

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Date: Sunday, October 13, 2019

### **Interchange A S22-30-8N Surface**

Job Date: Tuesday, September 24, 2019

Sincerely,

**Tyler Hill**

## 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 **Interchange A S22-30-8N** 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 Ft. Lupton**

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 369404		<b>Ship To #:</b> 3901281		<b>Quote #:</b>		<b>Sales Order #:</b> 0905995017					
<b>Customer:</b> EXTRACTION OIL & GAS -				<b>Customer Rep:</b> HANS CARY							
<b>Well Name:</b> INTERCHANGE A			<b>Well #:</b> S22-30-8N			<b>API/UWI #:</b> 05-014-20766-00					
<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-2294FNL-1147FWL											
<b>Contractor:</b> ENSIGN DRLG				<b>Rig/Platform Name/Num:</b> ENSIGN 147							
<b>Job BOM:</b> 7521 7521											
<b>Well Type:</b> HORIZONTAL OIL											
<b>Sales Person:</b> HALAMERICA\HX38199				<b>Srv Supervisor:</b> Vitali Neverdasov							
<b>Job</b>											
<b>Formation Name</b>											
<b>Formation Depth (MD)</b>		<b>Top</b>		<b>Bottom</b>							
<b>Form Type</b>				<b>BHST</b>							
<b>Job depth MD</b>		1642ft		<b>Job Depth TVD</b>		1637					
<b>Water Depth</b>				<b>Wk Ht Above Floor</b>							
<b>Perforation Depth (MD)</b>		<b>From</b>		<b>To</b>							
<b>Well Data</b>											
<b>Description</b>	<b>New / Used</b>	<b>Size</b> in	<b>ID</b> in	<b>Weight</b> lbm/ft	<b>Thread</b>	<b>Grade</b>	<b>Top MD</b> ft	<b>Bottom MD</b> ft	<b>Top TVD</b> ft	<b>Bottom TVD</b> ft	
Surface Casing		9.625		36			0	1637			
<b>Tools and Accessories</b>											
<b>Type</b>	<b>Size</b> in	<b>Qty</b>	<b>Make</b>	<b>Depth</b> ft		<b>Type</b>	<b>Size</b> in	<b>Qty</b>	<b>Make</b>		
Guide Shoe	9.625					Top Plug	9.625	1	HES		
Float Shoe	9.625	1	NA	1637		Bottom Plug	9.625				
Float Collar	9.625	1	NA	1591		SSR plug set	9.625				
Insert Float	9.625					Plug Container	9.625	1	HES		
Stage Tool	9.625					Centralizers	9.625	3	NA		
<b>Fluid Data</b>											
<b>Stage/Plug #:</b> 1											
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>			<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density</b> lbm/gal	<b>Yield</b> ft3/sack	<b>Mix Fluid</b> Gal	<b>Rate</b> bbl/min	<b>Total Mix Fluid</b> Gal
1	Red Dye Spacer	Red Dye Spacer			10	bbl	8.33			8	

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	9.17	8	
9.17 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	123	bbl	8.33			8	
Cement Left In Pipe		Amount	44 ft		Reason			Shoe Joint	
Comment : 20 BBLS OF CEMENT BACK TO SURFACE.									

## 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)	PS Pump Press (psi)	Recirc Density (ppg)	Comments
Event	1	Call Out	Call Out	9/23/2019	13:00:00	USER				ON LOCATION @ 19:00
Event	2	Arrive at Location from Service Center	Arrive at Location from Service Center	9/23/2019	19:00:00	USER				24 MILES. BULK TRUCKS CAME BACK RELOADED
Event	3	Other	SPOT TRUCKS	9/23/2019	19:15:00	USER				SPOT BULK TRUCKS
Event	4	Other	RIG UP	9/23/2019	19:20:00	USER				RIG UP BULK TRUCKS
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	9/23/2019	19:25:00	USER				JSA PRIOR RIGGING UP
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	9/23/2019	22:51:00	USER	0.00	-1.00	8.35	DISCUSS HAZARDS AND JOB PROCEDURE WITH ALL PERSONAL INVOLVED
Event	7	Other	CASING ON BOTTOM	9/23/2019	22:56:00	USER	0.00	-1.00	8.35	RIG UP CEMENT HEAD AND MANIFOLD FOR RIG TO CIRCULATE.
Event	8	Start Job	Start Job	9/23/2019	23:18:11	COM4	0.00	14.00	5.24	
Event	9	Pressure Test	Pressure Test	9/23/2019	23:20:00	USER	2.40	87.00	13.75	LOAD LINE AND TEST TO 3376 PSI
Event	10	Pump Spacer	Pump Spacer	9/23/2019	23:23:00	USER	0.00	587.00	13.69	PUMP 10 BBLS OF DYE WATER.
Event	11	Pump Cement	Pump Cement	9/23/2019	23:26:00	USER	7.40	264.00	13.23	BATCH/WEIGHT/ PUMP 550 SKS (170.4 BBLS) OF SWIFTCM @ 13.5 PPG. 8.0 BPM/ 294 PSI.
Event	12	Check Weight	Check Weight	9/23/2019	23:29:25	COM4	7.00	334.00	13.43	
Event	13	Shutdown	Shutdown	9/23/2019	23:55:00	USER	2.70	49.00	12.60	FINISHED PUMPING CEMENT.

Event	14	Drop Top Plug	Drop Top Plug	9/23/2019	23:56:00	USER	0.00	18.00	0.06	DROP TOP PLUG, VERIFIED BY CUSTOMER.
Event	15	Pump Displacement	Pump Displacement	9/23/2019	23:57:00	USER	0.00	16.00	12.71	123 BBLS OF FRESH WATER.
Event	16	Bump Plug	Bump Plug	9/24/2019	00:18:00	USER	0.00	1036.00	8.42	BUMP PLUG 4 BPM / 500 OVER FINAL LIFT PRESSURE OF 505 PSI.
Event	17	Check Floats	Check Floats	9/24/2019	00:19:00	USER	0.00	1049.00	8.42	FLOATS HELD, 0.5 BBLS BACK
Event	18	End Job	End Job	9/24/2019	00:20:07	COM4	0.00	3.00	8.42	
Event	19	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	9/24/2019	00:23:00	USER	7.20	-4.00	8.42	HELD JSA PRIOR TO RIG DOWN
Event	20	Other	OTHER	9/24/2019	00:45:00	USER				BULK TRUCKS WENT BACK TO GET RELOADED. CEMENT PUMP WENT TO FUEL UP.



## 3.0 Attachments

### 3.1 Interchange A S22-30-8N Surface.png

