

# HALLIBURTON

iCem<sup>®</sup> Service

**EXTRACTION OIL & GAS-EBUS**

**AD FED DOUBLE CLUTCH 20W-25-8 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 Double Clutch 20W-25-8** 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 10 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> 3809261		<b>Quote #:</b>		<b>Sales Order #:</b> 0905632528				
<b>Customer:</b> EXTRACTION OIL & GAS -				<b>Customer Rep:</b> Justin Humphries						
<b>Well Name:</b> AD FED DOUBLE CLUTCH			<b>Well #:</b> 20W-25-8			<b>API/UWI #:</b> 05-123-45035-00				
<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-2068FSL-369FWL										
<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> Clifton Keck						
<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>		1577ft		<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	1577		
Casing		9.625	8.921	36			0	1577		
<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>	
<b>Guide Shoe</b>	9.625	1	HES	1577		<b>Top Plug</b>	9.625	1	HES	
<b>Float Shoe</b>	9.625					<b>Bottom Plug</b>	9.625		HES	
<b>Float Collar</b>	9.625	1	HES	1536		<b>SSR plug set</b>	9.625		HES	
<b>Insert Float</b>	9.625					<b>Plug Container</b>	9.625	1	HES	
<b>Stage Tool</b>	9.625					<b>Centralizers</b>	9.625	4	HES	
<b>Fluid Data</b>										
<b>Stage/Plug #:</b> 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	bbl	8.33			4		
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	SWIFTCEN (TM) SYSTEM	515	sack	13.5	1.74		8	9.2	
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	119	bbl	8.33			8.5		
Cement Left In Pipe		Amount	41 ft		Reason			Shoe Joint		
Mix Water:		pH 7	Mix Water Chloride:			500 ppm		Mix Water Temperature:		56 °F
Plug Bumped?		Yes	Bump Pressure:			1000 psi		Floats Held?		Yes
Comment : BUMPED PLUG ON CALCULATED DISPLACEMENT, PRESSURE BLEED OFF, PRESSURED UP 5 TIMES TOTAL, PUMPED HALF OF SHOE TRACK, PRESSURE STABILIZED AT 400 PSI, BLEED BACK 0.5 BBL, FLOATS HELD, 10 BBL OF CEMENT TO SURFACE										

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

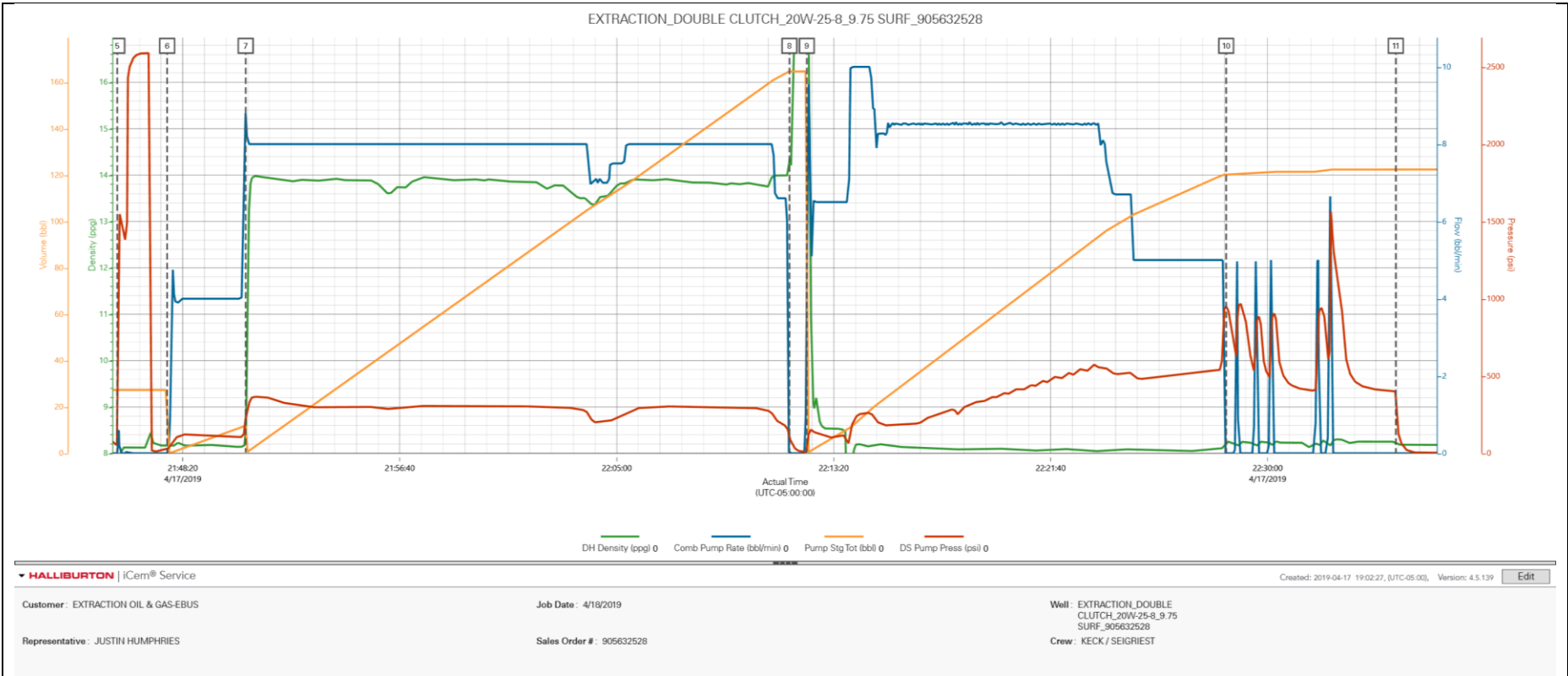
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	DS Pump Press (psi)	Comments
Event	1	Arrive At Loc	Arrive At Loc	4/17/2019	13:00:00	USER					ON LOCATION TIME WAS SET TO 15:30, CM SIGNED WOC, TESTED WATER, GOT NUMBERS, ASSESSED LOCATION FOR HAZARDS, RIG CREW WAS LAYING DOWN DRILL PIPE
Event	2	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	4/17/2019	19:45:00	USER	1.23	0.10	4.70	-10.00	HELD SAFETY MEETING AND DISCUSSED HAZARDS ASSOCIATED WITH SPOTTING TRUCKS AND RIGGING UP HES EQUIPMENT
Event	3	Rig-Up Equipment	Rig-Up Equipment	4/17/2019	20:00:00	USER	2.16	0.10	6.50	-8.00	RIGGED UP ALL HES EQUIPMENT TO BE AS READY AS POSSIBLE.
Event	4	Safety Meeting - Pre Job	Safety Meeting - Pre Job	4/17/2019	21:30:00	USER	7.89	0.00	25.10	0.00	DISCUSSED HAZARDS ASSOCIATED WITH PRESSURE TEST, MIXING CMT, RUNNING BULK EQUIPMENT, AND ALL JOB RESPONSIBILITIES ASSOCIATED
Event	5	Test Lines	Test Lines	4/17/2019	21:45:49	COM5	7.95	0.00	27.30	51.00	TESTED KICKOUTS TO 500 PSI AND LINES TO 2500 PSI
Event	6	Pump Spacer 1	Pump Spacer 1	4/17/2019	21:47:44	COM5	8.18	0.00	27.30	31.00	RED DYE, 10 BBL, 8.33 PPG, 4 BPM, 120 PSI

Event	7	Pump Cement	Pump Cement	4/17/2019	21:50:45	COM5	8.31	8.80	11.90	222.00	SWIFTCEM, 515 SKS, 160 BBL, 13.5 PPG, 8 BPM, 300 PSI
Event	8	Drop Top Plug	Drop Top Plug	4/17/2019	22:11:38	COM5	14.33	0.00	164.70	108.00	HES TOP PLUG
Event	9	Pump Displacement	Pump Displacement	4/17/2019	22:12:18	COM5	34.01	2.80	164.80	8.00	119 BBL, 8.33 PPG, 8.5 BPM, 520 PSI
Event	10	Bump Plug	Bump Plug	4/17/2019	22:28:24	COM5	8.22	0.00	120.20	955.00	BUMPED PLUG ON CALCULATED, 500-1000 PSI, 10 BBL CMT TO SURFACE, PRESSURE BLED OFF, PRESSURED UP 5 TIMES IN TOTAL, PUMPED HALF OF SHOE TRACK, CM MADE PHONE CALL AND MADE DECISION TO CALL IT GOOD
Event	11	Other	Other	4/17/2019	22:34:55	COM5	8.26	0.00	122.40	400.00	CHECKED FLOATS, BLED BACK .5 BBL, FLOATS HELD
Event	12	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	4/17/2019	22:45:00	USER					DISCUSSED ALL HAZARDS ASSOCIATED WITH RIGGING DOWN HES EQUIPMENT
Event	13	Rig-Down Equipment	Rig-Down Equipment	4/17/2019	23:00:00	USER					
Event	14	Depart Location Safety Meeting	Depart Location Safety Meeting	4/17/2019	23:45:00	USER					DISCUSSED HAZARDS ASSOCIATED WITH LEAVING LOCATION AND BEST ROUTE TO TAKE
Event	15	Depart Location	Depart Location	4/17/2019	23:55:00	USER					



3.0 Attachments

3.1 EXTRACTION\_DOUBLE CLUTCH\_20W-25-8\_9.75 SURF\_905632528-Custom Results.png



## 4.0 Custom Graphs

### 4.1 Custom Graph

