

# HALLIBURTON

iCem<sup>®</sup> Service

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

**Rinn Valley West 18N-25-08C**

Surface Casing

Job Date: Wednesday, June 03, 2020

Sincerely,

**Nate Moore**

## 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 Rinn Valley West 18N-25-08C surface casing. 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 24 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*

Sold To #: 369404	Ship To #: 3930010	Quote #:	Sales Order #: 0906537885
Customer: EXTRACTION OIL & GAS-EBUS		Customer Rep: Jose Torres	
Well Name: RINN VALLEY WEST	Well #: 18N-25-08C	API/UWI #: 05-123-49141-00	
Field: WATTENBERG	City (SAP): LONGMONT	County/Parish: WELD	State: COLORADO
Legal Description: SE SE-18-2N-68W-211FSL-841FEL			
Contractor: ENSIGN DRLG		Rig/Platform Name/Num: ENSIGN 147	
Job BOM: 7521 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Nathaniel Moore	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	1619ft		Job Depth TVD
Water Depth			Wk Ht Above Floor
Perforation Depth (MD)	From		To

**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
Open Hole Section			13.5				0	1619	0	1619
Casing	0	9.625	8.921	36			0	1619	0	1619

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe					Top Plug	9.625	1	HES
Float Shoe	9.625			1619				
Float Collar	9.625			1577				
Insert Float					Plug Container	9.625	1	HES
Stage Tool								

**Fluid Data**

Stage/Plug #: 1									
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
1	Water with dye	Water with dye	10	bbl	8.34				

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	9.17	
9.17 Gal		FRESH WATER								
0.1250 lbm		POLY-E-FLAKE (101216940)								
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	Displacement	Displacement	122	bbl	8.34					
Cement Left In Pipe		Amount	42 ft		Reason			Shoe Joint		
Mix Water:		pH 7	Mix Water Chloride:		<300 ppm		Mix Water Temperature:			69 °F
Cement Temperature:		80 °F	Plug Displaced by:		Water		Disp. Temperature:			69 °F
Plug Bumped?		Yes	Bump Pressure:		450 to 950 psi		Floats Held?			Yes
Cement Returns:		24 bbl	Returns Density:		13.5 lb/gal		Returns Temperature:			
Comment										

## 2.0 Real-Time Job Summary

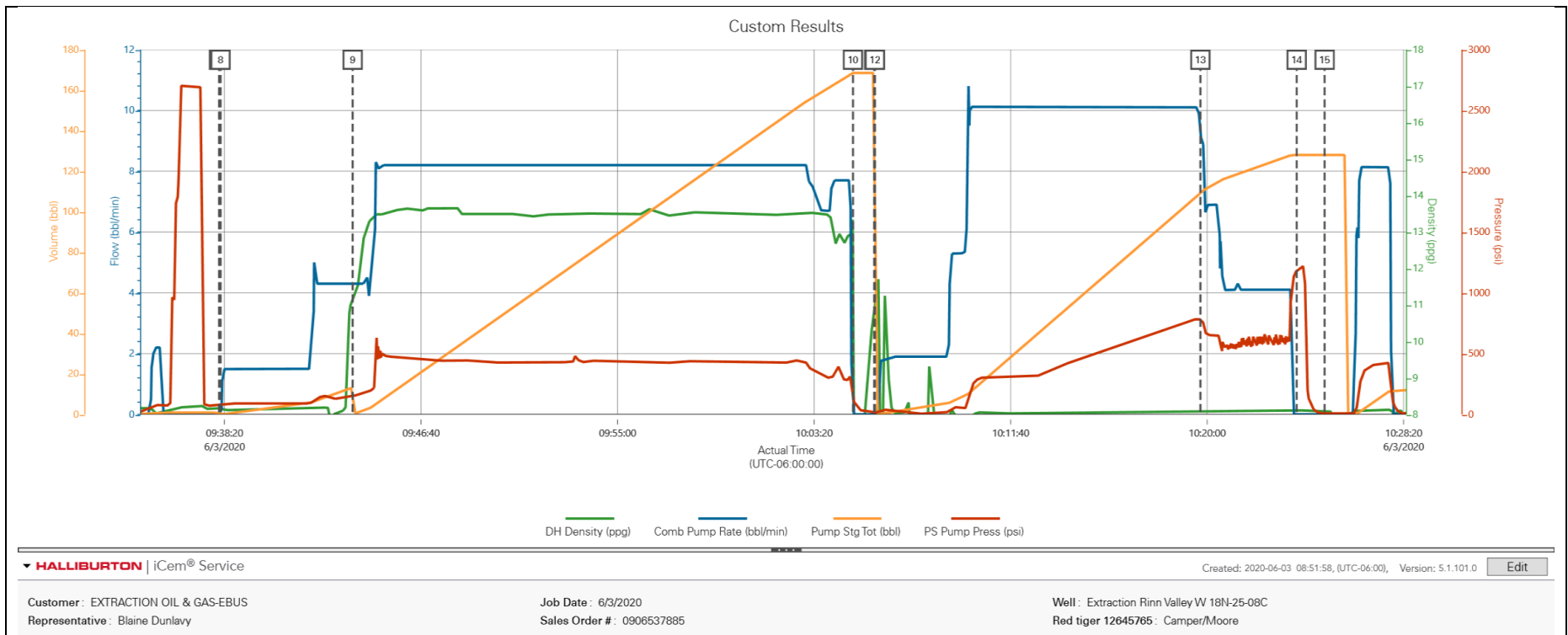
### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Pump Stg Tot <i>(bbl)</i>	PS Pump Press <i>(psi)</i>	Comments
Event	1	Cement Returns to Surface	Call Out	6/3/2020	04:00:00	USER					OL 0900
Event	2	Arrive At Loc	Arrive At Loc	6/3/2020	06:00:00	USER					End journey management. Meet with company representative to discuss job: Surface Casing: 13.5" hole to 1619'. 9 5/8" 36# casing to 1619'. SJ 42'. 8.4 ppg water based well fluid.
Event	3	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/3/2020	09:00:00	USER	8.18	0.00	12.50	5.00	Hazard hunt. Discussed possible hazards associated with location, rig up, job performance, and weather.
Event	4	Rig-Up Completed	Rig-Up Completed	6/3/2020	09:25:00	USER	8.17	0.00	12.50	4.00	Rigged up complete / Rigged up to a edge of red zone
Event	5	Pre-Job Safety Meeting	Pre-Job Safety Meeting	6/3/2020	09:30:00	USER	8.17	0.00	12.50	4.00	Meeting with Halliburton and rig personnel. Communicated potential safety hazard and job details.
Event	6	Start Job	Start Job	6/3/2020	09:33:36	COM5	8.17	0.00	0.00	4.00	Fil lines 2 bbl water
Event	7	Test Lines	Test Lines	6/3/2020	09:38:06	COM5	8.17	0.10	0.90	73.00	500 psi kickout test and 3000 psi pressure test
Event	8	Pump Spacer 1	Pump Spacer 1	6/3/2020	09:38:10	COM5	8.16	0.10	0.90	75.00	10 bbl Dyed water
Event	9	Pump Lead Cement	Pump Lead Cement	6/3/2020	09:43:46	COM5	11.12	4.30	13.30	155.00	550 sks/170 bbl SwiftCem 13.5 ppg 1.74 ft3/sk 9.17 gal/sk

Event	10	Shutdown	Shutdown	6/3/2020	10:04:59	COM5	12.84	0.00	168.50	129.00	Washup on top of plug
Event	11	Drop Top Plug	Drop Top Plug	6/3/2020	10:05:53	COM5	10.95	0.00	168.50	16.00	HES top plug witnessed by company rep
Event	12	Pump Displacement	Pump Displacement	6/3/2020	10:05:55	COM5	11.12	0.00	168.50	16.00	122 bbl water displacement
Event	13	Cement Returns to Surface	Cement Returns to Surface	6/3/2020	10:19:43	USER	8.08	9.10	109.40	778.00	Cement to surface 98 bbl into displacement. 24 bbl cement back.
Event	14	Bump Plug	Bump Plug	6/3/2020	10:23:48	COM5	8.11	0.00	128.00	1184.00	450 psi final pump pressure. Pressured up to 950 psi.
Event	15	End Job	End Job	6/3/2020	10:24:59	COM5	8.08	0.00	128.00	8.00	Check floats. 0.5 bbl back. Floats held
Event	16	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/3/2020	11:30:00	USER					Discussed possible hazards associated with weather, location and rigging down iron and hoses.
Event	17	Rig-Down Completed	Rig-Down Completed	6/3/2020	12:00:00	USER					All Halliburton items were secured for travel.

## 3.0 Attachments

### 3.1 Job Chart



3.2 Recorded Data

