

# HALLIBURTON

iCem<sup>®</sup> Service

**EXTRACTION OIL & GAS**

**Coyote Trails 33W-15-4N 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 **Coyote Trails 33W-15-4N** 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 14 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> 3912707		<b>Quote #:</b>		<b>Sales Order #:</b> 0905578623	
<b>Customer:</b> EXTRACTION OIL & GAS -				<b>Customer Rep:</b> Todd Stephens			
<b>Well Name:</b> COYOTE TRAILS			<b>Well #:</b> 33W-15-4N		<b>API/UWI #:</b> 05-123-48254-00		
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> ERIE		<b>County/Parish:</b> WELD		<b>State:</b> COLORADO	
<b>Legal Description:</b> SW SE-28-1N-68W-1200FSL-2355FEL							
<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> Nicholas Roles			

**Job**

<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>	1626ft		<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>

**Well Data**

Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing	0	9.625	8.921	36	8 RD	J-55	0	1626	0	0
Open Hole Section			13.5				0	1636	0	0

**Fluid Data**

<b>Stage/Plug #: 1</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	
1	Red Dye Spacer	Red Dye Spacer	10	bbl	8.33			5		
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		8	9.2	
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	122	bbl	8.33			8		

Cement Left In Pipe	Amount	43ft		Reason	Shoe Joint
Mix Water:	pH 07	Mix Water Chloride:	00 ppm	Mix Water Temperature:	60 °F °C
Cement Temperature:	59 °F °C	Plug Displaced by:	8.33 lb/gal	Disp. Temperature:	60 °F °C
Plug Bumped?	Yes	Bump Pressure:	1050 psi MPa	Floats Held?	Yes
Cement Returns:	14 bbl m3	Returns Density:	## lb/gal kg/m3	Returns Temperature:	## °F °C
<b>Comment</b> Got 14bbbls cement to surface.					

## 2.0 Real-Time Job Summary

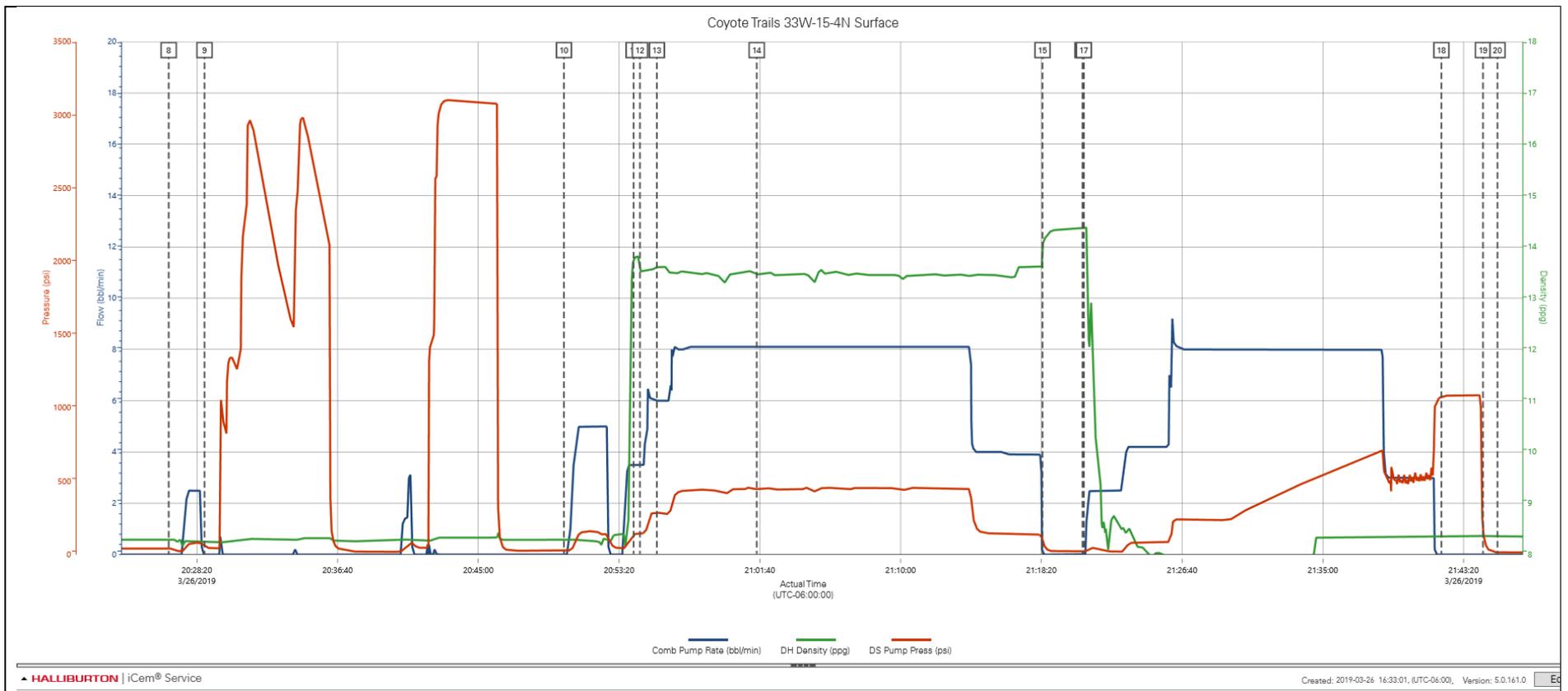
### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate <i>(bbl/min)</i>	DH Density <i>(ppg)</i>	DS Pump Press <i>(psi)</i>	Comments
Event	1	Check Floats	Call Out	3/26/2019	15:30:00	USER				Called out by Service Coordinator for O/L at 1700
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	3/26/2019	16:45:00	USER				Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	3/26/2019	17:00:00	USER				Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	3/26/2019	17:30:00	USER				Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	3/26/2019	17:45:00	USER				Discussed rigging up hazards and procedure according to HMS.
Event	6	Other	Other	3/26/2019	18:00:00	USER				Water test- PH-6, Chlor-0, Temp-60. Cement temp-65.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	3/26/2019	19:00:00	USER				Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.
Event	8	Start Job	Start Job	3/26/2019	20:26:40	COM4	0.00	8.29	41.00	TD-1636' OH-13.5", TP-1626' 9.625" 36#, FC-1583, Mud-8.4#
Event	9	Test Lines	Test Lines	3/26/2019	20:28:47	COM4	0.00	8.24	55.00	Pumped 3bbls to fill lines, established circulation, shutdown and closed manifold, performed 500psi k/o function test, continued with 5th gear stall at 1400psi proceeded to bring pressure to 3000psi. Held good no leaks.
Event	10	Pump Spacer 1	Pump Spacer 1	3/26/2019	20:50:04	COM4	0.00	8.29	27.00	Pumped 10bbls fresh water with 2# Red Dye at 5bpm 140psi.
Event	11	Pump Cement	Pump Cement	3/26/2019	20:54:12	COM4	3.50	13.78	136.00	Pumped 550sks or 170.5bbls 13.5# 1.74y 9.2g/s Swiftcem at 8bpm 410psi.

Event	12	Check Weight	Check Weight	3/26/2019	20:54:34	COM4	3.50	13.51	146.00	Weight verified with pressurized mud scales.
Event	13	Check Weight	Check Weight	3/26/2019	20:55:34	COM4	6.00	13.61	284.00	Weight verified with pressurized mud scales.
Event	14	Check Weight	Check Weight	3/26/2019	21:01:29	COM4	8.10	13.47	443.00	Weight verified with pressurized mud scales.
Event	15	Shutdown	Shutdown	3/26/2019	21:18:24	COM4	0.00	13.93	93.00	
Event	16	Drop Top Plug	Drop Top Plug	3/26/2019	21:20:46	COM4	0.00	14.37	22.00	Dropped by HES supervisor, witnessed by company man.
Event	17	Pump Displacement	Pump Displacement	3/26/2019	21:20:51	COM4	0.00	14.37	22.00	Pumped 122bbbls of fresh water at 8bpm.
Event	18	Bump Plug	Bump Plug	3/26/2019	21:42:01	COM4	0.00	8.35	1079.00	Slowed down to 3bpm at 110bbbls away, final circulating pressure - 550psi, Bumped at 1050psi.
Event	19	Check Floats	Check Floats	3/26/2019	21:44:29	USER	0.00	8.35	150.00	Released pressure and got 0.5bbbls back. Floats held.
Event	20	End Job	End Job	3/26/2019	21:45:20	COM4	0.00	8.35	15.00	Got 15bbbls cement to surface.
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	3/26/2019	21:50:00	USER	18.50	8.43	363.00	Discussed rigging down hazards and procedure according to HMS with all HES personnel
Event	22	Safety Meeting - Departing Location	Safety Meeting - Departing Location	3/26/2019	22:45:00	USER				Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	23	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	3/26/2019	23:00:00	USER				Pre journey management prior to departure.

3.0 Attachments

3.1 Coyote Trails 33W-15-4N Surface – Job Chart with Events



### 3.2 Coyote Trails 33W-15-3N Surface – Job Chart without Events

