

# HALLIBURTON

iCem<sup>®</sup> Service

## **VERDAD OIL&GAS**

Date: Wednesday, June 13, 2018

## **HELEN 24-4H SURFACE**

Job Date: Tuesday, May 15, 2018

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 **Helen 24-4H** 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 78 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 #: 380688	Ship To #: 3878749	Quote #: 0022442917	Sales Order #: 0904859113
Customer: VERDAD RESOURCES LLC		Customer Rep: Les Fuglevand	
Well Name: HELEN	Well #: 24-4H	API/UWI #: 05-123-46830-00	
Field: WATTENBERG	City (SAP): KEENESBURG	County/Parish: WELD	State: COLORADO
Legal Description: SE SW-24-2N-64W-1243FSL-2072FWL			
Contractor:		Rig/Platform Name/Num: Xtreme 24	
Job BOM: 7521 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Luke Kosakewich	
Job			
Formation Name			
Formation Depth (MD)	Top	Bottom	
Form Type		BHST	
Job depth MD	1767ft	Job Depth TVD	1767
Water Depth		Wk Ht Above Floor	
Perforation Depth (MD)	From	To	
Well Data			
Description	New / Used	Size in	ID in
Casing		9.625	8.921
Open Hole Section			13.5
Tools and Accessories			
Type	Size in	Qty	Make
Guide Shoe			
Float Shoe	9.625		1757
Float Collar	9.625		1715
Insert Float			
Stage Tool			
Fluid Data			
Stage/Plug #: 1			
Fluid #	Stage Type	Fluid Name	Qty
1	Fresh Water Spacer	Red Dye Spacer	10
Fluid #	Stage Type	Fluid Name	Qty
2	Fresh Water Spacer	Fresh Water Spacer	10

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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/min	Total Mix Fluid Gal	
3	SwiftCem B2	SWIFTCEN (TM) SYSTEM	730	sack	13.5	1.76		8	8.83	
8.83 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	
4	Displacement	Displacement	132.6	bbl	8.33			8		
Cement Left In Pipe		Amount	42 ft		Reason			Shoe Joint		
Mix Water:		pH 7	Mix Water Chloride:		0 ppm		Mix Water Temperature:			80 °F
Comment Bumped the plug 500 psi. over 500 psi. at 3 bpm. Finale pressure was 1,200 psi. Held pressure for 3 minutes. Pressure held. Bled off pressure to check floats and the floats held. Got 1 bbl. of fluid back to the truck Circulated 10 bbls. of Red Dye Spacer, 10 bbls. of fresh water spacer, and 78 bbls. of cement to surface.										

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	Comb Pump Rate (bbl/min)	DH Density (ppg)	Comments
Event	1	Call Out	Call Out	5/15/2018	10:00:00	USER				Crew was called out at 10:00 for an on location time of 16:00.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	5/15/2018	13:30:00	USER				Crew held a pre journey safety meeting and JSA.
Event	3	Depart Shop for Location	Depart Shop for Location	5/15/2018	14:00:00	USER				Started journey management with dispatch and left location.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	5/15/2018	15:00:00	USER				Crew performed a site assessment, safety meeting and hazard hunt on location. Checked in with the customer and discussed the job procedures, rig up and well bore schematics to calculate the job. The rig was running casing.
Event	5	Other	Other	5/15/2018	15:10:00	USER				W
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	5/15/2018	15:25:00	USER				The crew held a pre rig up safety meeting and JSA.
Event	7	Rig-Up Equipment	Rig-Up Equipment	5/15/2018	15:30:00	USER				The crew rigged up all lines, hoses and equipment for the job.
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	5/15/2018	18:50:00	USER				All personnel on location held a pre cement job safety meeting and JSA.
Event	9	Start Job	Start Job	5/15/2018	19:25:31	COM5	-83.00	0.00	8.60	Pumped 3 bbls. of fresh water at 3 bpm. to fill lines and establish circulation.
Event	10	Test Lines	Test Lines	5/15/2018	19:31:34	COM5	3367.00	0.00	8.19	Pressure tested lines to 3,500 psi. with a 500 psi. electronic kick out test.
Event	11	Pump Spacer 1	Pump Spacer 1	5/15/2018	19:34:52	COM5	-57.00	0.00	8.13	Pumped 10 bbls. of fresh water W/ red dye.
Event	12	Pump Spacer 2	Pump Spacer 2	5/15/2018	19:38:43	COM5	27.00	3.00	7.83	Pumped 10 bbls. of fresh water.
Event	13	Pump Lead Cement	Pump Lead Cement	5/15/2018	19:45:08	COM5	108.00	4.70	13.28	Pumped 229 bbls. (730 sks.) of Swiftcem mixed at 13.5 ppg., Yield: 1.76 ft <sup>3</sup> /sks, 8.83 gal/sks. Density was verified by pressurized scales.
Event	14	Check Weight	Check weight	5/15/2018	20:03:24	COM5	186.00	7.00	13.48	Cement weighed up at 13.5 ppg. Density was verified by

pressurized scales.

Event	15	Shutdown	Shutdown	5/15/2018	20:22:58	COM5	18.00	0.90	13.65	Washed up on top of the plug.
Event	16	Drop Top Plug	Drop Top Plug	5/15/2018	20:26:45	COM5	-51.00	0.00	15.27	Dropped the top plug which was verified by the customer.
Event	17	Pump Displacement	Pump Displacement	5/15/2018	20:27:48	COM5	-50.00	0.00	15.29	Pumped 132.5 bbls. of fresh water for displacement.
Event	18	Bump Plug	Bump Plug	5/15/2018	20:52:44	COM5	1163.00	0.00	8.12	Bumped the plug 500 psi. over 500 psi. at 3 bpm. Finale pressure was 1,200 psi. Held pressure for 3 minutes. Pressure held. Circulated 10 bbls. of red dye spacer, 10 bbls. of fresh water spacer, and 78 bbls. of cement to surface.
Event	19	Check Floats	Check Floats	5/15/2018	20:55:57	USER	1170.00	0.00	8.14	Bled off pressure to check floats. Floats held. Got 1 bbl. of fluid back to the truck.
Event	20	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	5/15/2018	21:00:00	USER	-32.00	0.00	8.13	Halliburton cement crew held a pre rig down safety meeting and JSA.
Event	21	Rig-Down Equipment	Rig-Down Equipment	5/15/2018	21:15:00	USER	-30.00	0.00	8.19	Rigged down all lines, hoses and equipment.
Event	22	Depart Location Safety Meeting	Depart Location Safety Meeting	5/15/2018	23:00:00	USER				Held a pre journey safety meeting with the crew.
Event	23	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	5/15/2018	23:15:00	USER				Started journey management with dispatch and left location.



3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

