

# HALLIBURTON

iCem<sup>®</sup> Service

## EXTRACTION OIL & GAS-EBUS

### **Interchange A S22-30-1C**

Surface Casing

Job Date: Sunday, August 29, 2021

Sincerely,

**Nick Roles and Crew**

## Legal Notice

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### Disclaimer:

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Table of Contents

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1.0 Cementing Job Summary ..... 4  
    1.1 Executive Summary ..... 4  
2.0 Real-Time Job Summary ..... 7  
    2.1 Job Event Log ..... 7  
3.0 Attachments..... 10  
    3.1 Job Chart ..... 10

## 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 Interchange A S22-30-1C surface casing. 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 35 bbl. 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> 9008048		<b>Quote #:</b>		<b>Sales Order #:</b> 0907349344				
<b>Customer:</b> EXTRACTION OIL & GAS-EBUS					<b>Customer Rep:</b> Larry Siegel					
<b>Well Name:</b> INTERCHANGE A			<b>Well #:</b> S22-30-1C			<b>API/UWI #:</b> 05-014-20850-00				
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> BROOMFIELD		<b>County/Parish:</b> BROOMFIELD		<b>State:</b> COLORADO				
<b>Legal Description:</b> SW NW-10-1S-68W-2188FNL-877FWL										
<b>Contractor:</b>					<b>Rig/Platform Name/Num:</b> CARTEL 15					
<b>Job BOM:</b> 7521										
<b>Well Type:</b> HORIZONTAL OIL										
<b>Sales Person:</b> HALAMERICA\HX41066					<b>Srvc Supervisor:</b> Nicholas Roles					
<b>Job</b>										
<b>Job depth MD</b>   1637ft   <b>Job Depth TVD</b>										
<b>Well Data</b>										
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	1637		1637
Casing		9.625	8.921	36			0	1637		1637
<b>Tools and Accessories</b>										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Float Shoe	9.625	1		1637		Top Plug	9.625	1	HES	
Float Collar	9.625	1		1595		Bottom Plug	9.625	1	HES	
						Plug Container	9.625	1	HES	

Fluid Data										
<b>Stage #: 1</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	
1	Spacer	Fresh Water with Dye	10	bbl	8.34			6	420	
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	Cement	SwiftCem™ Cement	575	sack	13.5	1.74	9.17	9	5273	
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	Fresh Water	123	bbl	8.34			10	5166	
<b>Cement Left In Pipe</b>										
<b>Amount</b>		42 ft			<b>Reason</b>			Shoe Joint		
<b>Mix Water:</b>		pH 7		<b>Mix Water Chloride:</b>		0 ppm		<b>Mix Water Temperature:</b>		65 °F
<b>Plug Bumped?</b>		Yes		<b>Plug Displaced by:</b>		8.33 lb/gal		<b>Disp. Temperature:</b>		65 °F
<b>Cement Returns:</b>		35 bbl.		<b>Bump Pressure:</b>		1050 psi		<b>Floats Held?</b>		Yes
<b>Comment:</b> Got 35 bbl. cement to surface.										

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Seq. No.	Activity	Date	Time	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
1	Call Out	8/28/2021	08:28:33					Called out by service coordinator for OL time of 0430.
2	Pre-Convoy Safety Meeting	8/28/2021	23:00:00					Discuss all hazards associated with journey, directions to destination, complete journey management if needed, and ensure all convoy is fit for duty.
3	Depart from Service Center or Other Site	8/28/2021	23:15:00					Depart from service center or other job site.
4	Arrive at Location from Service Center	8/29/2021	00:00:00					Upon arrival to location, signed in with onsite safety personnel. Met with company man and discussed job specific requirements and specifications.
5	Pre-Rig Up Safety Meeting	8/29/2021	06:15:00					Held pre rig up JSA for hazards, hazard hunt with crew, and discussed plan for spotting equipment and rigging up lines for job. Discussed muster points and closest emergency location as well as coordinates.
6	Rig-Up Equipment	8/29/2021	06:30:00					Begin rig up with crew.
7	Rig-Up Completed	8/29/2021	07:00:00					Complete rig up for job to nearest point before red zone.
8	Other	8/29/2021	07:15:00					Mix water test results- PH-7, Chlo-0, Temp-65F.
9	Safety Meeting - Pre Job	8/29/2021	08:45:00	7.99	0.00	37.00	14.40	Held job specific hazards as well as confirming job procedure with co man and rest of crew associated with job.
10	Start Job	8/29/2021	09:09:04	7.98	0.00	20.00	0.00	TD-1637' OH-13.5", TP-1637' 9.625" 36#, FC-1595

11	Test Lines	8/29/2021	09:14:49	8.01	0.00	42.00	2.90	Pumped 3bbls to fill lines, established circulation, shutdown and closed manifold, performed 500psi k/o function test, continued with 5th gear stall at 1400psi proceeded to bring pressure to 3500psi. Pressure stabilized and held with no leaks.
12	Pump Spacer 1	8/29/2021	09:18:47	7.68	0.00	1.00	0.00	Pumped 10bbls fresh water with 1/3 bottle green dye at 6bpm 140psi.
13	Drop Bottom Plug	8/29/2021	09:22:28	8.30	0.00	75.00	10.70	Dropped by HES supervisor, witnessed by company man.
14	Pump Cement	8/29/2021	09:22:31	8.30	0.00	75.00	10.70	Pumped 575sks or 178bbls 13.5# 1.74y 9.2g/s SwiftCem at 9bpm 310psi.
15	Check Weight	8/29/2021	09:23:49	13.80	6.30	310.00	6.40	Weight verified with pressurized mud scales.
16	Check Weight	8/29/2021	09:27:51	13.62	9.20	354.00	42.90	Weight verified with pressurized mud scales.
17	Shutdown	8/29/2021	09:44:24	14.17	0.00	48.00	185.40	
18	Drop Top Plug	8/29/2021	09:45:05	17.14	0.00	1.00	185.40	Dropped by HES supervisor, witnessed by company man.
19	Pump Displacement	8/29/2021	09:45:08	17.08	0.00	1.00	0.00	Pumped 123bbls of fresh water at 10bpm.
20	Bump Plug	8/29/2021	10:00:59	8.29	0.00	1064.00	124.00	Slowed down to 3bpm at 110bbls away, final circulating pressure - 550psi, Bumped at 1050psi. Held
21	Other	8/29/2021	10:01:08	8.29	0.00	1097.00	124.00	Released pressure and got 0.5bbls back. Floats held.
22	End Job	8/29/2021	10:01:23	8.27	0.00	62.00	124.00	Got 35 bbl. cement to surface.
23	Pre-Rig Down Safety Meeting	8/29/2021	10:05:00	8.27	0.00	3.00	0.00	Held safety meeting with crew prior to rig down, discussed possibility of trapped pressure, swing radius, slips trips and falls, pinch points and risks associated with rig down.
24	Rig Down Lines	8/29/2021	10:15:00					Begin rig down

25	Pre-Convoy Safety Meeting	8/29/2021	10:45:00	Held safety meeting with convoy, discussed trip hazards, directions and all crew fit for duty prior to departure.
26	Rig-Down Completed	8/29/2021	10:45:00	Rig down complete with no injuries, spills or damage to equipment.
27	Depart Location for Service Center or Other Site	8/29/2021	11:00:00	Depart location, if applicable journey will be submitted.

## 3.0 Attachments

### 3.1 Job Chart

