

HALLIBURTON

iCem[®] Service

VERDAD OIL & GAS

Date: Tuesday, November 07, 2017

Warner 01N-64W-17-1H Production

Job Date: Friday, September 15, 2017

Sincerely,

JULIA NICHOLS

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **WARNER 01N-64W-17-1H** 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 70 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 #: 3817687		Quote #:		Sales Order #: 0904291887				
Customer: VERDAD RESOURCES LLC				Customer Rep: Mike Magness						
Well Name: WARNER			Well #: 1N-64W-17-1H			API/UWI #: 05-123-45162-00				
Field: WATTENBERG		City (SAP): HUDSON		County/Parish: WELD		State: COLORADO				
Legal Description: SE SW-17-1N-64W-210FSL-2341FWL										
Contractor: XTREME DRLG				Rig/Platform Name/Num: XTREME 20						
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			17436ft		Job Depth TVD		7,158			
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	1719		1719
Casing	0	5.5	4.778	20	TXP-BTC	P-110	0	17409		7158
Open Hole Section			8.5				1715	17436	1715	7158
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe						Top Plug	5.5	1	Weatherford	
Float Shoe	5.5			17409		Bottom Plug	5.5	1	Weatherford	
Float Collar	5.5			17327		SSR plug set				
Insert Float						Plug Container	5.5	1	HES	
Stage Tool						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		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	ElastiCem	ELASTICEM (TM) SYSTEM		1070	sack	13.2	1.57		6	7.55

last updated on 11/7/2017 3:22:42 PM

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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	NeoCem	NeoCem TM	904	sack	13.2	2.04		7	9.75
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
4	NeoCem Xtra Retarder	NeoCem TM	361	sack	13.2	2.04		4	9.74
9.74 Gal			FRESH WATER						
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
5	Displacement Fluid	Fresh water with MMCR in the first 10 bbls and Biocide throughout the rest.	258	bbl	8.4			5	
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
6	Displacement Fluid	OBM	124	bbl	9			5	
Cement Left In Pipe			Amount	Reason		Wet Shoe			
			0 ft						
<p>Comment Full returns throughout the job. Got 70 bbls of Cement to surface. Estimated top of tail is at 4,784.7'. Had to finish displacement with 129 bbls. of OBM due to the loss of water. Pumped a 5 bbl. wet shoe. Floats held. Got 2 bbls. of fluid back to the truck.</p>									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	DH Density (ppg)	Comments
Event	1	Call Out	Call Out	9/14/2017	17:00:00	USER				Crew was called out at 17:00 for an on location time of 22:00.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	9/14/2017	21:10:00	USER				Held a pre journey safety meeting and JSA with the crew.
Event	3	Depart Shop for Location	Depart Shop for Location	9/14/2017	21:15:00	USER				Started journey management with dispatch and left the yard.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	9/14/2017	22:00:00	USER				Performed a site assessment and hazard hunt before pulling onto location. Checked in with the customer and discussed job procedures and rig up. Performed pre job checks including verifying all cement and water was needed for the job.
Event	5	Other	Other	9/14/2017	22:15:00	USER				MD: 17,436', TP: 5.5" 20# CSG set at 17,409', FC: 17,273', TVD: 7,158', OH: 8.5", SC: 9.625" 36# CSG set at 1,719',. Mud 9.9#, Water test: PH:7.4 Chlorides: 0, Temp: 74 degrees.
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	9/14/2017	22:30:00	USER				Held a pre rig up safety meeting and JSA.
Event	7	Rig-Up Equipment	Rig-Up Equipment	9/14/2017	23:00:00	USER				Rigged up all lines, equipment and iron needed for the job.
Event	8	Safety Meeting	Safety Meeting	9/15/2017	03:30:00	USER				Held a safety meeting with all personnel on location.
Event	9	Start Job	Start Job	9/15/2017	05:33:42	COM4	0.00	83.00	8.35	Pumped 3 bbls of fresh water to fill lines.
Event	10	Test Lines	Test Lines	9/15/2017	05:42:06	COM4	0.00	5500.00	8.59	Pressure tested lines to 5,400 psi with a 500 psi. electronic kick out test.
Event	11	Pump Spacer 1	Pump Spacer 1	9/15/2017	05:46:46	COM4	4.00	361.00	11.93	Pumped 40 bbls. of Tuned Spacer III 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	9/15/2017	05:58:49	USER	0.00	84.00	15.96	Dropped the bottom plug witnessed by the company man.

Event	13	Pump Lead Cement	Pump Lead Cement	9/15/2017	06:03:31	COM4	2.30	152.00	13.10	Pumped 299 bbls. (1070 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	9/15/2017	06:53:44	COM4	8.00	648.00	13.10	Pumped 460 bbls. (1265 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	9/15/2017	08:42:19	COM4	0.00	96.00	8.12	Rig blew back the iron to the wash up tank until clean.
Event	16	Clean Lines	Clean Lines	9/15/2017	08:42:26	COM4	0.00	96.00	8.12	Washed pumps and lines until clean.
Event	17	Drop Top Plug	Drop Top Plug	9/15/2017	08:42:53	COM4	0.00	95.00	8.18	Dropped the top plug witnessed by the company man.
Event	18	Pump Displacement	Pump Displacement	9/15/2017	08:42:59	COM4	0.00	95.00	8.17	Pumped 258 bbls. of fresh water with MMCR. in first 10 bbls. and biocide throughout the rest of fresh water displacement.
Event	19	Shutdown	Shutdown	9/15/2017	09:01:19	USER	0.40	1954.00	8.16	Lost prime on 4*4 centrifugal pump due to the water tanks starting to run dry.
Event	20	Shutdown	Shutdown	9/15/2017	09:32:57	USER	0.00	2151.00	8.16	Shutdown to rig up and switch to OBM for the rest of displacement due to no more available water.
Event	21	Resume	Resume	9/15/2017	09:41:54	USER	0.00	2330.00	8.16	Resumed displacement and pumped 124 bbls. of OBM 9 ppg.
Event	22	Shutdown	Shutdown	9/15/2017	09:51:20	USER	0.00	2080.00	9.51	The rig had to rig up to the four sided tanks to catch returns.
Event	23	Shutdown	Shutdown	9/15/2017	10:21:15	USER	0.00	1640.00	9.92	The rig had to switch to another four sided tank.
Event	24	Bump Plug	Bump Plug	9/15/2017	10:33:47	COM4	0.00	2778.00	9.93	Bumped the plug 600 psi. over 2,150 psi. at 4 bpm. Finle pressure was 2,750 psi. Held for
Event	25	Other	Other	9/15/2017	10:34:15	COM4	0.00	2794.00	9.93	Pressured up the well to 4,050 psi. to burst the plug. Pumped 5 bbls. of OBM for a wet shoe.
Event	26	Other	Other	9/15/2017	10:43:53	COM4	0.00	108.00	9.80	Bled off pressure to check floats. Floats held. Got 2 bbls. back to the truck.
Event	27	Other	Other	9/15/2017	10:44:00	USER	0.00	109.00	9.80	Got 70 bbls of cement back to surface. Estimated top of tail is at 4,785'.
Event	28	End Job	End Job	9/15/2017	10:45:00	COM4	0.00	121.00	9.80	Washed pumps and lines until clean. Blew down all lines until dry.
Event	29	Pre-Rig Down Safety	Pre-Rig Down Safety	9/15/2017	11:00:00	USER	0.00	106.00	9.80	Held a pre rig down safety meeting and JSA.

		Meeting	Meeting							
Event	30	Rig-Down Equipment	Rig-Down Equipment	9/15/2017	11:10:00	USER	18.30	121.00	2.06	Rigged down all lines, hoses and equipment.
Event	31	Depart Location Safety Meeting	Depart Location Safety Meeting	9/15/2017	12:40:00	USER				Held a pre journey safety meeting and JSA.
Event	32	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	9/15/2017	12:50:00	USER				Crew 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

