

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Date: Monday, February 19, 2018

### **WS-Sunrise 1-5-5 Surface**

Job Date: Tuesday, February 13, 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 1-5-5** 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 68 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> 3847416		<b>Quote #:</b>		<b>Sales Order #:</b> 0904628986				
<b>Customer:</b> EXTRACTION OIL & GAS -				<b>Customer Rep:</b> Ben						
<b>Well Name:</b> WS-SUNRISE			<b>Well #:</b> 1-5-5		<b>API/UWI #:</b> 05-123-46047-00					
<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-248FSL-1722FEL										
<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>Srvc Supervisor:</b> Adam Covington						
<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>		1573ft		<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	0	9.625	8.921	36	8 RD	J-55	0	1573	0	0
Open Hole Section			13.5				0	1576	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			1573		Bottom Plug	9.625		HES	
Float Collar	9.625					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	Red Dye Spacer	Red Dye Spacer	10	bbl	8.33			6		

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	SwiftCem	SWIFTCEM (TM) SYSTEM		550	sack	13.5	1.74		5	9.2
9.20 Gal		FRESH WATER								
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	Fresh Water	Fresh Water		118	bbl	8.33			6	
Cement Left In Pipe		Amount	45 ft			Reason			Shoe Joint	
Comment 68 BBLS of Cement back to surface.										

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Water Stg Tot (gal)	Comments
Event	1	Call Out	Call Out	2/12/2018	18:00:00	USER					CALLED OUT BY SERVICE COORDINATOR FOR O/L AT 00:00
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	2/12/2018	19:10:00	USER					HELD MEETING WITH ALL PERSONNEL IN CONVOY TO DISCUSS DIRECTIONS AND HAZARDS ASSOCIATED WITH DRIVING, ALL FIT TO DRIVE.
Event	3	Depart Shop for Location	Depart Shop for Location	2/12/2018	20:00:00	USER					JOURNEY MANAGEMENT PRIOR TO DEPARTURE
Event	4	Arrive At Loc	Arrive At Loc	2/12/2018	21:00:00	USER					UPON ARRIVAL MET WITH COMPANY MAN TO DISCUSS JOB DETAILS AND CALCULATIONS, PERFORMED HAZARD HUNT AND SITE ASSESSMENT.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	2/13/2018	07:45:00	USER					DISCUSSED RIGGING UP HAZARDS AND PROCEDURE ACCORDING TO HMS.
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	2/13/2018	10:30:00	USER					HELD SAFETY MEETING WITH ALL JOB ASSOCIATED PERSONNEL TO DISCUSS JOB PROCEDURE, HAZARDS AND STOP WORK AUTHORITY.
Event	7	Start Job	Start Job	2/13/2018	10:42:00	USER	-4.62	9.14	0.00	922	START JOB.
Event	8	Other	Other	2/13/2018	10:43:11	RTD Import	-6.51	9.23	0.00	1125	FILLED LINES WITH 3 BBLs OF FRESH WATER. 58 PSI, 3

											BPM
Event	9	Test Lines	Test Lines	2/13/2018	10:46:20	RTD Import	17.15	8.19	0.00	1125	PRESSURE TESTED LINES TO 3500 PSI. AFTER PERFORMING A 500 PSI KICKOUT TEST AND A 5TH GEAR STALL. HELD FOR 3 MINUTES AND BLED OFF. NO LEAKS.
Event	10	Pump Spacer 1	Pump Spacer 1	2/13/2018	10:53:24	USER	90.96	8.18	3.04	0	PUMPED 30 BBLS OF FRESH WATER SPACER. 3 BPM 100 PSI.
Event	11	Pump Spacer 2	Pump Spacer 2	2/13/2018	11:04:00	USER	129.77	8.12	3.04	74	PUMPED 10 BBLS OF DYE SPACER. 3 BPM 104 PSI.
Event	12	Shutdown	Shutdown	2/13/2018	11:06:12	RTD Import	37.02	8.31	0.00	522	SHUTDOWN TO MIX UP CEMENT
Event	13	Pump Cement	Pump Cement*	2/13/2018	11:07:54	RTD Import	140.18	8.26	1.68	831	PUMPED 170 BBLS (550 SKS) 13.5#, 1.74 y, 9.2 wr. SWIFTCM AT 6 BPM 260 PSI. HAD TO SLOW DOWN AT THE MUD PUMP COULDN'T KEEP UP WITH THE FLOW COMING OUT OF CONDUCTOR
Event	14	Mud Cup Sample	Mud Cup Sample Pulled	2/13/2018	11:08:44	RTD Import	218.73	13.45	4.99	127	USED PRESSURIZED MUD SCALES. WEIGHED UP AT 13.5#
Event	15	Mud Cup Sample	Mud Cup Sample Pulled	2/13/2018	11:16:21	RTD Import	182.76	13.36	5.98	1292	USED PRESSURIZED MUD SCALES. WEIGHED UP AT 13.5#
Event	16	Mud Cup Sample	Mud Cup Sample Pulled	2/13/2018	11:25:48	RTD Import	126.93	13.44	5.98	2826	USED PRESSURIZED MUD SCALES. WEIGHED UP AT 13.5#
Event	17	Shutdown	Shutdown	2/13/2018	11:43:11	RTD Import	-3.67	12.16	0.00	5018	SHUTDOWN AND WASHED UP ON PLUG.
Event	18	Drop Top Plug	Drop Top Plug	2/13/2018	11:43:27	RTD	-5.57	5.58	0.00	5018	DROPPED HALLIBURTON 9



Import											5/8 TOP PLUG. ADAM COVINGTON DROPPED PLUG, TOOL PUSHER WITNESSED.
Event	19	Pump Displacement	Pump Displacement*	2/13/2018	11:45:25	RTD Import	-4.62	18.75	0.00	0	PUMPED 118 BBLS OF FRESH WATER DISPLACEMENT. PUMPED 2.5 BPM TO WASH UP TUB. WENT TO 6 BPM 150 PSI.
Event	20	Displ Reached Cmnt	Displ Reached Cement	2/13/2018	11:52:46	RTD Import	110.84	8.34	5.88	1041	DISPLACEMENT REACHED CEMENT AT 36 BBLS AWAY.
Event	21	Bump Plug	Bump Plug	2/13/2018	12:17:15	RTD Import	834.83	8.23	0.05	5252	BUMPED 9 5/8" HALLIBURTON TOP PLUG. FCP 526 PSI BUMP 950 PSI. WE GOT 68 BBLS OF CEMENT BACK TO SURFACE.
Event	22	Check Floats	Check Floats	2/13/2018	12:19:11	USER	573.62	8.22	0.00	5612	CHECKED FLOATS. GOT 3/4 BBLS BACK TO THE TRUCK. FLOATS HELD.
Event	23	End Job	End Job	2/13/2018	12:20:00	USER	3.90	8.18	0.00	5612	END JOB.
Event	24	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	2/13/2018	12:30:00	USER					DISCUSSED RIGGING DOWN HAZARDS AND PROCEDURE ACCORDING TO HMS.
Event	25	Depart Location Safety Meeting	Depart Location Safety Meeting	2/13/2018	13:10:00	USER					HELD MEETING WITH ALL HES EMPLOYEES IN CONVOY TO DISCUSS DIRECTIONS AND HAZARDS ASSOCIATED WITH DRIVING, ALL FIT TO DRIVE.
Event	26	Depart Location	Depart Location	2/13/2018	13:30:00	USER					PRE JOURNEY MANAGEMENT PRIOR TO DEPARTURE.

3.0 Attachments

3.1 Extraction WS-Sunrise 1-5-5 Surface Job Chart

