

# HALLIBURTON

iCem<sup>®</sup> Service

**EXTRACTION OIL & GAS**

**AD Fed Dairy 20W-25-13 Surface**

Sincerely,  
**Meghan Jacobs**

## 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 **AD Fed Dairy 20W-25-13** 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 9 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*

<b>Sold To #:</b> 369404		<b>Ship To #:</b> 3809177		<b>Quote #:</b>		<b>Sales Order #:</b> 0905638663					
<b>Customer:</b> EXTRACTION OIL & GAS -					<b>Customer Rep:</b> Justin Humphries						
<b>Well Name:</b> AD FED DAIRY			<b>Well #:</b> 20W-25-13			<b>API/UWI #:</b> 05-123-45034-00					
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> GREELEY		<b>County/Parish:</b> WELD			<b>State:</b> COLORADO				
<b>Legal Description:</b> NW SW-21-5N-65W-1948FSL-368FWL											
<b>Contractor:</b>					<b>Rig/Platform Name/Num:</b> CARTEL 15						
<b>Job BOM:</b> 7521 7521											
<b>Well Type:</b> HORIZONTAL OIL											
<b>Sales Person:</b> HALAMERICA\HX38199					<b>Srv Supervisor:</b> Larry Seigriest						
<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>		1572ft			<b>Job Depth TVD</b>						
<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 in</b>	<b>ID in</b>	<b>Weight lbm/ft</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD ft</b>	<b>Bottom MD ft</b>	<b>Top TVD ft</b>	<b>Bottom TVD ft</b>	
Open Hole Section			13.5				0	1572			
Casing		9.625	8.921	36			0	1572			
<b>Tools and Accessories</b>											
<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	<b>Depth ft</b>		<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>		
Guide Shoe	9.625			1572		Top Plug	9.625	1	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	1	HES		
Stage Tool	9.625					Centralizers	9.625	4	HES		
<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 lbm/gal</b>	<b>Yield ft<sup>3</sup>/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			4	

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal																	
2	SwiftCem	SWIFTCEM (TM) SYSTEM	515	sack	13.5	1.74		8	9.2																	
3	Fresh Water	Fresh Water	118	bbl	8.33			10																		
<table border="1"> <thead> <tr> <th>Cement Left In Pipe</th> <th>Amount</th> <th>ft</th> <th>Reason</th> <th>Shoe Joint</th> </tr> </thead> <tbody> <tr> <td>Mix Water:</td> <td>pH 7</td> <td>Mix Water Chloride:</td> <td>500 ppm</td> <td>Mix Water Temperature:</td> <td>52 °F</td> </tr> <tr> <td>Plug Bumped?</td> <td>Yes</td> <td>Bump Pressure:</td> <td>1100 psi</td> <td>Floats Held?</td> <td>Yes</td> </tr> </tbody> </table>										Cement Left In Pipe	Amount	ft	Reason	Shoe Joint	Mix Water:	pH 7	Mix Water Chloride:	500 ppm	Mix Water Temperature:	52 °F	Plug Bumped?	Yes	Bump Pressure:	1100 psi	Floats Held?	Yes
Cement Left In Pipe	Amount	ft	Reason	Shoe Joint																						
Mix Water:	pH 7	Mix Water Chloride:	500 ppm	Mix Water Temperature:	52 °F																					
Plug Bumped?	Yes	Bump Pressure:	1100 psi	Floats Held?	Yes																					
<p><b>Comment : LANDED PLUG ON CALCULATED DISPLACEMENT, 550 PSI TO 1100 PSI, BLED BACK .5 BBL, FLOATS HELD, 9 BBL OF CEMENT TO SURFACE</b></p>																										

## 2.0 Real-Time Job Summary

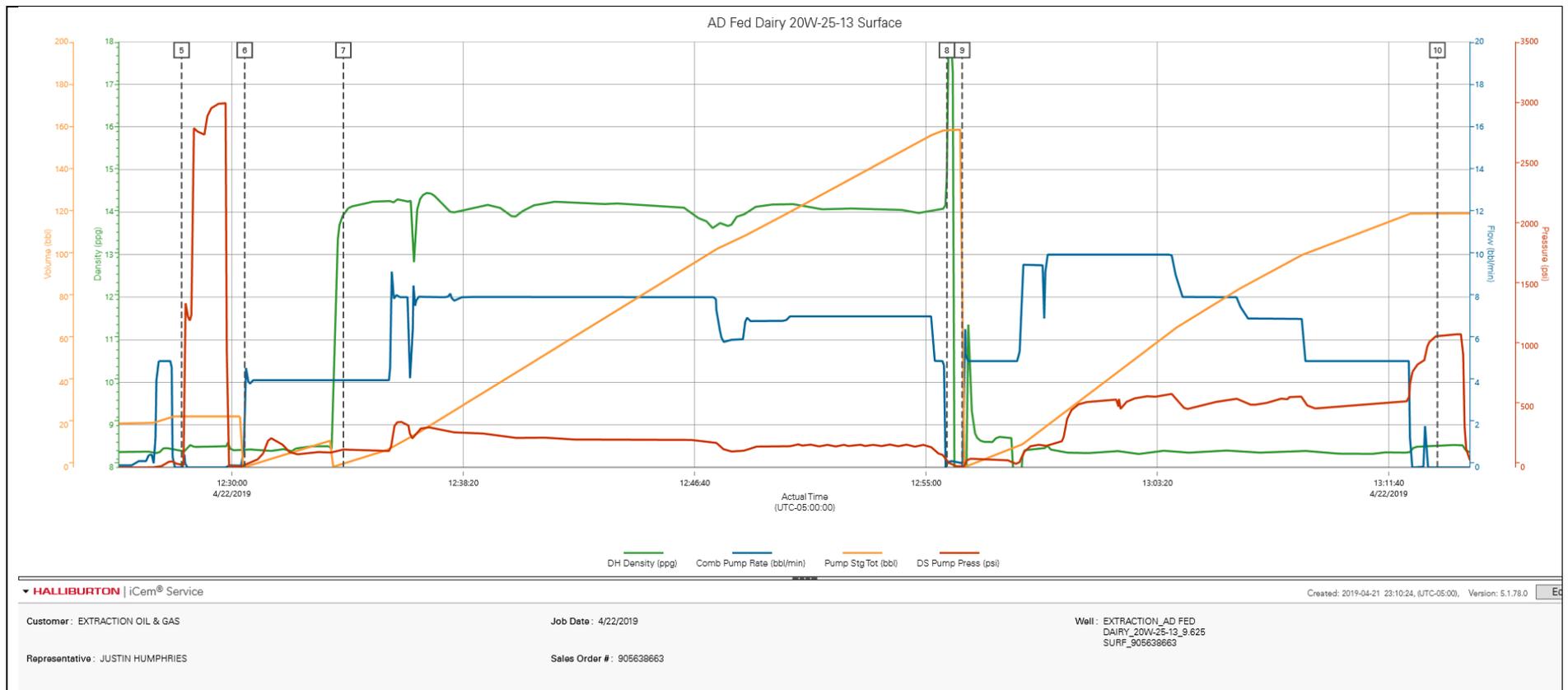
### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	DS Pump Press (psi)	Comments
Event	1	Arrive At Loc	Arrive At Loc	4/22/2019	00:00:00	USER					ON LOCATION TIME SET FOR 03:00, RIG WAS STILL DRILLING, CM SIGNED WOC, TESTED WATER, GOT NUMBERS, ASSESSED LOCATION FOR HAZARDS
Event	2	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	4/22/2019	08:00:00	USER					HELD SAFETY MEETING AND DISCUSSED HAZARDS ASSOCIATED WITH SPOTTING TRUCKS AND RIGGING UP HES EQUIPMENT
Event	3	Rig-Up Equipment	Rig-Up Equipment	4/22/2019	08:10:00	USER					RIGGED UP ALL HES EQUIPMENT TO BE AS READY AS POSSIBLE.
Event	4	Safety Meeting - Pre Job	Safety Meeting - Pre Job	4/22/2019	12:00:00	USER	0.00	0.10	4.60	-4.00	DISCUSSED HAZARDS ASSOCIATED WITH PRESSURE TEST, MIXING CMT, RUNNING BULK EQUIPMENT, AND ALL JOB RESPONSIBILITIES ASSOCIATED
Event	5	Test Lines	Test Lines	4/22/2019	12:28:11	COM5	8.39	0.00	24.00	21.00	FILLED LINES, TESTED KICKOUTS TO 500 PSI, TESTED LINES TO 2500 PSI, GOOD TEST
Event	6	Pump Spacer 1	Pump Spacer 1	4/22/2019	12:30:28	COM5	8.40	2.40	0.10	14.00	RED DYE WATER, 10 BBL, 8.33 PPG, 4 BPM, 120 PSI

Event	7	Pump Cement	Pump Cement	4/22/2019	12:34:01	COM5	13.94	4.10	1.80	148.00	SWIFTCEM, 515 SKS, 160 BBL, 13.5 PPG, 8 BPM, 250 PSI
Event	8	Drop Top Plug	Drop Top Plug	4/22/2019	12:55:45	COM5	14.84	0.20	158.60	57.00	HES TOP PLUG
Event	9	Pump Displacement	Pump Displacement	4/22/2019	12:56:18	COM5	2.20	0.20	158.70	6.00	118 BBL, 8.33 PPG, 10 BPM, 500 PSI
Event	10	Bump Plug	Bump Plug	4/22/2019	13:13:25	COM5	8.53	0.00	119.40	1084.00	LANDED PLUG ON CALCULATED DISPLACEMENT, 550 PSI TO 1100 PSI, BLED BACK 0.5 BBL, FLOATS HELD, 9 BBL OF CEMENT TO SURFACE, CM PLEASSED WITH HES CREW PERFORMANCE
Event	11	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	4/22/2019	13:30:00	USER					DISCUSSED ALL HAZARDS ASSOCIATED WITH RIGGING DOWN HES EQUIPMENT
Event	12	Rig-Down Equipment	Rig-Down Equipment	4/22/2019	13:40:00	USER					
Event	13	Depart Location Safety Meeting	Depart Location Safety Meeting	4/22/2019	14:15:00	USER					DISCUSSED HAZARDS ASSOCIATED WITH LEAVING LOCATION AND BEST ROUTE TO TAKE
Event	14	Depart Location	Depart Location	4/22/2019	14:30:00	USER					

## 3.0 Attachments

### 3.1 AD Fed Dairy 20W-25-13 Surface – Job Chart with Events



### 3.2 AD Fed Dairy 20W-25-13 Surface – Job Chart without Events

