

# HALLIBURTON

iCem<sup>®</sup> Service

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

Date: Monday, October 02, 2017

### **Leonard 4N SURFACE**

Job Date: Wednesday, August 30, 2017

Sincerely,  
**Julia Nichols**

## Legal Notice

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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 **Leonard 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 30 barrels 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]**

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*Cementing Job Summary*

*The Road to Excellence Starts with Safety*

Sold To #: 369404		Ship To #: 3809609		Quote #:		Sales Order #: 0904262241					
Customer: EXTRACTION OIL & GAS -				Customer Rep: Shawn McIntyre							
Well Name: LEONARD			Well #: 4N		API/UWI #: 05-123-45048-00						
Field: WATTENBERG		City (SAP): FIRESTONE		County/Parish: WELD		State: COLORADO					
Legal Description: NW SW-21-2N-87W-1852FSL-494FWL											
Contractor: UNKNOWN				Rig/Platform Name/Num: WORKOVER RIG							
Job BOM: 7521 7521											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199				Srvc Supervisor: Bradley Hinkle							
<b>Job</b>											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type					BHST						
Job depth MD		1556ft			Job Depth TVD		1556ft				
Water Depth					Wk Ht Above Floor						
Perforation Depth (MD)		From			To						
<b>Well Data</b>											
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	1556	0	0	
Open Hole Section			13.5				0	1557	0	0	
<b>Tools and Accessories</b>											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	9.625					Top Plug	9.625	1	HES		
Float Shoe	9.625	1		1556		Bottom Plug	9.625		HES		
Float Collar	9.625	1		1513		SSR plug set	9.625		HES		
Insert Float	9.625					Plug Container	9.625	1	HES		
Stage Tool	9.625					Centralizers	9.625		HES		
<b>Fluid Data</b>											
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	Spacer	Red Dye Water			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	Primary Cement	SWIFCEM			550	sack	13.5	1.74		6	9.2

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*Cementing Job Summary*

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	Displacement	Fresh Water	117	bbl	8.33			7	
<b>Cement Left In Pipe</b>									
	Amount	43 ft			Reason			Shoe Joint	
	Mix Water: pH	6			Mix Water Chloride: 0 ppm			Mix Water Temperature: 85 °F	
	Cement Temperature: ## °F °C	Plug Displaced by: ## lb/gal kg/m <sup>3</sup> XXXX			Disp. Temperature: ## °F °C				
	Plug Bumped? Yes/No	Bump Pressure: ##### psi MPa			Floats Held? Yes/No				
	Cement Returns: ## bbl m <sup>3</sup>	Returns Density: ## lb/gal kg/m <sup>3</sup>			Returns Temperature: ## °F °C				
<b>Comment</b> 30 bbls 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 <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	PS Pump Press <i>(psi)</i>	Comments
Event	1	Call Out	Call Out	8/30/2017	00:00:01	USER				Crew called for an on location of 0600. Crew was Bradley Hinkle, Vitalijs Neverdasovs, Saiaiga Tauilili and Jim Krichmar.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	8/30/2017	02:00:00	USER				Pre-journey safety meeting.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	8/30/2017	03:00:25	USER				Sign in, perform a site assessment and pre rig-up safety meeting. Starting to run casing.
Event	4	Other	Job Numbers	8/30/2017	03:05:00	USER				TD: 1557 TP 1556 FC: 1513. 9.625" 36# casing inside a 13.5" OH. Well fluid weight at 8.4 ppg.
Event	5	Safety Meeting - Pre Job	Safety Meeting - Pre Job	8/30/2017	05:00:00	USER	8.41	0.00	0.00	Pre-job safety meeting. Rig crew did not participate.
Event	6	Start Job	Start Job	8/30/2017	05:18:44	COM4	6.64	0.00	-3.00	
Event	7	Test Lines	Test Lines	8/30/2017	05:23:02	COM4	8.46	0.00	2508.00	Pressure test lines with a 500 PSI electronic kick-out test.
Event	8	Pump Spacer 1	Pump Spacer 1	8/30/2017	05:25:56	COM4	8.43	0.00	29.00	Pump 10 bbls red dye water.
Event	9	Pump Cement	Pump Cement	8/30/2017	05:39:26	COM4	13.77	2.10	85.00	Pump 170 bbls (550 sacks) SwiftCem mixed at 13.5 ppg. Density verified by pressurized scales.
Event	10	Drop Top Plug	Drop Top Plug	8/30/2017	06:11:12	COM4	16.82	0.00	-5.00	Top plug preloaded. Witnessed by customer.
Event	11	Pump Displacement	Pump Displacement	8/30/2017	06:11:18	COM4	16.86	0.00	-4.00	Pump 117 bbls fresh water. Good returns throughout. 30 bbls cement to surface.
Event	12	Bump Plug	Bump Plug	8/30/2017	06:36:56	COM4	8.22	0.10	1247.00	Bump plug at 480 PSI and increase to 1500 PSI for a 5 minute casing test.
Event	13	Check Floats	Check Floats	8/30/2017	06:42:13	USER	8.25	0.00	1221.00	Check floats. 1 bbl back.
Event	14	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/30/2017	06:43:00	USER	8.21	0.00	2.00	Pre-rig down safety meeting.

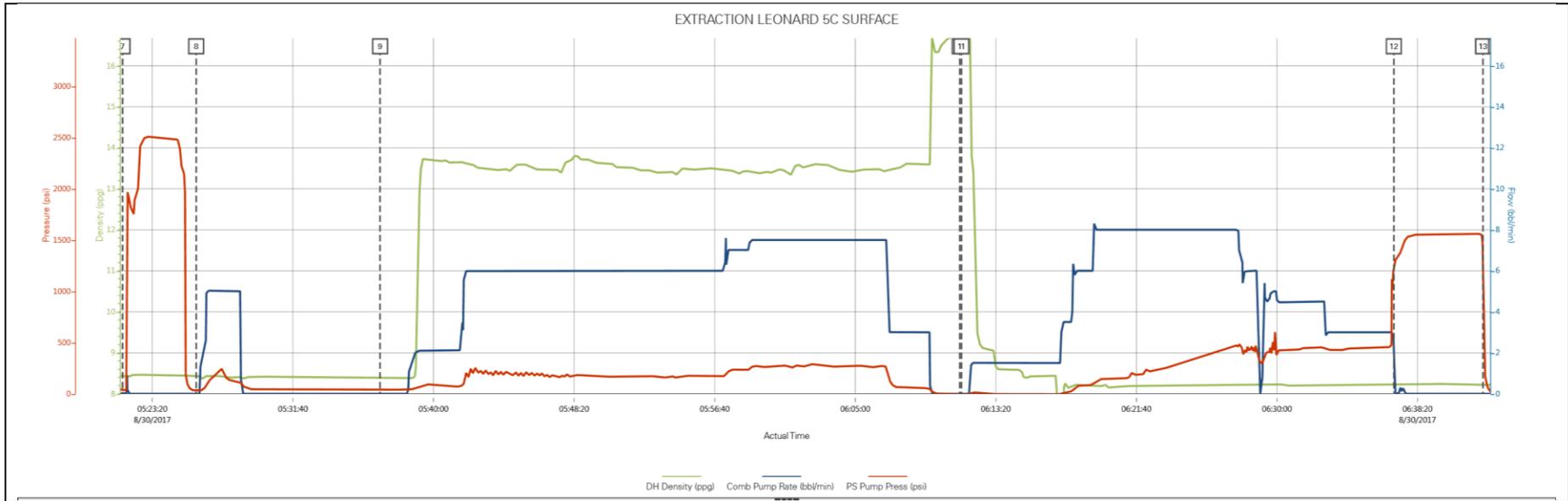
Event	15	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	8/30/2017	07:30:00	USER
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Bulk trucks headed back to yard to reload cement for next surface. Supervisor and pump remained on location.

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

