

# HALLIBURTON

iCem<sup>®</sup> Service

**VERDAD OIL & GAS CORP**

Date: Wednesday, October 18, 2017

**Warner 1N-64W-17-2H PRODUCTION**

Job Date: Thursday, September 21, 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 **WARNER 1N-64W-17-2H** 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 50 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]**

*The Road to Excellence Starts with Safety*

Sold To #: 380688		Ship To #: 3817687		Quote #:		Sales Order #: 0904306949				
Customer: VERDAD RESOURCES LLC				Customer Rep: Mike Magness						
Well Name: WARNER		Well #: 1N-64W-17-24		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: Nicholas Roles						
<b>Job</b>										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		17303ft		Job Depth TVD						
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		9.625	8.921	36	LTC	J-55	0	1744		1744
Casing	0	5.5	4.778	20	TXP-BTC	P-110	0	17303		7097
Open Hole Section			8.5				1744	17326	1744	7097
<b>Tools and Accessories</b>										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5					Top Plug	5.5		HES	
Float Shoe	5.5			17303		Bottom Plug	5.5		HES	
Float Collar	5.5					SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5	1	HES	
Stage Tool	5.5					Centralizers	5.5		HES	
<b>Fluid Data</b>										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /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		
0.70 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								
0.70 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
36.09 gal/bbl		FRESH WATER								
147.42 lbm/bbl		BARITE, BULK (100003681)								
0.25 gal/bbl		D-AIR 3000L, 5 GAL PAIL (101007444)								

last updated on 10/10/2017 3:26:27 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/min	Total Mix Fluid Gal
2	ElastiCem	ELASTICEM (TM) SYSTEM	1045	sack	13.2	1.57		7	7.55
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	NeoCem	NeoCem TM	1265	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	381	bbl	8.4			8	
Cement Left In Pipe		Amount	0 ft		Reason			Wet Shoe	
Comment Got 50bbbs cement to surface. Estimated TOT-5562'									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

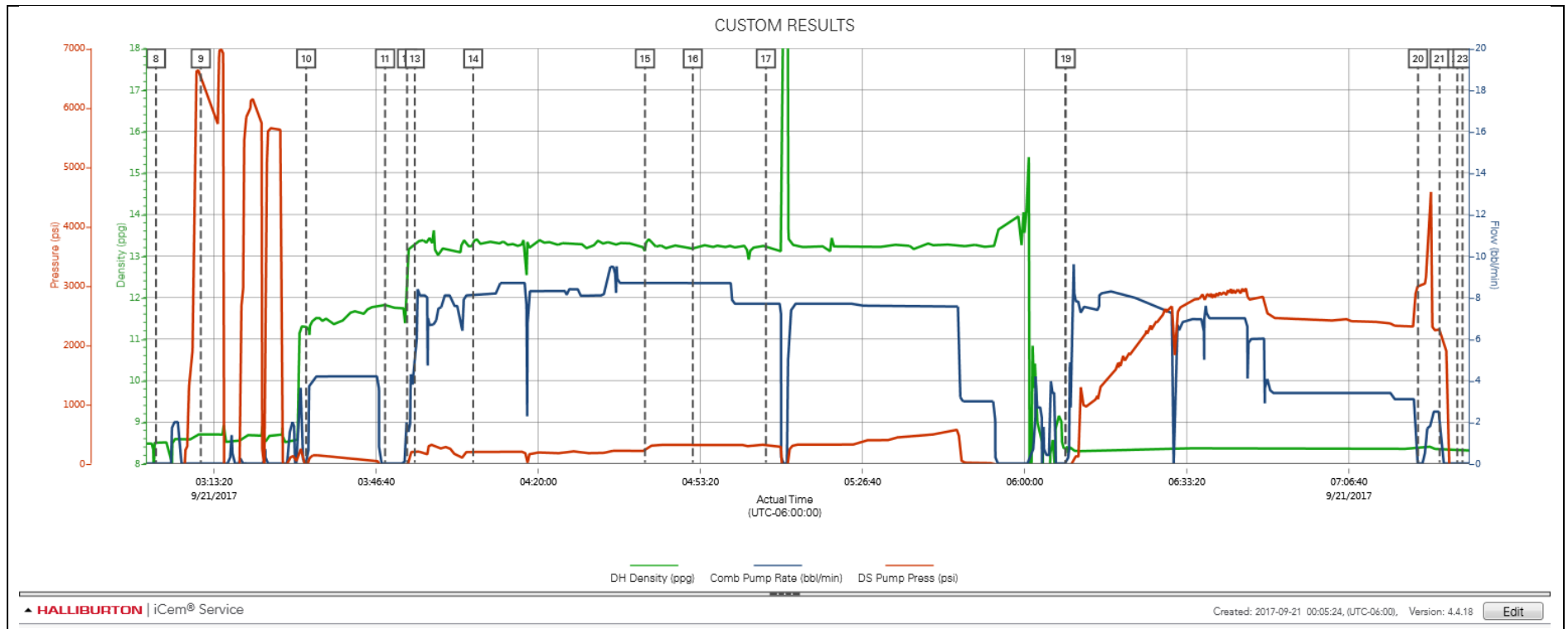
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	9/20/2017	19:00:00	USER				Called out by Service Coordinator for O/L at 2300
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	9/20/2017	21:45:00	USER				Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	9/20/2017	22:00:00	USER				Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	9/20/2017	23:00:00	USER				Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment.
Event	5	Other	Other	9/21/2017	00:00:00	USER				Water test- PH-6, Chlor-0, Temp-60. Cement temp-70.
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	9/21/2017	00:30:00	USER				Discussed rigging up hazards and procedure according to HMS.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	9/21/2017	02:00:00	USER				Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.
Event	8	Start Job	Start Job	9/21/2017	03:01:22	COM4	8.52	0.00	-274.00	TD-17326', TP-17303' 5.5" 20#, WS Sub-17163', TVD-7097', OH-8.5", SURF-1744' 9.625" 36#, MUD-9.9#
Event	9	Test Lines	Test Lines	9/21/2017	03:10:35	COM4	8.70	0.00	6522.00	Pumped 5bbls fresh water to fill lines, closed manifold and performed 500psi k/o function test, proceeded to perform 5th gear stall at 1955psi, continued to bring pressure up to 6000psi. Pressure stabilized and held with no leaks
Event	10	Pump Spacer 1	Pump Spacer 1	9/21/2017	03:32:15	COM4	11.29	0.00	-22.00	Pumped 40bbls 11.5# 3.79y 23.3g/s Tuned Spacer III with 30g Musol A, 30g Dual Spacer B and 10g D-air at 4bpm 203psi.
Event	11	Drop Bottom Plug	Drop Bottom Plug	9/21/2017	03:48:28	COM4	11.82	0.00	-81.00	Dropped by HES supervisor, witnessed by company man.
Event	12	Pump Lead Cement	Pump Lead Cement	9/21/2017	03:53:01	COM4	12.89	1.60	-23.00	Pumped 381bbls fresh water with 5g MMCR in first 20bbls, 20g biocide throughout at 7bpm. Driver side was not

pumping at the rate it said it was. Going off of mix water, guess was around 7bpm. Volumes measured correct going off of mix water. Barrel counter is about 100bbls off.

Event	13	Check Weight	Check weight	9/21/2017	03:54:35	COM4	13.24	5.20	204.00	Weight verified with pressurized mud scales.
Event	14	Check Weight	Check weight	9/21/2017	04:06:36	COM4	13.35	8.10	202.00	Weight verified with pressurized mud scales.
Event	15	Pump Tail Cement	Pump Tail Cement	9/21/2017	04:41:54	COM4	13.06	8.70	208.00	Pumped 1265sks or 459bbls 13.2# 2.04y 9.75g/s Neocem at 8bpm 340psi.
Event	16	Check Weight	Check weight	9/21/2017	04:51:45	COM4	13.15	8.70	302.00	Weight verified with pressurized mud scales.
Event	17	Check Weight	Check weight	9/21/2017	05:06:47	COM4	13.20	7.70	311.00	Weight verified with pressurized mud scales.
Event	18	Drop Top Plug	Drop Top Plug	9/21/2017	06:08:19	COM4	8.35	0.00	-71.00	Dropped by HES supervisor, witnessed by company man.
Event	19	Pump Displacement	Pump Displacement	9/21/2017	06:08:25	COM4	8.34	0.00	-70.00	Pumped 381bbls fresh water with 5g MMCR in first 20bbls, 20g biocide throughout at 8bpm.
Event	20	Bump Plug	Bump Plug	9/21/2017	07:20:52	COM4	8.38	0.00	2998.00	Slowed down to 3bpm at 360bbls away, final circulating pressure-2380psi, Bump Pressure-2980psi.
Event	21	Check Floats	Check Floats	9/21/2017	07:25:17	USER	8.35	2.50	2266.00	Released pressure and got 3bbls back to pump. Floats held.
Event	22	End Job	End Job	9/21/2017	07:28:56	COM4				Got 50bbls cement to surface. Estimated TOT-5562'
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	9/21/2017	07:30:00	USER	8.32	0.00	-85.00	Discussed rigging down hazards and procedure according to HMS.
Event	24	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	9/21/2017	08:45:00	USER				Pre journey management prior to departure.
Event	25	Depart Location Safety Meeting	Depart Location Safety Meeting	9/21/2017	09:00:00	USER				Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.

## 3.0 Attachments

### 3.1 CUSTOM RESULTS – JOB CHART WITH EVENTS



3.2 CUSTOM RESULTS – JOB CHART WITHOUT EVENTS

