

# HALLIBURTON

iCem<sup>®</sup> Service

## EXTRACTION OIL & GAS

Date: Sunday, January 31, 2016

### **Johnson Trust #3**

Production

Job Date: Friday, January 22, 2016

Sincerely,

**Justin Lansdale**

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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 **Johnson Trust #3** 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 [Fort Lupton]**

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 369404		<b>Ship To #:</b> 3699320		<b>Quote #:</b>		<b>Sales Order #:</b> 0903067435				
<b>Customer:</b> EXTRACTION OIL & GAS				<b>Customer Rep:</b> Hugh McGraw						
<b>Well Name:</b> JOHNSON TRUST			<b>Well #:</b> 3		<b>API/UWI #:</b> 05-123-42314-00					
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> LONGMONT		<b>County/Parish:</b> WELD		<b>State:</b> COLORADO				
<b>Legal Description:</b> NW SW-13-2N-68W-2209FSL-389FWL										
<b>Contractor:</b> PATTERSON-UTI ENERGY				<b>Rig/Platform Name/Num:</b> PATTERSON 346						
<b>Job BOM:</b> 7523										
<b>Well Type:</b> HORIZONTAL OIL										
<b>Sales Person:</b> HALAMERICA\HX38199				<b>Srv Supervisor:</b> Clifford Sparks						
<b>Job</b>										
<b>Formation Name</b>										
<b>Formation Depth (MD)</b>		<b>Top</b>		<b>Bottom</b>						
<b>Form Type</b>				<b>BHST</b>						
<b>Job depth MD</b>		12483ft		<b>Job Depth TVD</b>						
<b>Water Depth</b>				<b>Wk Ht Above Floor</b>						
<b>Perforation Depth (MD)</b>		<b>From</b>		<b>To</b>						
<b>Well Data</b>										
<b>Description</b>	<b>New / Used</b>	<b>Size in</b>	<b>ID in</b>	<b>Weight lbm/ft</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD ft</b>	<b>Bottom MD ft</b>	<b>Top TVD ft</b>	<b>Bottom TVD ft</b>
Casing		9.625	8.921	36			0	1553		1553
Casing	3	5.5	4.778	20		P-110	0	12483		12483
Open Hole Section			7.875				1553	12500	1553	12500
<b>Tools and Accessories</b>										
<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	<b>Depth ft</b>		<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	
Guide Shoe	5.5					Top Plug	5.5		HES	
Float Shoe	5.5			12483		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	
<b>Fluid Data</b>										
<b>Stage/Plug #: 1</b>										
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>	
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	11.5	3.74		6		
36.09 gal/bbl		<b>FRESH WATER</b>								
0.24 gal/bbl		<b>MUSOL(R) A, BULK (100003696)</b>								

0.24 gal/bbl		<b>DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)</b>							
149.34 lbm/bbl		<b>BARITE, BULK (100003681)</b>							
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	1.6		8	7.68
7.68 Gal		<b>FRESH WATER</b>							
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	ELASTICEM (TM) SYSTEM	1400	sack	13.2	1.6		8	7.69
7.69 Gal		<b>FRESH WATER</b>							
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	275	bbl	8.33			8	
Cement Left In Pipe		Amount	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									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/22/2016	03:00:00	USER	ALL HES PRESENT
Event	2	Crew Leave Yard	Crew Leave Yard	1/22/2016	03:15:00	USER	1 - RED TIGER, 1- BATCH MIXER, 1 - 660, AND 1 550 PU. ALL TRUCKS LEFT THE YARD TOGETHER
Event	3	Arrive At Loc	Arrive At Loc	1/22/2016	04:30:00	USER	ARRIVED AN HOUR EARLY. CREW WAS STILL RUNNING CASING.
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	1/22/2016	04:45:00	USER	MET WITH CO REP AND WENT OVER NUMBERS AND JOB PROCEDURE. DID A WALKAROUND OF LOCATION AND COLLECTED WATER SAMPLE (PH7, CHL O, TEMP 65F. FILLED OUT JSA AND GOT TRUCKS SPOTTED IN
Event	5	Other	Other	1/22/2016	04:46:00	USER	CUSTOMER HAS RECIEVED SDS
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	1/22/2016	05:00:00	USER	ALL HES PRESENT
Event	7	Rig-up Lines	Rig Up Lines	1/22/2016	05:15:00	USER	RIGGED UP EVERYTHING WE COULD STAYING OUT OF THE RED ZONE UNTIL THEY WERE DONE RUNNING CASING AT 0700.
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	1/22/2016	08:00:00	USER	FILLED OUT RIG FLOOR JSA AND MET WITH THE RIG CREW. ALL HES PRESENT

Event	9	Start Job	Start Job	1/22/2016	08:30:00	COM5	TD 12500', TP 12483', TVD 7530' SURFACE 9.625 36# @ 1553', 5.5" 20# CASING P-110, OH 7.875", SJ 43', MW 10.2#, TOT 238', 32 BBLS LEAD CALCULATED BACK
Event	10	Prime Pumps	Prime Pumps	1/22/2016	08:32:00	COM5	2 BBLS FRESH WATER
Event	11	Test Lines	Test Lines	1/22/2016	08:40:37	COM5	KO'S FUNCTIONING. TESTED TO 5050 PSI. TESTED GOOD
Event	12	Pump Spacer 1	Pump Spacer 1	1/22/2016	08:46:03	USER	TUNED SPACER III 11.5 PPG
Event	13	Pump Lead Cement	Pump Lead Cement	1/22/2016	08:57:42	COM5	1550 SKS (441.7 BBLS) 13.2 PPG 1.6 FT3/SK, 7.68 GAL/SK OPERATOR FORGOT TO CALL TAIL BUT THE 150 SKS LEAD WAS PUMPED FIRST. LEAD AND TAIL SAME WEIGHT
Event	14	Check Weight	Check weight	1/22/2016	08:59:04	COM5	13.2 PPG
Event	15	Check Weight	Check weight	1/22/2016	09:14:52	COM5	13.2 PPG
Event	16	Other	Other	1/22/2016	09:23:28	COM5	FLECS REBOOTED SO OPERATOR WENT TO A CRAWL AND WHEN IT CAME BACK UP HE WEIGHED IT AND GOT LINED OUT AND BROUGHT HIS RATE BACK UP
Event	17	Check Weight	Check weight	1/22/2016	09:26:46	COM5	13.2 PPG
Event	18	Check Weight	Check weight	1/22/2016	09:29:18	COM5	13.2 PPG
Event	19	Shutdown	Shutdown	1/22/2016	10:11:32	COM5	END OF CEMENT
Event	20	Clean Lines	Clean Lines	1/22/2016	10:14:44	USER	10 BBLS TO 4 SIDED.
Event	21	Drop Plug	Drop Plug	1/22/2016	10:19:56	COM5	PLUG WENT
Event	22	Pump Displacement	Pump Displacement	1/22/2016	10:22:14	COM5	275 BBLS FRESH WATER. NO MMCR USED DUE TO WET



SHOE PER CO REP							
Event	23	Displ Reached Cmnt	Displ Reached Cmnt	1/22/2016	10:25:40	COM5	14 BBLS AWAY
Event	24	Bump Plug	Bump Plug	1/22/2016	11:05:59	USER	LANDED AT 2575 PSI AND WENT UP TO 2800 PSI
Event	25	Check Floats	Check Floats	1/22/2016	11:07:43	USER	FLOATS HELD 2 BBLS BACK TO THE TRUCK
Event	26	Other	Rupture Disk In Plug	1/22/2016	11:10:25	USER	DISK RUPTURED AT ABOUT 3200 PSI AND WENT DOWN TO ABOUT 2000 PSI AFTER. PUMPED 7 BBLS TOTAL
Event	27	Shutdown	Shutdown	1/22/2016	11:14:42	USER	CALCULATED BBLS PUMPED
Event	28	End Job	End Job	1/22/2016	11:16:27	USER	GOOD RETURNS THROUGHOUT JOB 40 BBLS TUNED AND 50 BBLS LEAD CEMENT TO SURFACE
Event	29	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	1/22/2016	11:20:00	USER	ALL HES PRESENT
Event	30	Rig Down Lines	Rig Down Lines	1/22/2016	11:30:00	USER	
Event	31	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/22/2016	13:00:00	USER	ALL HES PRESENT
Event	32	Crew Leave Location	Crew Leave Location	1/22/2016	13:15:00	USER	THANK YOU FOR USING HALLIBURTON CEMENT. CLIFF SPARKS AND CREW
Event	33	Call Out	Call Out	1/22/2016	20:30:00	USER	REQUESTED ON LOCATION @ 0530

## 2.2 Custom Graph

