

# HALLIBURTON

iCem<sup>®</sup> Service

## **AXIS EXPLORATION**

Date: Wednesday, July 31, 2019

### **Jamaso 4-65 5-6-9 Surface**

Job Date: Saturday, June 29, 2019

Sincerely,

**Bryce Hinsch**

## Legal Notice

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### Disclaimer:

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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 **Jamaso 4-65 5-6-9** 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 20 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 #: 3891770		Quote #:		Sales Order #: 0905795655				
Customer: AXIS EXPLORATION				Customer Rep: COLBY HANSEN						
Well Name: JAMASO 4-65			Well #: 5-6-9		API/UWI #: 05-005-07373-00					
Field: WILDCAT		City (SAP): AURORA		County/Parish: ARAPAHOE		State: COLORADO				
Legal Description: SW NW-4-4S-65W-2450FNL-41188FWL										
Contractor:				Rig/Platform Name/Num: CARTEL 15						
Job BOM: 7521 7521										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srcv Supervisor: Shayne Bitton						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		2630ft		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	2630		0
Casing		9.625	8.921	36			0	2630		0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	9.625			2630		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	1050	sack	13.5	1.74		5	9.2
9.20 Gal		<b>FRESH WATER</b>							
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	0	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	6/28/2019	00:01:00	USER					PUMPING EQUIPMENT WAS STAGED OUT ON LOCATION PRIOR TO CALL OUT.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/28/2019	01:00:00	USER					ALL HES PERSONNEL. TOPICS DISCUSSED INCLUDED DIRECTIONS AND LINES OF COMMUNICATION.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	6/28/2019	01:15:00	USER					1 P/U, 1 PUMP, AND 1 BULK TRUCK DEPART SERVICE CENTER FOR LOCATION.
Event	4	Arrive at Rig	Arrive at Rig	6/28/2019	03:00:00	USER					1 P/U, 1 PUMP, AND 1 BULK TRUCK ARRIVE AT RIG. ALL EQUIPMENT AND PERSONNEL O/L. RIG RIH WITH DP.
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	6/28/2019	09:00:00	USER					ALL HES PERSONNEL
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/28/2019	09:15:00	USER					ALL HES PERSONNEL. TOPICS INCLUDED COMPLETING A HAZARD HUNT ON BULK TRUCKS AND PUMP FOR PINCH POINTS.
Event	7	Rig-Up Equipment	Rig-Up Equipment	6/28/2019	09:30:00	USER					HES RIGGED UP ALL BULK, WATER AND HARD LINES.
Event	8	Comment	Comment	6/28/2019	09:45:00	USER					H2O TEST: PH- 7, CHLORIDES- <500 , TEMP: 67, SULFATES- 0.

Event	9	Comment	Comment	6/28/2019	10:00:00	USER					OH- 13.5", TD- 2630', TVD- 2630', TP- 2628', PG- 9.625" 36# J55, ST- 42', MUD- 8.7# WBM, CENT- 4, TOB- 17:00, CIRC RTE- 9 BPM, PRES- 340, VOL- 450, LOSS- 0, GAS- 0 UNITS.
Event	10	Pre-Job Safety Meeting	Pre-Job Safety Meeting	6/28/2019	18:30:00	USER					ALL LOCATION PERSONNEL.
Event	11	Start Job	Start Job	6/28/2019	19:16:55	USER	8.73	0.00	0.00	0.00	START JOB/ FILL LINES WITH 3 BBLS OF FW.
Event	12	Pressure Test	Pressure Test	6/28/2019	19:21:37	USER	8.56	3863.00	2.00	0.00	PRESSURE TEST TO 3500 PSI. PRESSURE TEST WAS CONDUCTED IN ACCORDANCE WITH HMS.
Event	13	Pump Spacer	Pump Spacer	6/28/2019	19:25:49	USER	8.57	141.00	2.20	1.70	PUMPED 10 BBLS OF FW SPACER WITH 2 LBS OF RED DYE.
Event	14	Pump Cement	Pump Cement	6/28/2019	19:29:12	USER	13.56	212.00	1.80	3.00	PUMPED 1050 SKS (325 BBL) OF SWIFTCEM 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	15	Shutdown	Shutdown	6/28/2019	20:13:26	USER	13.56	32.00	321.10	3.10	SHUTDOWN AFTER PUMPING CEMENT. DROP TOP PLUG – CM WITNESSED PLUG DROP.
Event	16	Pump Displacement	Pump Displacement	6/28/2019	20:16:22	USER	25.61	5.00	0.10	3.70	PUMPED 200 BBLS OF THE 200 BBLS OF CALCULATED DISPLACEMENT.
Event	17	Slow Rate	Slow Rate	6/28/2019	20:40:08	USER	8.35	770.00	186.60	5.10	SLOW RATE.
Event	18	Bump Plug	Bump Plug	6/28/2019	20:44:19	USER	8.36	1258.00	199.30	0.00	BUMP PLUG. FCP WAS 780 PSI. TOOK PRESSURE UP TO 1310 AND S/D. CHECKED



											FLOATS HELD AND GOT 1 BBL BACK.
Event	19	End Job	End Job	6/28/2019	20:46:51	USER	8.36	125.00	199.30	0.00	END JOB. GOT 20 BBLS OF CEMENT BACK TO SURFACE.
Event	20	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	6/28/2019	21:00:00	USER	0.26	-7.00	57.80	0.00	ALL HES PERSONNEL. TOPICS DISCUSSED INCLUDED PINCH POINTS AND TRIPPING HAZARDS.
Event	21	Rig-Down Equipment	Rig-Down Equipment	6/28/2019	21:15:00	USER					HES RIGGED DOWN HARD LINE MOVED REST OF RIGGING OUT OF THE WAY. PUMPING EQUIPMENT STAGED ON LOCATION FOR NEXT JOB.
Event	22	Comment	Comment	6/28/2019	23:00:00	USER					HES USED THE FOLLOWING ON THE JOB: 2 LBS OF DYE AND TOP PLUG. NOTHING TO RETURN.
Event	23	Comment	Comment	6/28/2019	23:15:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT. - SHAYNE BITTON.

## 3.0 Attachments

### 3.1 Extraction Jamaso 4-65 5-6-9 Surface Chart.png



