

HALLIBURTON

iCem[®] 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

1.1 Executive Summary

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

Sold To #: 369404	Ship To #: 3791363	Quote #:	Sales Order #: 0904451356
Customer: EXTRACTION OIL & GAS		Customer Rep: HARRIS	
Well Name: ALMA 1S-66-2524		Well #: 20CDH	API/UWI #: 05-001-10027-00
Field: WATTENBERG	City (SAP): IRONDALE	County/Parish: ADAMS	State: COLORADO
Legal Description: SW SE-25-1S-66W-287FSL-1979FEL			
Contractor: CYCLONE		Rig/Platform Name/Num: CYCLONE 37	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA/HX38199		Srvc Supervisor: Jordan Larue	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	16203	Job Depth TVD	7735
Water Depth		Wk Ht Above Floor	4
Perforation Depth (MD)	From		To

Well Data

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	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

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5	1	HES	16175	Top Plug	5.5	1	TLX
Float Shoe	5.5	NA	NA	NA	Bottom Plug	5.5	NA	NA
Float Collar	5.5	1	HES	16170	SSR plug set	5.5	NA	NA
Insert Float	5.5	1	HES	16170	Plug Container	5.5	1	HES
Stage Tool	5.5	1	TLX	15350	Centralizers	5.5	UNK	HES

Fluid Data

Stage/Plug #: 1										
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	
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	11.5	3.73		6		
0.50 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
149.34 lbm/bbl		BARITE, BULK (100003681)								

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 <i>(psi)</i>	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Pump Stg Tot <i>(bbl)</i>	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

