

HALLIBURTON

iCem[®] Service

VERDAD OIL & GAS CORP

For: Joe Madson

Date: Tuesday, May 30, 2017

Case 1

Job Date: Tuesday, May 30, 2017

Sincerely,

Brad Hinkle and Crew

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1.0 Job Design

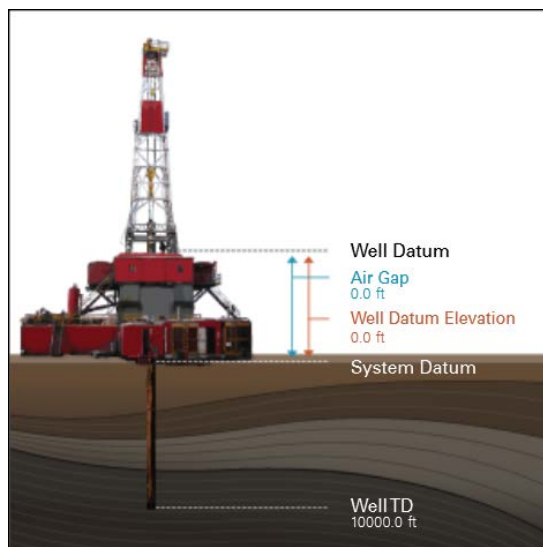
1.1 Overview

Job Type	Primary Cement Job
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Injection Path	Casing/Conventional
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Foam Job	No
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Well Snapshot



Simulations Performed

1.2 Pressure Schedule Inputs

Pressure Mode	Conventional
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1.3 Pressure Schedule Table

Start (Pump Volume in bbl)	End (Pump Volume in bbl)	Pressure (psi)
0.00	End	0.00

1.4 Time of Stages

Graph Label	Time (min)	Stage Starts Pumping	Stage Enters Annulus
①	0.0	Call Out	
②	0.0	Depart Yard Safety Meeting	
③	0.0	Arrive at Location from Service Center	
④	0.0	Safety Meeting - Pre Job	

⑤	0.0	Start Job
⑥	0.0	Test Lines
⑦	0.0	Pump Spacer 1
⑧	0.0	Pump Spacer 2
⑨	0.0	Pump Cement
⑩	0.0	Check Weight
⑪	0.0	Check Weight
⑫	0.0	Shutdown
⑬	0.0	Drop Top Plug
⑭	0.0	Pump Displacement
⑮	0.0	Bump Plug
⑯	0.0	End Job
⑰	0.0	Check Floats
⑱	0.0	Drop Bottom Plug
⑲	0.0	Pre-Rig Down Safety Meeting
20	0.0	Depart Location for Service Center or Other Site

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	5/30/2017	09:00:00	USER				Crew called for an on location of 0600. Crew was Bradley Hinkle, Todd Porter, Spencer Torrey, Edgar Diaz and Grant Amsberry.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	5/30/2017	12:00:00	USER				Pre-journey safety meeting.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	5/30/2017	12:15:00	USER				Sign in, perform a site assessment and pre rig-up safety meeting.
Event	4	Safety Meeting - Pre Job	Safety Meeting - Pre Job	5/30/2017	14:30:00	USER	8.57	0.00	9.00	Pre-job safety meeting with all personnel on location.
Event	5	Drop Bottom Plug	Drop Bottom Plug	5/30/2017	15:50:00	USER	8.56	0.00	-3.00	Bottom plug loaded into casing and witnessed by customer.
Event	6	Start Job	Start Job	5/30/2017	15:51:27	COM4	8.56	0.00	-3.00	
Event	7	Test Lines	Test Lines	5/30/2017	15:53:52	COM4	8.37	0.00	58.00	Pressure test lines with a 500 PSI electronic kick-out test.
Event	8	Pump Spacer 1	Pump Spacer 1	5/30/2017	15:57:27	COM4	8.44	0.00	17.00	Pump 10 bbls red dye water.
Event	9	Pump Spacer 2	Pump Spacer 2	5/30/2017	16:02:50	COM4	8.36	2.00	111.00	Pump 10 bbls fresh water.
Event	10	Pump Cement	Pump Cement	5/30/2017	16:09:01	COM4	8.43	0.00	20.00	Pump 245 bbls (780 sacks) SwiftCem mixed at 13.5 ppg. Density verified by pressurized scales. Mix water flow meter stopped

										working upon mixing up cement. Mixed job by hand with numerous scales taken to verify density.
Event	11	Check Weight	Check Weight	5/30/2017	16:28:39	COM4				Cement weighed at 13.4 ppg.
Event	12	Check Weight	Check Weight	5/30/2017	16:38:52	COM4	13.59	4.50	75.00	Cement weighed at 13.6 ppg.
Event	13	Shutdown	Shutdown	5/30/2017	17:10:37	COM4	20.59	0.00	5.00	
Event	14	Drop Top Plug	Drop Top Plug	5/30/2017	17:12:08	COM4	21.45	0.00	-2.00	Top plug preloaded and witnessed by customer.
Event	15	Pump Displacement	Pump Displacement	5/30/2017	17:12:22	COM4	20.87	0.70	-2.00	Pump 131 bbls fresh water. Good returns throughout. 30 bbls cement to surface.
Event	16	Bump Plug	Bump Plug	5/30/2017	17:54:26	COM4				Bump plug at 630 PSI and increase to 1130 PSI. Held for 5 minutes.
Event	17	Check Floats	Check Floats	5/30/2017	17:58:58	USER	8.43	0.00	1155.00	Floats held. 1 bbl back.
Event	18	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	5/30/2017	18:00:00	USER	8.40	0.00	-6.00	Pre-rig down safety meeting.
Event	19	End Job	End Job	5/30/2017	18:01:28	COM4				
Event	20	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	5/30/2017	19:00:00	USER				Pre-journey safety meeting.

3.0 Attachments

3.1 Verdad Homestead #17 Surface.png



4.0 Custom Graphs

4.1 Custom Graph

