

HALLIBURTON

iCem[®] 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

Disclaimer:

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1.0 Cementing Job Summary

1.1 Executive Summary

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

Sold To #: 369404		Ship To #: 3901327		Quote #:		Sales Order #: 0905943032					
Customer: EXTRACTION OIL & GAS -				Customer Rep: HANS							
Well Name: NORTHWEST A			Well #: S20-25-13N			API/UWI #: 05-014-20784-00					
Field: WATTENBERG		City (SAP): BROOMFIELD		County/Parish: BROOMFIELD			State: COLORADO				
Legal Description: NW NW-9-1S-68W-1277FNL-867FWL											
Contractor: ENSIGN DRLG				Rig/Platform Name/Num: ENSIGN 147							
Job BOM: 7521 7521											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199				Srvc Supervisor: Lance Carpenter							
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type					BHST						
Job depth MD		1591			Job Depth TVD		1591				
Water Depth					Wk Ht Above Floor		4				
Perforation Depth (MD)		From			To						
Well Data											
Description	New / Used	Size	ID	Weight	Thread	Grade	Top MD	Bottom MD	Top TVD	Bottom TVD	
Casing	0	9.625	8.921	36			0	1591	0	1591	
OH		13.5					0	1620	0	1620	
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	bbbl	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			550	sack	13.5	1.74		5	9.17
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	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				

Comment

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

TOP OF CEMENT - SURFACE

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press <i>(psi)</i>	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Pump Stg Tot <i>(bbl)</i>	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

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

3.0 Attachments

3.1 EXTRACTION NORTHWEST A S20-25-13N SURFACE

