

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS-EBUS**

Ft. Lupton District, COLORADO

Date: Thursday, September 19, 2019

### **Northwest A S20-25-13N Surface**

Job Date: Saturday, August 31, 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 **Northwest A S20-25-13N** 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.

**Traces of cement were seen 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> 3901327		<b>Quote #:</b>		<b>Sales Order #:</b> 0905943032				
<b>Customer:</b> EXTRACTION OIL & GAS -						<b>Customer Rep:</b> HANS				
<b>Well Name:</b> NORTHWEST A			<b>Well #:</b> S20-25-13N			<b>API/UWI #:</b> 05-014-20784-00				
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> BROOMFIELD		<b>County/Parish:</b> BROOMFIELD		<b>State:</b> COLORADO				
<b>Legal Description:</b> NW NW-9-1S-68W-1277FNL-867FWL										
<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> Lance Carpenter						
<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>		1591		<b>Job Depth TVD</b>		1591				
<b>Water Depth</b>				<b>Wk Ht Above Floor</b>		4				
<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>	<b>ID</b>	<b>Weight</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD</b>	<b>Bottom MD</b>	<b>Top TVD</b>	<b>Bottom TVD</b>
Casing	0	9.625	8.921	36			0	1591	0	1591
OH		13.5					0	1620	0	1620
<b>Fluid Data</b>										
<b>Stage/Plug #: 1</b>										
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>	
1	Red Dye Spacer	Red Dye Spacer	10	bbl	8.33					
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>	
2	SwiftCem	SWIFTCM (TM) SYSTEM	550	sack	13.5	1.74		5	9.17	
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	120	bbl	8.33				
Cement Left In Pipe		Amount	40	Reason				Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride:			100 ppm	Mix Water Temperature:		75 °F
Cement Temperature:		## °F °C	Plug Displaced by:			8.4 lb/gal Water	Disp. Temperature:		## °F °C
Plug Bumped?		Yes	Bump Pressure:			580 psi	Floats Held?		Yes
Cement Returns:		## bbl m3	Returns Density:			## lb/gal kg/m3	Returns Temperature:		## °F °C
<p><b>Comment</b></p> <p>JOB WENT WELL. CEMENT VOLUMES SCALED AND VERIFIED. TOP PLUG DROPPED AFTER CEMENT. WASHED UP FIRST 10 BBL ON TOP OF PLUG. RED DYE TO SURFACE AT 92 BBL AWAY. TRACES OF CEMENT TO SURFACE. FINAL CIRCULATING PRESSURE 580 PSI. FLOATS HELD. 1 BBL BACK</p> <p>TOP OF CEMENT - SURFACE</p>									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	8/30/2019	06:30:00	USER					CREW CALLED OUT. ON LOCATION TIME 1100
Event	2	Depart Shop for Location	Depart Shop for Location	8/30/2019	10:00:00	USER					CREW HAS VERIFIED EQUIPMENT AND MATERIALS FOR JOB. CREW HAS JOURNEY MANAGEMENT SAFETY MEETING DISCUSSING ROUTE, FOLLOWING DISTANCE, CONSTRUCTION, CONVOY ORDER, HAZARDS, WALK AROUNDS AND THEN DEPART FOR LOCATION
Event	3	Comment	Comment	8/30/2019	10:30:00	USER					RIG CALLED HAVING SOME DIFFICULTIES. NEW ON LOCATION TIME 1630
Event	4	Arrive At Loc	Arrive At Loc	8/30/2019	11:00:00	USER					ARRIVE AT LOCATION. PARK CREW ON EMPTY LOCATION JUST DOWN THE ROAD FROM THE RIG. CHECKED IN
Event	5	Comment	Comment	8/30/2019	15:30:00	USER					RIG TD'S WELL
Event	6	Casing on Bottom	Casing on Bottom	8/30/2019	20:00:00	USER	27.00	8.57	0.00	32.20	CASING ON BOTTOM. RIG DOWN CASING CREW. RIG UP HES PLUG CONTAINER AND BEGIN CIRCULATION THROUGH HES DME. 530 GPM AT 240 PSI
Event	7	Safety Meeting	Safety Meeting	8/30/2019	20:35:00	USER	35.00	8.57	0.00	32.20	CREW, RIG CREW AND CUSTOMER REPS HAVE PRE

JOB SAFETY MEETING  
 DISCUSSING HAZARDS, RIG  
 OPERATIONS, RED ZONES,  
 MUSTER AREAS, PINCH  
 POINTS, LINE OF FIRE,  
 CONTINGENCIES AND JOB  
 PROCEEDURE

Event	8	Start Job	Start Job	8/30/2019	20:45:12	COM6	32.00	8.57	0.00	0.00	START JOB
Event	9	Test Lines	Test Lines	8/30/2019	20:52:52	COM6	3067.00	8.40	0.00	3.70	FILL LINES WITH 3 BBL WATER. PRESSURE TEST HES LINES TO 2500 PSI. HELD FOR A FEW MINUTES, TEST GOOD.
Event	10	Pump Spacer 1	Pump Spacer 1	8/30/2019	20:55:13	COM6	47.00	8.35	0.00	0.00	PUMP 10 BBL RED DYE SPACER
Event	11	Pump Lead Cement	Pump Lead Cement	8/30/2019	21:04:24	COM6	67.00	8.39	0.00	0.00	PUMP 170 BBL SWIFCEM 13.5# 1.74 YIELD 9.17 GAL 550 SACKS
Event	12	Shutdown	Shutdown	8/30/2019	21:29:11	COM6	96.00	12.31	0.00	169.60	SHUTDOWN.
Event	13	Drop Top Plug	Drop Top Plug	8/30/2019	21:31:34	COM6	56.00	12.96	0.00	169.60	DROP TOP PLUG
Event	14	Pump Displacement	Pump Displacement	8/30/2019	21:31:42	COM6	56.00	12.96	0.00	169.60	PUMP 120 BBL DISPLACEMENT WATER (FIRST 10 BBL WASHUP ON TOP OF PLUG)
Event	15	Bump Plug	Bump Plug	8/30/2019	21:59:04	COM6	809.00	7.99	0.00	122.40	BUMP PLUG. FINAL CIRCULATING PRESSURE 580 PSI. TOOK TO 800 PSI AND HELD FOR A COUPLE MINUTES. BLEED BACK TO CHECK FLOATS, 1 BBL BACK, FLOATS HELD
Event	16	End Job	End Job	8/30/2019	22:01:46	COM6	75.00	7.99	0.00	122.40	END JOB
Event	17	Safety Meeting	Safety Meeting	8/30/2019	22:10:00	USER	73.00	7.98	5.70	11.90	CREW HAS PRE RIG DOWN SAFETY MEETING DISCUSSING SLIPS TRIPS



FALLS, PROPER LIFTING,  
RED ZONES, RIG  
OPERATIONS, HAZARDS,  
PROPER PPE AND BEGIN  
RIGGING DOWN LINES AND  
EQUIPMENT

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Event	18	Depart Location	Depart Location	8/30/2019	23:00:00	USER	CREW DEPARTS FROM LOCATION TO STAGE ON LOCATION DOWN THE ROAD
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## 3.0 Attachments

### 3.1 EXTRACTION NORTHWEST A S20-25-13N SURFACE

