting with all HES personnel to discuss safety/hazards associated with rigging up equipment. all personnel signed a jsa.
Event	7	Rig-Up Equipment	Rig-Up Equipment	8/11/2016	17:50:00	USER				
Event	8	Standby - Other - see comments	Standby - Other - see comments	8/11/2016	18:50:00	USER				HES went into wait mode waiting on rig to land casing
Event	9	Casing on Bottom	Casing on Bottom	8/11/2016	19:20:00	USER				rig landed casing and began circulating
Event	10	Rig-Up Equipment	Rig-Up Equipment	8/11/2016	19:30:00	USER				HES finished rigging up equipment
Event	11	Pre-Job Safety Meeting	Pre-Job Safety Meeting	8/11/2016	19:45:00	USER	8.25	0.00	-3.00	meeting with all personnel on location to discuss safety/hazards associated with job in hand, also went over job procedures. all personnel signed a jsa
Event	12	Start Job	Start Job	8/11/2016	20:12:00	COM5	7.98	0.00	-1.00	came on line

Event	13	Pump Water	Fill Lines FW	8/11/2016	20:13:14	USER	8.33	0.00	14.00	fill lines with 2BBL's of fresh water with red dye, pumped at 2BPM and top pressure was 41psi
Event	14	Test Lines	Test Lines	8/11/2016	20:15:30	USER	8.36	0.00	1630.00	HES tested kick outs, 5th gear stall and high pressure test of 2963psi. pressure held great
Event	15	Pump Spacer	Pump FW Spacer(red dye)	8/11/2016	20:19:16	USER				pumped 8bbl's of fw with red dye at 4BPM to weight up a tub of cmt, average pressure on spacer was 87psi and 31psi at 1BPM
Event	16	Pump Tail Cement	Pump Tail Cement	8/11/2016	20:26:45	USER	13.64	4.00	104.00	pumped 175BBL's of swiftcem cmt, 565sks, 1.74 yield, 9.2 gal/sk, pumped at 6BPM and average pressure was 155psi. weighed cmt using high pressure mud scales, wet and dry samples were left on location.
Event	17	Shutdown	Shutdown	8/11/2016	21:03:15	USER	0.13	0.00	22.00	done pumping cmt
Event	18	Drop Top Plug	Drop Top Plug	8/11/2016	21:06:44	USER	0.14	0.00	3.00	HES dropped top plug witnessed by HES supervisor and Todd Stevens.
Event	19	Pump Displacement	Pump FW Displacement	8/11/2016	21:07:22	USER	0.14	0.60	3.00	HES calculated 117.3 BBL's of FW displacement
Event	20	Cement Returns to Surface	Cement Returns to Surface	8/11/2016	21:23:00	USER	8.41	8.10	595.00	returns to surface at 65bbl's away and good solid cmt back at 90BBL's away, total of 27BBL's of cmt to surface
Event	21	Slow Rate	Slow Rate	8/11/2016	21:24:51	USER	8.41	3.80	495.00	slow rate to 2BPM to land plug on weatherford floats
Event	22	Bump Plug	Bump Plug	8/11/2016	21:30:46	USER	8.41	0.00	931.00	HES bumped at 450psi and kicked out pumps at 900psi, pressure climbed to 990 and held great
Event	23	Check Floats	Check Floats	8/11/2016	21:34:42	USER	8.41	0.00	37.00	weatherford floats held .5BBL back to the trk
Event	24	End Job	End Job	8/11/2016	21:35:43	COM5				
Event	25	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/11/2016	21:38:00	USER	8.41	0.00	10.00	meeting with all HES personnel to discuss safety/hazards associated with rigging down equipment.
Event	26	Rig-Down Equipment	Rig-Down Equipment	8/11/2016	21:45:00	USER	8.43	1.10	9.00	
Event	27	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/11/2016	22:30:00	USER				meeting with all HES personnel to discuss route of travel and safety/hazards associated with driving.
Event	28	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	8/11/2016	22:45:00	USER				
Event	29	Other	Other	8/11/2016	22:46:00	USER				Thank You for Choosing Halliburton Cement, Parker and



3.0 Attachments

3.1 Case 1-Custom Results events.png



3.2 Case 1-Custom Results no events .png

