



CEMENT TREATMENT REPORT

Customer: Murfin Drilling Co	Well: Rathbun #19-2	Ticket: ICT2703
City, State: Wichita, KS	County: Ellis, KS	Date: 11/2/2019
Field Rep: Craig Hutchison	S-T-R: Sec 19 - T11S - R19W	Service: Cement - Prod Csg

Downhole Information	
Hole Size:	7.875 In
Hole Depth:	3660 ft
Casing Size:	5.5 In
Casing Depth:	3652 ft
Drill Pipe:	In
Depth:	ft
Tool / Packer:	Port Collar
Depth:	1400 ft
Displacement:	86.4 bbls

Calculated Lead Slurry	
Weight:	12.00 # / sx
Water / Sx:	15.46 gal / sx
Yield:	2.56 ft ³ / sx
Bbls / Ft.:	0.0309
Depth:	ft
Annular Volume:	bbls
Excess:	
Total Slurry:	18.2 bbls
Total Sacks:	40 sx

Product	% / #	#
Class A	100.00	8460
Poz		
Gol		
CaCl	3.00	254
Gypsum	2.00	169
Metso	2.00	169
PhenoSeal	0.25	23
Flo Seal		
Salt (bww)		
Total		9,075

Calculated Tail Slurry	
Weight:	14.8 # / sx
Water / Sx:	6.61 gal / sx
Yield:	1.50 ft ³ / sx
Bbls / Ft.:	0.0309
Depth:	ft
Annular Volume:	bbls
Excess:	
Total Slurry:	17.4 bbls
Total Sacks:	65 sx

Product	% / #	#
Class A	100.00	6110
Poz		
Gol	1.00	61
CaCl		
Gypsum	5.00	306
CAF-38	0.25	15
CAL-160	0.60	37
Flo Seal	5.00	325
Salt (bww)	10.00	358
Total		7,212

TIME	RATE	PSI	BBLs	REMARKS
9:30				Call out
13:30				Depart yard
15:30				Arrive on locn. Rig L/D drillpipe
15:35				JSA, discuss moving on, spotting & rig-up of equipment
15:40				Move on, spot & rig-up equipment
16:00				Rig-up complete
17:15				Rig-up casing crew
18:15				Rig RIH w/ 5.5" casing.
19:20				Make-up port collar
19:50				Casing @ setting depth. Rig down csg crew
20:00		200.0		Make-up cement head. Rig circulate & condition hole
21:18	2.5	150.0	5.0	Pump water spacer ahead
21:21		2,500.0		Pressure test
21:24	2.5	150.0	10.0	Pump mudflush spacer
21:28	2.5	150.0	5.0	Pump water spacer ahead
21:33	2.5	15.0	13.0	Plug RIH w/ 30sx cement mixed @ 12.0ppg
21:40			9.0	Plug RIH w/ 20sx cement mixed @ 12.0ppg
21:45	4.5	200.0	18.2	Mix & pump 40sx lead slurry @ 12.0ppg. Y - 2.56cuft/sk; MR - 15.46g/sk.
21:53	5.5	250.0	17.4	Mix & pump 65sx tail slurry @ 14.8ppg. Y - 1.5cuft/sk; MR - 6.61g/sk.



21:57				Shutdown. Wash-up pumps & lines. Release L/D dart																														
22:08	6.0	170.0		Displace w/ H2O																														
22:23	2.0	320.0	75.0	Slow rate																														
22:26		1,250.0	86.5	Bump plug. Final circulating pressure - 450psi																														
22:28				B/O. 1/2bbl bled back, plug latched																														
22:30				End Job. Wash-up pumps & lines																														
22:35				JSA, discuss rigging down & racking up of equipment																														
22:40				Rig down & rack-up																														
22:55				JSA, discuss journey management																														
23:00				Depart loch																														
				Thanks for calling Hurricane Svcs Inc.																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="background-color: black; color: white;">CREW</th> <th style="background-color: black; color: white;">UNIT</th> <th colspan="3" style="background-color: black; color: white;">SUMMARY</th> </tr> </thead> <tbody> <tr> <td style="background-color: black; color: white;">Cementer:</td> <td style="background-color: black; color: white;">Scott Green</td> <td style="background-color: black; color: white;">74</td> <td style="background-color: black; color: white;">Average Rate</td> <td style="background-color: black; color: white;">Average Pressure</td> <td style="background-color: black; color: white;">Total Fluid</td> </tr> <tr> <td style="background-color: black; color: white;">Pump Operator:</td> <td style="background-color: black; color: white;">Josh Mosler</td> <td style="background-color: black; color: white;">230</td> <td style="background-color: black; color: white;">3.5 bpm</td> <td style="background-color: black; color: white;">487 psi</td> <td style="background-color: black; color: white;">239 bbls</td> </tr> <tr> <td style="background-color: black; color: white;">Bulk #1:</td> <td style="background-color: black; color: white;">John Polley</td> <td style="background-color: black; color: white;">194 / 254</td> <td colspan="3"></td> </tr> <tr> <td style="background-color: black; color: white;">Bulk #2:</td> <td></td> <td></td> <td colspan="3"></td> </tr> </tbody> </table>					CREW		UNIT	SUMMARY			Cementer:	Scott Green	74	Average Rate	Average Pressure	Total Fluid	Pump Operator:	Josh Mosler	230	3.5 bpm	487 psi	239 bbls	Bulk #1:	John Polley	194 / 254				Bulk #2:					
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CEMENT TREATMENT REPORT

Customer: Murfin Drilling Co	Well: Rathbun #19-2	Ticket: ICT2727
City, State: Wichita, KS	County: Ellis, KS	Date: 11/6/2019
Field Rep: Mark Robben	S-T-R: Sec 19 - T11S - R19W	Service: Cement - Port Collar

Downhole Information	
Hole Size:	7.875 in
Hole Depth:	3660 ft
Casing Size:	5.5 in
Casing Depth:	3652 ft
Tbg:	2.875 in
Depth:	1393 ft
Tool / Packer:	Port Collar
Depth:	1400 ft
Displacement:	8.1 bbls

Calculated Lead Slurry	
Weight:	12.00 # / sx
Water / Sx:	15.46 gal / sx
Yield:	2.56 ft ³ / sx
Bbls / Ft.:	0.0309
Depth:	1400 ft
Annular Volume:	43.26 bbls
Excess:	
Total Slurry:	91.2 bbls
Total Sacks:	200 sx

Product	% / #	#
Class A	100.00	18800
Poz		
Gel		
CaCl	3.00	564
Gypsum	2.00	378
Metsc	2.00	378
PhenoSeal	0.25	50
Flo Seal		
Salt (bww)		
Total		20,166

TIME	RATE	PSI	BBLs	REMARKS
15:00				Call out - 11/06/19
8:00				Depart yard
11:00				Arrive on locn. JSA, discuss moving on, spotting & rig-up of equipment
11:10				Move on, spot & rig-up equipment
11:35				Rig-up complete
11:40		1,000.0		Pressure up on backside
11:42		200.0		Bleed pressure down & monitor
11:43		0		Open port collar
11:45				Tie into tbg
11:47	2.5	120.0		Start pumping H2O & confirm circulation at plt
11:51			5.0	Stop pumping
11:53	4.2	80.0		Mix & pump 200sx cement @ 12.0ppg. Y - 2.56cuf/sk; MR - 15.46g/sk.
12:10			91.2	Stop pumping, no cement returns
12:16	3.5	330.0		Displace w/ H2O
12:18			7.5	End displacement, trace cement to surface.
12:20				Close port collar
12:23		1,000.0		Pressure up on backside & confirm port collar is closed
12:25				Rig RIH w/ 5jts of tbg
12:30				Tbg @ 1570'. Tie into same
12:35	3.5	120.0		Reverse circulate to plt
12:43			25.0	Shutdown. End Job.
12:45				JSA, discuss rigging down & racking up of equipment
12:50				Rig down & rack-up
13:00				Wash-up pumps & lines & pickle same.
13:25				JSA, discuss journey management
13:30				Depart locn

Cementer:	Scott Green	74	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Josh Mosler	230	#REF! bpm	403 psi	129 bbls
Bulk #1:	John Polley	194 / 254			
Bulk #2:					