

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS-EBUS**

Date: Monday, December 04, 2017

### **Alma 1S-66-2524 20CDH Production**

Job Date: Thursday, November 23, 2017

Sincerely,

**Bryce Hinsch**

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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 **Alma 1S-66-2524 20CDH** 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.

**Approximately 53 barrels 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> 3791363		<b>Quote #:</b>		<b>Sales Order #:</b> 0904451356				
<b>Customer:</b> EXTRACTION OIL & GAS				<b>Customer Rep:</b> HARRIS						
<b>Well Name:</b> ALMA 1S-66-2524			<b>Well #:</b> 20CDH			<b>API/UWI #:</b> 05-001-10027-00				
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> IRONDALE		<b>County/Parish:</b> ADAMS		<b>State:</b> COLORADO				
<b>Legal Description:</b> SW SE-25-1S-66W-287FSL-1979FEL										
<b>Contractor:</b> CYCLONE				<b>Rig/Platform Name/Num:</b> CYCLONE 37						
<b>Job BOM:</b> 7523 7523										
<b>Well Type:</b> HORIZONTAL OIL										
<b>Sales Person:</b> HALAMERICA\HX38199				<b>Srv Supervisor:</b> Jordan Larue						
<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>		16203		<b>Job Depth TVD</b>		7735				
<b>Water Depth</b>				<b>Wk Ht Above Floor</b>		4				
<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			0	1675	0	1675
Casing	0	5.5	4.778	20			0	16175	0	7950
Open Hole Section			8.5				1675	16203	1570	7950
<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>	
<b>Guide Shoe</b>	5.5	1	HES	16175		<b>Top Plug</b>	5.5	1	TLX	
<b>Float Shoe</b>	5.5	NA	NA	NA		<b>Bottom Plug</b>	5.5	NA	NA	
<b>Float Collar</b>	5.5	1	HES	16170		<b>SSR plug set</b>	5.5	NA	NA	
<b>Insert Float</b>	5.5	1	HES	16170		<b>Plug Container</b>	5.5	1	HES	
<b>Stage Tool</b>	5.5	1	TLX	15350		<b>Centralizers</b>	5.5	UNK	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	3.73		6		
0.50 gal/bbl		<b>MUSOL A, 330 GAL TOTE - (790828)</b>								
149.34 lbm/bbl		<b>BARITE, BULK (100003681)</b>								

35 gal/bbl		FRESH WATER							
0.50 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							
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	2600	sack	13.2	1.57	7.53	8	7.53
7.53 Gal		FRESH WATER							
0.45 %		SCR-100 (100003749)							
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	Displacement	359	bbl	8.33			8	
Cement Left In Pipe		Amount	0 ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride:		400 ppm		Mix Water Temperature:		54 °F
Cement Temperature:		NA	Plug Displaced by:		8.33 lb/gal		Disp. Temperature:		NA
Plug Bumped?		Yes	Bump Pressure:		3120 psi		Floats Held?		Yes
Cement Returns:		53 bbl	Returns Density:		13.2 lb/gal CMT		Returns Temperature:		NA
Comment : FINAL LIFT 2707 PSI... BUMP 3120PSI... BURST PLUG @ 4184... FINAL CIRC PSI @ 2710 5BPM 5BBL PUMPED INTO SHOE...									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	11/23/2017	18:00:00	USER					ON LOCATION TIME 0000
Event	2	Arrive At Loc	Arrive at location	11/23/2017	22:00:00	USER					RIG RUNNING CASING
Event	3	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	11/23/2017	22:15:00	USER					TALK TO TOOL HAND AND CO REP
Event	4	Other	Well Info	11/23/2017	22:20:00	USER					
Event	5	Other	Water Test	11/23/2017	22:21:00	USER					ph 7, cl <400, temp 56°F, TANN PASS...
Event	6	Pre-Rig Up Safety Meeting	PRE RIG UP SAFETY MEETING	11/23/2017	22:30:00	USER					JSA COMPLETED... HANDS SIGN JSA ON CEMENTING PROGRAM
Event	7	Rig-Up Equipment	RIG UP EQUIPMENT	11/23/2017	22:35:00	USER					NO ACCIDENTS OR INJURIES
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/23/2017	01:00:00	USER					JSA COMPLETED: ALL PERSONNEL SIGNED SIGN UP SHEET. REVIEW PUMP SCHEDULE AND WASH UP.
Event	10	Start Job	Start Job	11/23/2017	01:39:32	COM10					
Event	11	Test Lines	Test Lines	11/23/2017	01:46:10	COM10	4376.00	8.39	0.00	0.50	4500 PSI GOOD
Event	12	Pump Spacer 1	Pump Spacer 1	11/23/2017	01:57:09	COM10	300.00	11.5#	6.00	50.00	50 BBLS SPACER SCALED @11.5#
Event	13	Pump Cement	Pump Cement	11/23/2017	02:08:38	USER	500.00	13.20	8.00	675.00	2600 SACKS SCALED @

7							13.2#
Event	20	Clean Lines	Clean Lines	11/23/2017	03:57:34	COM10	CLEAN LINES
Event	21	Drop Top Plug	Drop Top Plug	11/23/2017	04:07:37	COM10	DROP PLUG PLUG WENT
Event	22	Pump Displacement	Pump Displacement	11/23/2017	04:08:21	COM10	PUMPED CALC H2O... FINAL CIRC PSI @ 2707... 53BBLs CMT BACK
Event	23	Bump Plug	Bump Plug	11/23/2017	04:57:39	COM10	BUMP @ 3120 PSI
Event	24	Bump Plug	BURST PLUG	11/23/2017	05:00:17	COM10	BURST PLUG @ 4184 PSI... PUMPED 5BBL H2O INTO SHOE FOR WET SHOE 5BPM
Event	25	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/23/2017	08:00:00	USER	DISCUSS HAZARDS
Event	26	Rig-Down Equipment	Rig-Down Equipment	11/23/2017	08:15:00	USER	NO ACCIDENTS OR INJURIES
Event	27	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/23/2017	08:20:00	USER	REVIEW DIRECTIONS
Event	28	Crew Leave Location	Crew Leave Location	11/23/2017	08:30:00	USER	BULK HEADING BACK TO YARD AND PUMP CREW SLEEPING ON LOC



## 3.0 Attachments

### 3.1 Extraction Alma 1S-66-2524 20CDH Production Job Chart

