

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

United States of America, COLORADO

For: Terra

Date: Thursday, December 06, 2018

GM 412-8 Surface

API# 05-045-24027

Sincerely,

Grand Junction Cement Engineering

1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	PS Pump Press (psi)	Comments
Event	1	Call Out	12/5/2018	14:30:00						Requested on Location @ 20:30
Event	2	Pre-Convoy Safety Meeting	12/5/2018	16:50:00						
Event	3	Crew Leave Yard	12/5/2018	17:00:00						1 Elite, 1 660, 1 pickup
Event	4	Arrive At Loc	12/5/2018	20:30:00						Rig running casing
Event	5	Assessment Of Location Safety Meeting	12/5/2018	20:40:00						JSA completed - Customer offered/received SDS - water test pH 7.0, CI <500, temp 68 degrees
Event	6	Pre-Rig Up Safety Meeting	12/5/2018	20:50:00						
Event	7	Rig-Up Equipment	12/5/2018	21:00:00						DME iron to ground manifold, standpipe. Water hose upright, bulk hose to silo.
Event	8	Other	12/5/2018	21:10:00						Rig Circulated 1 hrs prior to cement job at 8 bpm @ 300 psi. Mud scales calibrated to drinking water prior to job.
Event	9	Pre-Job Safety Meeting	12/5/2018	23:00:20						All HES personnel, rig crew, and company rep.
Event	10	Start Job	12/5/2018	23:09:41						TD 1038', TP 1043.42', SJ 32.42', OH 17.5", Csg 13 3/8" 54.5 lb/ft J-55, Mud 9.2 ppg.
Event	11	Fill Lines	12/5/2018	23:10:05		8.33	2	75	5	Fresh Water
Event	12	Test Lines	12/5/2018	23:13:10				3040		Held pressure 2 minutes
Event	13	Pump Spacer	12/5/2018	23:16:51		8.33	4	88	15	Fresh Water
Event	14	Check Weight	12/5/2018	23:21:52						Density verified via mud cup
Event	15	Pump Lead Cement	12/5/2018	23:25:41		12.3	7.5	450	74.2	175 sacks, 12.3 ppg, 2.38 yield, 13.77 gal/sk
Event	16	Pump Tail Cement	12/5/2018	23:38:30		12.8	7.5	460	80.8	215 sks, 12.8 ppg, 2.11 Yield, 11.78 gal/sk

Event	17	Shutdown	12/5/2018	23:48:25						Wash up on plug
Event	18	Drop Top Plug	12/5/2018	23:50:08						Co-Rep Verify Plug Launched
Event	19	Pump Displacement	12/5/2018	23:51:19	8.33	8	550	156.2		Fresh Water
Event	20	Slow Rate	12/6/2018	00:13:16	8.33	2	200	146		Slow Rate 10 bbls to Calculated Displacement
Event	21	Bump Plug	12/6/2018	00:16:11			850			Plug Bumped at 200 psi, Brought up to 850 psi
Event	22	Check Floats	12/6/2018	00:17:02						Floats held – 1 bbl back to the truck
Event	23	End Job	12/6/2018	00:18:08						Good returns throughout job. 56 bbl of cement to surface
Event	24	Pre-Rig Down Safety Meeting	12/6/2018	00:41:36						80 lbs of sugar used, no top plug used, 0 add hours.
Event	25	Rig-Down Equipment	12/6/2018	00:43:24						
Event	26	Pre-Convoy Safety Meeting	12/6/2018	00:56:40						
Event	27	Crew Leave Location	12/6/2018	00:58:49						Thanks for using Halliburton Cement, Chris Martinez and crew.

2.0 Attachments

2.1 GM 412-8-Custom Results.png

