

# HALLIBURTON

iCem<sup>®</sup> Service

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

Date: Monday, October 02, 2017

## **LEONARD 3N SURFACE**

Job Date: Wednesday, August 30, 2017

Sincerely,

**Julia Nichols**

## Legal Notice

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Table of Contents

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1.0    Cementing Job Summary ..... 4

    1.1    Executive Summary .....4

2.0    Real-Time Job Summary ..... 7

    2.1    Job Event Log .....7

3.0    Attachments..... 9

    3.1    Custom Results – Job Chart with Events .....9

## 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 3N** 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 35 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 #: 389404	Ship To #: 3809809	Quote #:	Sales Order #: 0904262341							
Customer: EXTRACTION OIL & GAS -		Customer Rep: Shawn McIntyre								
Well Name: LEONARD	Well #: 3N	API/UWI #: 05-123-45049-00								
Field: WATTENBERG	City (SAP): FIRESTONE	County/Parish: WELD	State: COLORADO							
Legal Description: NW SW-21-2N-67W-1852FSL-494FWL										
Contractor: UNKNOWN		Rig/Platform Name/Num: WORKOVER RIG								
Job BOM: 7521 7521										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199		Srv 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	SWIFTCEM	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 ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	Displacement	Fresh Water	117	bbl	8.33			7	
Cement Left In Pipe		Amount	43 ft		Reason			Shoe Joint	
Mix Water:		pH 6	Mix Water Chloride:0 ppm			Mix Water Temperature:			65 °F
Cement Temperature:## °F °C		Plug Displaced by:## lb/gal kg/m3 XXXX			Disp. Temperature:## °F °C				
Plug Bumped?:Yes		Bump Pressure:488 psi MPa			Floats Held?:Yes				
Cement Returns:## bbl m3		Returns Density:## lb/gal kg/m3			Returns Temperature:## °F °C				
Comment 35 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 (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	8/30/2017	10:30:00	USER				Crew called for an on location of 1600. Crew was Bradley Hinkle, Mitchell Camper, Jim Krichmar and Selaiga Tauilili.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	8/30/2017	15:30:00	USER				Pre-journey safety meeting.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	8/30/2017	16:00:00	USER				Sign in, perform a site assessment and pre-rig-up safety meeting.
Event	4	Other	Job Numbers	8/30/2017	16:15:00	USER				TD: 1557 TP: 1556 FC: 1513. 9.625" 36ft casing inside a 13.5" OH. Mud weight at 8.4 ppg.
Event	5	Safety Meeting - Pre Job	Safety Meeting - Pre Job	8/30/2017	20:15:00	USER	8.39	0.00	25.00	Pre-job safety meeting with all personnel on location. Rig crew did not participate.
Event	6	Start Job	Start Job	8/30/2017	20:27:19	COM4	8.09	1.10	53.00	
Event	7	Test Lines	Test Lines	8/30/2017	20:28:39	COM4	8.38	0.00	65.00	Pressure test lines with a 500 PSI electronic kick-out test.
Event	8	Pump Spacer 1	Pump Spacer 1	8/30/2017	20:32:38	COM4	8.39	0.70	64.00	Pump 10 bbls red dye water.
Event	9	Pump Lead Cement	Pump Lead Cement	8/30/2017	20:40:17	COM4	8.39	0.00	68.00	Pump 170 bbls (550 sacks) SwiftCem mixed at 13.5 ppg. Density verified by pressurized scales.
Event	10	Shutdown	Shutdown	8/30/2017	21:10:19	COM4	12.67	0.00	47.00	

Event	11	Drop Top Plug	Drop Top Plug	8/30/2017	21:11:42	COM4	11.83	0.00	25.00	Top plug preloaded. Customer witnessed.
Event	12	Pump Displacement	Pump Displacement	8/30/2017	21:11:57	COM4	11.83	0.00	26.00	Pump 117 bbls fresh water. Good returns throughout. 35 bbls cement to surface.
Event	13	Bump Plug	Bump Plug	8/30/2017	21:35:24	COM4	8.38	3.00	484.00	Bump plug at 486 PSI and increase to 1500 PSI for a 5 minute casing test.
Event	14	Check Floats	Check Floats	8/30/2017	21:41:06	USER	8.40	0.00	1548.00	Floats held, 1 bbl back.
Event	15	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig- Down	8/30/2017	21:45:00	USER	8.39	0.00	27.00	Pre-rig down safety meeting.
Event	16	Depart Location for Shop	Depart Location for Shop	8/30/2017	22:15:00	USER				Pre-journey safety meeting.



## 3.0 Attachments

### 3.1 Custom Results – Job Chart with Events

