

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Date: Monday, February 19, 2018

### **WS-Sunrise 5-5-5 Surface**

Job Date: Thursday, February 08, 2018

Sincerely,

**Bryce Hinsch**

## Legal Notice

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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 **WS-Sunrise 5-5-5** 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.

**Approximately 120 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*

<b>Sold To #:</b> 369404		<b>Ship To #:</b> 3847466		<b>Quote #:</b>		<b>Sales Order #:</b> 0904629087					
<b>Customer:</b> EXTRACTION OIL & GAS -				<b>Customer Rep:</b> Larry Siegel							
<b>Well Name:</b> WS-SUNRISE			<b>Well #:</b> 5-5-5		<b>API/UWI #:</b> 05-123-46052-00						
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> GREELEY		<b>County/Parish:</b> WELD		<b>State:</b> COLORADO					
<b>Legal Description:</b> SW SE-32-6N-65W-253FSL-1650FEL											
<b>Contractor:</b> Extraction				<b>Rig/Platform Name/Num:</b> Cartel 41							
<b>Job BOM:</b> 7521 7521											
<b>Well Type:</b> HORIZONTAL OIL											
<b>Sales Person:</b> HALAMERICA\HX38199				<b>Srv Supervisor:</b> Bradley Hinkle							
<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>		1566ft		<b>Job Depth TVD</b>		1566ft					
<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	0	9.625	8.921	36	8 RD	J-55	0	1566	0	0	
Open Hole Section			13.5				0	1570	0	0	
<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	9.625					Top Plug	9.625	1	HES		
Float Shoe	9.625	1		1566		Bottom Plug	9.625		HES		
Float Collar	9.625	1		1521		SSR plug set	9.625		HES		
Insert Float	9.625					Plug Container	9.625	1	HES		
Stage Tool	9.625					Centralizers	9.625		HES		
<b>Fluid Data</b>											
<b>Stage/Plug #:</b> 1											
<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	Spacer	Red Dye Water			10	bbl	8.33			3	

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	Primary Cement	SWIFTCM	550	sack	13.5	1.74		6	9.2	
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	Displacement	Fresh Water	117	bbl	8.33					
Cement Left In Pipe		Amount	42 ft		Reason			Shoe Joint		
Mix Water:		pH 7	Mix Water Chloride:		0 ppm		Mix Water Temperature:		74 °F	
Cement Temperature:		## °F °C		Plug Displaced by:		## lb/gal kg/m3 XXXX		Disp. Temperature:		## °F °C
Plug Bumped?		Yes		Bump Pressure:		503 psi		Floats Held?		Yes
Cement Returns:		120 bbl		Returns Density:		## lb/gal kg/m3		Returns Temperature:		## °F °C
Comment 120 bbls cement to surface.										

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Arrive at Location from Service Center	Arrive at Location from Service Center	2/8/2018	12:00:00	USER					Crew stayed on location for next well.
Event	2	Other	Pre-job numbers	2/9/2018	00:00:01	USER	1.00	8.52	0.00	15.8	TD: 1570. TP: 1566. FC: 1521. 9.625" 36# casing inside a 13.5" OH.
Event	3	Safety Meeting	Safety Meeting	2/9/2018	00:30:00	USER	3.00	8.48	0.00	15.8	Pre-job safety meeting. Rig crew did not participate.
Event	4	Start Job	Start Job	2/9/2018	00:47:47	COM4	-1.00	8.68	0.00	15.8	
Event	5	Test Lines	Test Lines	2/9/2018	00:49:51	COM4	20.00	8.96	0.00	17.2	Pressure test lines with a 500 psi electronic kick-out test.
Event	6	Pump Spacer 1	Pump Spacer 1	2/9/2018	00:54:16	COM4	13.00	8.60	1.10	0.0	Pump 10 bbls red dye water.
Event	7	Pump Cement	Pump Cement	2/9/2018	01:03:59	COM4	28.00	8.29	0.00	0.0	Pump 170 bbls (550 sacks, 1.74 cuft/sk, 9.2 gal/sk) SwiftCem mixed at 13.5 ppg. Density verified by pressurized scales.
Event	8	Check Weight	Check weight	2/9/2018	01:06:47	COM4	296.00	13.59	7.00	10.0	Cement weighed at 13.5 ppg.
Event	9	Shutdown	Shutdown	2/9/2018	01:23:18	COM4	16.00	27.82	0.00	124.4	Rig pump plugged off causing cellar to fill up. Shutdown to get pump back up and resumed pumping.
Event	10	Shutdown	Shutdown	2/9/2018	01:46:40	COM4	28.00	13.75	0.00	0.0	
Event	11	Drop Top Plug	Drop Top Plug	2/9/2018	01:49:47	COM4	2.00	29.22	0.00	0.0	Top plug preloaded. 3 bbls cement seen at surface

											prior to shutting down to drop top plug.
Event	12	Pump Displacement	Pump Displacement	2/9/2018	01:50:16	USER	5.00	24.88	0.50	0.0	Pump 117 bbls fresh water. Good returns throughout. 120 bbls to surface.
Event	13	Other	Other	2/9/2018	02:09:26	USER	425.00	8.24	0.80	85.4	Rig ran out of room in cement tanks. Slowed rate to not overflow cellar while cement was pumped into loader bucket and disposed of.
Event	14	Bump Plug	Bump Plug	2/9/2018	02:31:53	USER	474.00	8.20	2.00	119.4	Bump plug at 500 psi and increase 500 psi over. Hold until pressure leveled off.
Event	15	Pressure Up Well	Pressure Up Well	2/9/2018	02:33:23	COM4	1456.00	8.24	0.00	120.4	Increase pressure to 1500 psi for a 5 minute casing test.
Event	16	Check Floats	Check Floats	2/9/2018	02:37:22	USER	1522.00	8.21	0.00	120.4	Floats held. Half bbl back.
Event	17	End Job	End Job	2/9/2018	02:44:22	COM4	31.00	8.12	2.50	132.6	
Event	18	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	2/9/2018	02:58:02	USER					Pre-rig down safety meeting.
Event	19	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	2/9/2018	02:58:15	USER					Pre-journey safety meeting.



## 3.0 Attachments

### 3.1 Extraction WS-Sunrise 5-5-5 Surface Job Chart

