

HALLIBURTON

iCem[®] Service

AXIS EXPLORATION

Jamaso 4-65 5-6-10 Surface

Sincerely,
Meghan Jacobs

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Jamaso 4-65 5-6-10** 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 15 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 #: 3891769		Quote #:		Sales Order #: 0905795653					
Customer: AXIS EXPLORATION				Customer Rep: COLBY HANSEN							
Well Name: JAMASO 4-65			Well #: 5-6-10		API/UWI #: 05-005-07375-00						
Field: WILDCAT		City (SAP): AURORA		County/Parish: ARAPAHOE		State: COLORADO					
Legal Description: SW NW-4-4S-65W-2449FNL-1211FWL											
Contractor:				Rig/Platform Name/Num: CARTEL 15							
Job BOM: 7521 7521											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Shayne Bitton							
Job											
Formation Name											
Formation Depth (MD)		Top				Bottom					
Form Type				BHST							
Job depth MD		2750ft		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	
Open Hole Section			13.5				0	2689		0	
Casing		9.625	8.921	36			0	2689		0	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	9.625			2689		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	SWIFTCCEM (TM) SYSTEM	968	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	120	bbl	8.33				
Cement Left In Pipe		Amount	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	DH Density (ppg)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comb Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	6/26/2019	15:00:00	USER					PUMPING EQUIPMENT WAS STAGED OUT ON LOCATION PRIOR TO CALL OUT.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/26/2019	17:00:00	USER					ALL HES PERSONNEL
Event	3	Arrive at Rig	Arrive at Rig	6/26/2019	19:00:00	USER					1 P/U, 1 PUMP AND 1 BULK TRUCK O/L. ALL MATERIALS AND EQUIPMENT ON LOCATION.
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	6/26/2019	19:15:00	USER					ALL HES PERSONNEL
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/26/2019	19:30:00	USER					ALL HES PERSONNEL
Event	6	Rig-Up Equipment	Rig-Down Equipment	6/26/2019	19:45:00	USER					HES RIGGED UP BULK, WATER AND HARD LINES.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	6/27/2019	13:30:00	USER	8.34	6.00	0.00	0.00	ALL PERSONNEL
Event	8	Start Job	Start Job	6/27/2019	14:00:00	COM4	8.34	0.00	0.00	0.00	START JOB/ FILL LINES WITH 3 BBLS OF FW.
Event	9	Pressure Test	Pressure Test	6/27/2019	14:10:01	USER	8.07	3895.00	2.70	0.00	PRESSURE TEST TO 3500 PSI. PRESSURE TEST WAS CONDUCTED IN ACCORDANCE WITH HMS.
Event	10	Pump Spacer	Pump Spacer	6/27/2019	14:20:33	USER	8.16	1.00	2.70	0.00	PUMPED 10 BBLS OF FW SPACER WITH 2 LBS OF RED DYE.
Event	11	Shutdown	Shutdown	6/27/2019	14:23:55	USER	13.21	327.00	14.80	4.70	SHUTDOWN IN ORDER TO START MIXING CEMENT.

Event	12	Pump Cement	Pump Cement	6/27/2019	14:30:02	USER	13.74	286.00	5.00	4.50	PUMPED 968 SKS (230 BBL) OF SWIFTCM AT 13.5 PPG, 1.74 FT^3/SK AND 9.2 GAL/SK. DENSITY WAS VERIFIED WITH PRESSURIZED MUD SCALES IN ACCORDANCE WITH HMS.
Event	13	Slow Rate	Slow Rate	6/27/2019	14:41:11	USER	13.05	202.00	91.70	7.00	SLOW RATE IN ORDER TO CORRECT BULK DELIVERY ISSUES. NOTE: D/H DENSITIES DROPPED OFF DUE TO HIGH PRESSURE PUMPS SUCKING AIR AND LOSING PRIME. HES SLOWED RATE CORRECTED DENSITY, VERIFIED CEMENT WEIGHTS WITH PRESSURIZED MUD SCALES. ONCE DELIVERY ISSUES WERE CORRECTED, HES RESUMED PUMPING RATES.
Event	14	Shutdown	Shutdown	6/27/2019	15:13:24	USER	13.58	140.00	305.00	5.60	SHUTDOWN AFTER PUMPING CEMENT. DROP TOP PLUG – CM WITNESSED PLUG DROP.
Event	15	Pump Displacement	Pump Displacement	6/27/2019	15:17:13	USER	10.27	33.00	1.00	4.00	PUMPED 201 BBLS OF THE 205 BBLS OF CALCULATED DISPLACEMENT.
Event	16	Slow Rate	Slow Rate	6/27/2019	15:45:19	USER	8.36	771.00	187.20	3.00	SLOW RATE.
Event	17	Bump Plug	Bump Plug	6/27/2019	15:50:58	USER	8.39	1262.00	203.30	0.00	BUMP PLUG. FCP WAS 750 PSI. TOOK PRESSURE UP TO 1220 AND S/D. CHECKED FLOATS FLOATS HELD AND GOT 1 BBL BACK.
Event	18	End Job	End Job	6/27/2019	15:53:47	COM4	8.39	22.00	0.00	0.00	END JOB. GOT 15 BBLS OF CEMENT BACK TO SURFACE.

Event	19	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/27/2019	16:00:00	USER	ALL HES PERSONNEL. TOPICS DISCUSSED INCLUDED PINCH POINTS AND TRIPPING HAZARDS.
Event	20	Rig-Down Equipment	Rig-Down Equipment	6/27/2019	16:15:00	USER	HES RIGGED DOWN HARD LINE MOVED REST OF RIGGING OUT OF THE WAY. PUMPING EQUIPMENT STAGED ON LOCATION FOR NEXT JOB.
Event	21	Comment	Comment	6/27/2019	17:30:00	USER	HES USED THE FOLLOWING ON THE JOB: 2 LBS OF DYE AND TOP PLUG. NOTHING TO RETURN.
Event	22	Comment	Comment	6/27/2019	18:00:00	USER	THANK YOU FOR USING HALLIBURTON CEMENT. - SHAYNE BITTON.

3.0 Attachments

3.1 Jamaso 4-65 5-6-10 Surface – Job Chart

