

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Tuesday, August 14, 2018

Alma 1S-66-2524 4CDH Surface

Job Date: Friday, July 13, 2018

Sincerely,
Bryce Hinsch

Legal Notice

Disclaimer:

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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 4CDH** 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 10 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

Sold To #: 369404	Ship To #: 3791450	Quote #:	Sales Order #: 0904995749
Customer: EXTRACTION OIL & GAS -		Customer Rep:	
Well Name: ALMA 1S-66-2524		Well #: 4CDH	API/UWI #: 05-001-10011-00
Field: WATTENBERG	City (SAP): IRONDALE	County/Parish: ADAMS	State: COLORADO
Legal Description: SW SE-25-1S-66W-337FSL-1874FEL			
Contractor: Shawn McIntyre		Rig/Platform Name/Num: Cartel 11	
Job BOM: 7521 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Fernando Luna	
Job			

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	1597ft	Job Depth TVD	
Water Depth		Wk Ht Above Floor	
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	8 RD	J-55	0	1593	0	0
Open Hole Section			13.5				0	1597	0	0

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625			1644		Top Plug	9.625		HES
Float Shoe	9.625					Bottom Plug	9.625		HES
Float Collar	9.625					SSR plug set	9.625		HES
Insert Float	9.625					Plug Container	9.625		HES
Stage Tool	9.625					Centralizers	9.625		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	Red Dye Spacer	Red Dye Spacer	10	bbl	8.33					

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	121	bbl	8.33					
Cement Left In Pipe		Amount	43 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	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	7/13/2018	05:30:00	USER				Crew Callout
Event	2	Arrive At Loc	Arrive At Loc	7/13/2018	10:00:00	USER				HES crew arrives on location, signs in with rig safety captain, conducts hazard hunt, spots equipment, conducts pre-rig up safety meeting, completes jsa, and verify volumes with co-rep
Event	3	Call Out	Water Test	7/13/2018	10:01:00	USER				Water test=pH: 7, Cl: <120, temp 66 degrees, Well Fluid density: 8.4 water temp: approx.. 86, calibrate pressurized mud scales via provided fresh water source @ 8.33ppg
Event	4	Call Out	Well Info	7/13/2018	10:02:00	USER				TD: 1597' , TP : 1602' , SJ: 42.14' , OH: 13 1/2" , Casing: Size/Weight/: 9 5/8" 36# J-55, Previous Casing Shoe: n/a'
Event	5	Call Out	Job Info	7/13/2018	10:03:00	USER				Spacer 1: 30bbl fresh water TOS: approx.. surface' Spacer 2: 10bbbls red dye water TOS: Surface Lead Cement: approx.. 170bbbls/957cuft/550sks lead cement @ +/- 13.5 density/1.74 yield/9.2 waterTOC: approx... surface' , Displacement: 121bbbls fresh water, CMT

Event	ID	Description	Activity	Date	Time	User	Vol	Rate	Cost	Notes
										left in Pipe: 42.14' Reason: shoe joint
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	7/13/2018	10:04:00	USER				Conduct safety meeting with all on location: discuss job procedure/contingency plans/hazards involved prior to pumping
Event	7	Pressure Test	Pressure Test	7/13/2018	18:02:30	USER	0.00	8.13	743.00	High pressure test surface lines @ 742psi
Event	8	Pressure Test	Pressure Test	7/13/2018	18:04:06	USER	0.00	8.18	2773.00	High pressure test surface lines @ 2773psi
Event	9	Pump Water	Pump Water	7/13/2018	18:08:27	USER	0.90	8.08	24.00	Pump 30bbls fresh water spacer
Event	10	Pump Spacer	Pump Spacer	7/13/2018	18:15:45	USER	4.10	8.36	82.00	Pump 10bbls red dye water
Event	11	Pump Cement	Pump Cement	7/13/2018	18:18:23	USER	4.10	13.62	92.00	Scale and pump approx. 170bbls/957cuft/550sk lead cement @ +/- 13.5 density/1.74 yield/9.2 water (Type I-II Cement Pre-Mix Dry 94 Poly-E-Flake Pre-Mix Dry 0.1250 Enhancer 923, CMT Pre-Mix Dry 2 Cal-Seal 60 Pre-Mix Dry 2 Econolite Pre-Mix Dry 1.25 Versaset Pre-Mix Dry 0.20)
Event	12	Shutdown	Shutdown	7/13/2018	18:54:10	USER	0.00	17.99	42.00	
Event	13	Drop Top Plug	Drop Top Plug	7/13/2018	18:54:27	USER	0.00	18.65	14.00	HES service supervisor drops hwe top plug
Event	14	Pump Displacement	Pump Displacement	7/13/2018	18:55:51	USER	6.00	10.62	64.00	Pump 121bbls fresh water displacement
Event	15	Cement Returns to Surface	Cement Returns to Surface	7/13/2018	19:14:53	USER	6.00	8.46	499.00	Approx. 10bbls/56cuft/32sk

										cement returns to surface
Event	16	Slow Rate	Slow Rate	7/13/2018	19:15:55	USER	1.90	8.46	414.00	
Event	17	Bump Plug	Bump Plug	7/13/2018	19:20:20	USER	0.00	8.49	907.00	Bump hwe top plug @ 905psi
Event	18	Pressure Test Lubricator	Pressure Test	7/13/2018	19:20:26	USER	0.00	8.49	911.00	Pressure test casing @ 905psi for 10min
Event	19	Bleed Tubing	Bleed Casing	7/13/2018	19:30:21	USER	0.00	8.50	109.00	Bleed off surface lines/casing and verify float collar/shoe holds (successful casing test)
Event	20	Depart Location	Depart Location	7/13/2018	22:00:00	USER				HES crew conducts pre-rig down safety meeting, signs out with rig safety captain and departs location
Event	21	Depart Location	Depart Location	7/13/2018	22:01:00	USER				Thank you for choosing Halliburton Energy Services

3.0 Attachments

3.1 Extraction Alma 1S-66-2524 4CDH Surface Job Chart.png

