

HALLIBURTON

iCem[®] Service

VERDAD OIL & GAS

For: Joe Madsen

Date: Thursday, August 03, 2017

20

Case 1

Job Date: Thursday, August 03, 2017

Sincerely,

Bryce Muir

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Table of Contents

Real-Time Job Summary 4

 Job Event Log.....4

Custom Graphs..... 11

 Custom Graph.....11

1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Driv-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Water Stg Tot (gal)	Comments
Event	1	Call Out	Call Out	8/3/2017	00:00:00	USER					CREW CALLED OUT TO PERFORM CEMENT JOB.
Event	2	Other	Other	8/3/2017	01:00:00	USER					LOCATED AND VERIFY ALL EQUIPMENT AND MATERIALS NEEDED TO COMPLETE THE JOB. CHECK BULK EQUIPMENT AND LOCATION OF CEMENT IN EACH PODS.
Event	3	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/3/2017	03:45:00	USER					DISCUSS HAZARDS ASSOCIATED WITH DRIVING TRUCKS TO LOCATION. DISCUSSED CONVOY ORDER AND SAFEST ROUTE OF TRAVEL.
Event	4	Depart from Service Center or Other Site	Depart from Service Center or Other Site	8/3/2017	04:00:00	USER					
Event	5	Arrive at Location from Service Center	Arrive at Location from Service Center	8/3/2017	04:15:00	USER					
Event	6	Other	Other	8/3/2017	04:30:00	USER					RIG CREW STILL RUNNING CASING WITH CASING CREW.
Event	7	Other	Other	8/3/2017	06:15:00	USER					RIG ON BOTTOM WITH CASING. RIG DOWN CASING CREW AND CTR TOOL.
Event	8	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/3/2017	06:30:00	USER					DISCUSS HAZARDS ASSOCIATED WITH RIGGING UP AND PACKING IRON ON

											LOCATION. DISCUSS PINCH POINTS, LINE OF FIRES, AND PROPER LIFTING TECHNIQUES
Event	9	Rig-Up Equipment	Rig-Up Equipment	8/3/2017	06:45:00	USER					RIG UP PUMPING EQUIPMENT. RIG UP PLUG CONTAINER SO THAT THE RIG CAN CIRCULATE THROUGH OUR IRON. RIG CIRCULATING WELL AT 9 BPM AT 746 PSI.
Event	10	Pre-Job Safety Meeting	Pre-Job Safety Meeting	8/3/2017	08:30:00	USER	-16.70	8.34	0.00	1223	DISCUSS HSE SAFETY AND JOB PROCEDURES WITH THE RIG CREW AND COMPANY MAN. DISCUSS MUSTER AREAS, HOSPITALS, AND FIRE EXTINGUISHER LOCATIONS. DISCUSS STOP WORK AUTHORITY AND WHO HAS THE RIGHT TO SHUT A JOB DOWN.
Event	11	Rig-Up Equipment	Rig-Up Equipment	8/3/2017	09:00:00	USER	-15.70	8.34	0.00	1223	RIG UP PUMPING LINES ON THE RIG FLOOR. GET READY TO CEMENT.
Event	12	Start Job	Start Job	8/3/2017	09:05:05	COM6	-15.70	8.34	0.00	1223	
Event	13	Other	Other	8/3/2017	09:13:00	USER	-15.70	8.34	0.90	1345	PUMP 3 BBLS FRESH WATER TO FILL PUMPS AND LINES.
Event	14	Test Lines	Test Lines	8/3/2017	09:16:33	COM6	6641.30	8.50	0.00	1468	CONDUCT A LOW PRESSURE TEST TO 500 PSI TO TEST RCM KICKOUTS. KICKOUTS FUNCTIONING PROPERLY. INCREASED PRESSURE TO OUR HIGH PRESSURE TEST TO 6500 PSI. HELD FOR A FEW MINUTES TO MONITOR PRESSURE LOSS.

Event	15	Pump Spacer 1	Pump Spacer 1	8/3/2017	09:19:31	COM6	0.30	8.32	0.00	0	PUMP 40 BBLS OF TUNED SPACER. SPACER PUMPED AT 11.5 #/GAL 3.79 CUFT/SK 23.3 GAL/SK. PUMPED AT 2 BPM AT 100 PSI. ADDITIVES WERE ADDED ON THE FLY WHILE WE PUMPED. TUNED SPACER WEIGHT VERIFIED BY PRESSURIZED MUD BALANCE.
Event	16	Drop Plug	Drop Plug	8/3/2017	09:32:44	COM6	56.30	11.44	2.20	816	DROP 5.5" BOTTOM PLUG ON THE FLY. LAST 2 BBLS OF TUNED SPACER WE DROPPED THE BOTTOM PLUG. PLUG DROPPED BY BRYCE MUIR AND WITNESSED BY THE COMPANY MAN.
Event	17	Pump Lead Cement	Pump Lead Cement	8/3/2017	09:35:42	COM6	103.30	13.04	2.60	1012	PUMPED 312 BBLS OF LEAD CEMENT. 1115 SACKS AT 13.2 #/GAL 1.57 CUFT/SK 7.55 GAL/SK. PUMPED LEAD CEMENT AT 6 BPM AT 290 PSI. WE HAD GREAT CIRCULATION.
Event	18	Check Weight	Check weight	8/3/2017	09:46:41	COM6	333.30	13.14	6.00	1500	WEIGHT VERIFIED BY PRESSURIZED MUD BALANCE.
Event	19	Pump Tail Cement	Pump Tail Cement	8/3/2017	10:29:43	COM6	271.30	13.17	6.00	2	PUMPED 331 BBLS OF TAIL CEMENT. 910 SACKS AT 13.2#/GAL 2.04 CUFT/SK 9.75 GAL/SK. WE PUMPED TAIL CEMENT AT 6 BPM AT 305 PSI. WE HAD GREAT CIRCULATION DURING THIS POINT AND TIME.
Event	20	Check Weight	Check weight	8/3/2017	10:30:16	COM6	297.30	13.05	6.00	101	WEIGHT VERIFIED BY PRESSURIZED MUD BALANCE.

Event	21	Shutdown	Shutdown	8/3/2017	11:25:35	COM6	96.30	11.85	0.00	8576	WASH PUMPS AND LINES TO THE PIT.
Event	22	Drop Top Plug	Drop Top Plug	8/3/2017	11:32:46	COM6	-16.70	8.52	0.00	9278	DROPPED 5.5" TOP PLUG. PLUG DROPPED BY BRYCE MUIR AND WITNESSED BY THE COMPANY MAN.
Event	23	Pump Displacement	Pump Displacement	8/3/2017	11:33:48	COM6	-11.70	8.15	0.00	0	PUMPED 323.6 BBLS OF DISPLACEMENT. FIRST TEN BBLS OF DISPLACEMENT WE ADDED 4 GALS OF MMCR. THE REMAINING BBLS WE ADDED ALDACIDE G TO EACH TANK. WE HAD GREAT CIRCULATION DURING DISPLACEMENT. AROUND 230 BBLS OF DISPLACEMENT PUMPED WE SAW RETURNS SLOW DOWN. AT 240 BBLS OF DISPLACEMENT PUMPED WE LOST RETURNS COMPLETELY. WE SAW TRACES OF SPACER COMING BACK TO SURFACE AROUND 220 BBLS PUMPED. WE SLOWED OUR RATE TO 4 BPM TO SEE IF WE COULD REGAIN CIRCULATION. WE NEVER GOT CIRCULATION TO RETURN.
Event	24	Displ Reached Cmnt	Displ Reached Cmnt	8/3/2017	11:37:08	COM6	1148.30	8.13	7.70	437	PLUG CAUGHT UP WITH CEMENT AROUND 20 BBLS DISPLACEMENT PUMPED.
Event	25	Bump Plug	Bump Plug	8/3/2017	12:37:40	COM6	2143.30	8.39	2.00	13466	WE SLOWED OUR RATE TO 2 BPM TO LAND THE PLUG. WE LANDED THE PLUG AT CALCULATED DISPLACEMENT. BUMPED THE PLUG AT 2097 PSI AND

											PRESSURED UP 500 PSI OVER FINAL CIRCULATING PRESSURE TO 2497 PSI.
Event	26	Other	Other	8/3/2017	12:40:21	COM6	2452.30	8.40	0.00	13711	BEGAN PUMPING BACK INTO THE WELL TO RUPTURE THE WSS DISC TO LEAVE A WET SHOE. WE RUPTURED THE DISC AT 4520 PSI AND PUMPED A 5 BBL WET SHOE.
Event	27	Shutdown	Shutdown	8/3/2017	12:43:42	COM6	2129.30	8.39	0.00	13713	
Event	28	Check Floats	Check Floats	8/3/2017	12:44:00	USER	1973.30	8.39	0.00	13713	FLOATS DIDN'T HOLD.
Event	29	Other	Other	8/3/2017	12:45:00	USER	1930.30	8.39	0.00	13713	WE GOT 2 1/4 BBLS BACK TO THE RCM. THE STREAM DIDN'T SEEM TO STOP OR SLOW DOWN. WE SHUT THE 1 INCH RELEASE VALVE AND STARTED TO PRESSURE UP.
Event	30	Other	Other	8/3/2017	12:52:00	USER	4.30	8.32	0.00	13713	WE PUMPED THE 2 1/4 BBLS BACK INTO THE WELL.
Event	31	Shutdown	Shutdown	8/3/2017	12:52:35	USER	14.30	8.32	0.00	13713	WE HELD PRESSURE FOR THREE MINUTES THIS TIME.
Event	32	Check Floats	Check Floats	8/3/2017	12:56:00	USER	1908.30	8.39	0.00	13713	THIS TIME WE SURGED THE PRESSURE AS WE RELEASED IT. WE OPEDN THE VALVE AND CLOSED IT A FEW TIMES. THIS TIME THE STREAM WHEN WE FINALLY OPENED THE RELEASE SEEMED TO STOP. WE WATCHED IF FOR A FEW MINUTES. AFTER ABOUT 5 MINUTES THE STREAM RETURNED AND GRADUALLY GOT BIGGER. THE STREAM WAS

											CONSTENT WITH NO SIGNES OF STOPPING.
Event	33	Other	Other	8/3/2017	13:03:00	USER	-13.70	8.33	0.00	13713	SHUT THE 1 INCH RELEASE LINE. WE PUMPED THE 2 1/4 BBLS BACK INTO THE WELL.
Event	34	Shutdown	Shutdown	8/3/2017	13:05:00	USER	2.30	8.33	0.90	13713	
Event	35	Shut In Well	Shut In Well	8/3/2017	13:05:25	USER	696.30	8.36	2.40	13713	WE SHUT IN THE WELL WITH 2038 PSI ON THE CASING. WE BEGUN WAITING FOR THE SETUP TIME ON CEMENT. BOTH MYSELF AND THE COMPANY REP MADE THE PROPER PHONE CALLS TO INFORM OUR SUPERVISORS OF WHAT WAS GOING ON. WE LEFT THE PUMP TRUCK TIED INTO THE WELL TO MONITOR WELL PRESSURE AS PER COMPANY MAN REQUEST.
Event	36	Other	Other	8/3/2017	17:30:00	USER					CHECK FLOATS. FLOATS HELD OR CEMENT WAS SET UP ENOUGH TO STOP FLOW BACK TO THE RCM. WE GOT 2 1/4 BBLS BACK.
Event	37	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/3/2017	17:45:00	USER					DISCUSS HAZARDS ASSOCIATED WITH RIGGING DOWN AND PACKING IRON ON LOCATION.
Event	38	Rig-Down Equipment	Rig-Down Equipment	8/3/2017	18:00:00	USER					
Event	39	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/3/2017	19:15:00	USER					DISCUSSED HAZARDS ASSOCIATED WITH DRIVING TRUCKS BACK TO THE SERVICE CENTER. DISCUSSED CONVOY ORDER

AND SAFEST ROUTE OF
TRAVEL. TALKED ABOUT
DRIVER FATIGUE AND
WHAT TO DO IF TOO TIRED
TO DRIVE.

Event	40	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	8/3/2017	19:30:00	USER	JOB WAS SAFELY COMPLETED BY BRYCE MUIR AND CREW. THANK YOU AND STAY SAFE OUT HERE.
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2.0 Custom Graphs

2.1 Custom Graph

