

HALLIBURTON

iCem[®] Service

Verdad Resources

Date: Friday, May 25, 2018

Helen 24-3H Production

Job Date: Wednesday, May 23, 2018

Sincerely,
Tyler Hill

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Helen 24- 3H cement Production** 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 22 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 Ft. Lupton

The Road to Excellence Starts with Safety

Sold To #: 380688	Ship To #: 3878749	Quote #: 0022443006	Sales Order #: 0904868360
Customer: VERDAD RESOURCES LLC		Customer Rep: Les Fuglevand	
Well Name: HELEN		Well #: 24-3H	API/UWI #: 05-123-46822-00
Field: WATTENBERG	City (SAP): KEENESBURG	County/Parish: WELD	State: COLORADO
Legal Description: SE SW-24-2N-64W-1243FSL-2072FWL			
Contractor: XTREME DRLG		Rig/Platform Name/Num: XTREME 24	
Job BOM: 7523 7523			
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	16883ft	Job Depth TVD	6880ft
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
Casing		9.625	8.921	36	LTC	J-55	0	1761	0	1761
Casing		5.5	4.778	20	TXP-BTC	P-110	0	16873	0	6880
Open Hole Section			8.5				1761	16883	1761	6880

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Sub Wet Shoe	5.5	1		16873	Top Plug	5.5	1	Weatherford
Float Shoe	5.5				Bottom Plug	5.5	1	Weatherford
Float Collar	5.5	1		16849	SSR plug set			
Insert Float	5.5				Plug Container	5.5	1	HES
Stage Tool	5.5				Centralizers			

Fluid Data

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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.79		4		

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	ElastiCem	ELASTICEM (TM) SYSTEM	1030	sack	13.2	1.57		6	7.55	
3	NeoCem	NeoCem TM	1230	sack	13.2	2.04		8	9.75	
9.75 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 Fluid	Displacement Fluid W/ MMCR in first 10 bbls.	372.4	bbl	8.4			9		
Cement Left In Pipe		Amount	0 ft		Reason			Wet Shoe		
Mix Water:		pH 7	Mix Water Chloride:		0 ppm		Mix Water Temperature:			64 °F °C
Comment There were full returns throughout the job. Bumped the plug 500 psi. over 2,400 psi. at 3 bpm. Pressured up to 3,000 psi. for 5 minutes. Circulated 40 bbls. of Tuned Spacer and 22 bbls. of cement to surface. Pressured up to 5,200 psi. to shift the sleeve. Pumped 5 bbls. for a wet shoe. Floats held. Got 2.5 bbls. of fluid back to the truck. . Estimated TOT 6,213'.										

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press <i>(psi)</i>	Comb Pump Rate <i>(bbl/min)</i>	DH Density <i>(ppg)</i>	Comments
Event	1	Call Out	Call Out	5/22/2018	22:30:00	USER				Crew was called out at 22:30 for an on location time of 04:00.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	5/23/2018	02:00:00	USER				Crew held a pre journey safety meeting and JSA.
Event	3	Depart Shop for Location	Depart Shop for Location	5/23/2018	02:30:00	USER				Started journey management with dispatch and left location.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	5/23/2018	03:00:00	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	5/23/2018	03:10:00	USER				
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	5/23/2018	03:15:00	USER				The crew held a pre rig up safety meeting and JSA.
Event	7	Rig-Up Equipment	Rig-Up Equipment	5/23/2018	03:20:00	USER				The crew rigged up all lines, hoses and equipment for the job.
Event	8	Safety Meeting	Safety Meeting	5/23/2018	05:00:00	USER				All personnel on location held a pre cement job safety meeting and JSA.
Event	9	Start Job	Start Job	5/23/2018	08:21:01	COM5	-3.00	0.00	0.43	Pumped 3 bbls. of fresh water at 3 bpm. to fill lines and establish circulation.

Event	10	Test Lines	Test Lines	5/23/2018	08:25:38	COM5	44.00	0.00	8.48	Pressure tested lines to 6,500 psi. with a 500 psi. electronic kick out test.
Event	11	Pump Spacer 1	Pump Spacer 1	5/23/2018	08:34:19	COM5	1.00	0.00	8.46	Pumped 40 bbls. of Tuned Spacer III with surfactants mixed at 11.5 ppg., Yield: 3.79 ft3/sks, 23.3 gal/sks. Density was verified by pressurized scales.
Event	12	Drop Bottom Plug	Drop Bottom Plug	5/23/2018	08:55:38	USER	1.00	0.00	11.44	Dropped the bottom plug which was witnessed by the customer.
Event	13	Pump Lead Cement	Pump Lead Cement	5/23/2018	08:57:14	COM5	2.00	0.00	11.44	Pumped 288 bbls. (1,030 sks.) of Elasticem mixed at 13.2 ppg., Yield: 1.57 ft3/sks, 7.55 gal/sks. Density was verified by pressurized scales.
Event	14	Pump Tail Cement	Pump Tail Cement	5/23/2018	09:48:12	COM5	422.00	7.90	12.97	Pumped 447 bbls. (1230 sks.) of Neocem mixed at 13.2 ppg. Yield: 2.04 ft3/sks, 9.75 gal/sks. Density was verified by pressurized scales.
Event	15	Shutdown	Shutdown	5/23/2018	11:13:29	COM5	-5.00	0.00	13.86	Shutdown at the end of pumping cement.
Event	16	Clean Lines	Clean Lines	5/23/2018	11:13:58	USER	29.00	2.40	12.32	Washed pumps and lines until clean.
Event	17	Drop Top Plug	Drop Top Plug	5/23/2018	11:19:54	COM5	6.00	0.00	8.10	Dropped the top plug, which was witnessed by the customer.
Event	18	Pump Displacement	Pump Displacement	5/23/2018	11:20:34	COM5	-15.00	0.00	8.26	Pumped 372.4 bbls. of fresh water with MMCR in the first 10 bbls. for displacement.
Event	19	Bump Plug	Bump Plug	5/23/2018	12:29:02	USER	2828.00	0.00	8.32	Bumped the plug 500 psi.

										over 2,400 psi. at 3 bpm.
Event	20	Other	Other	5/23/2018	12:35:42	COM5	1823.00	4.90	8.31	Pressured up the well to 5,200 psi. to shift the sleeve. Pumped 5 bbls. of fresh water for a wet shoe.
Event	21	End Job	End Job	5/23/2018	12:38:29	COM5				Circulated 40 bbls. of Tuned III spacer, and 22 bbls. of cement to surface. Estimated TOT is 6,213'.
Event	22	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	5/23/2018	15:00:00	USER				Halliburton cement crew held a pre rig down safety meeting and JSA.
Event	23	Rig-Down Equipment	Rig-Down Equipment	5/23/2018	15:10:00	USER				Rigged down all lines, hoses and equipment.
Event	24	Depart Location Safety Meeting	Depart Location Safety Meeting	5/23/2018	15:20:00	USER				Held a pre journey safety meeting with the crew.
Event	25	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	5/23/2018	15:30:00	USER				Started journey management with dispatch and left location.

3.0 Attachments

3.1 Helen 24-3H Production.png

