



US Treatment Report

Customer: PDC Energy		Job #: JOB00083644	
Rep: Lovel Young		Job Date: Apr 22 @ 00:00	
Supervisor: Vitalijs Neverdasovs	Rig: Precision 462	Time Requested: Apr 22 @ 00:00	
Well: 5 of 12 Lincoln State 41N-17B-M			
Job Type: US Primary	UWI: Lincoln State 41N-17B-M	Time Arrived: Apr 22 @ 21:00	
Casing-Production	Surface: SHL: 1152'FNL, 2451'FWL - Sec 18	Time Released: Apr 23 @ 04:00	

Scavenger

55.29 sk MAG EV 12.9 + 0.80% MCR-3 + 0.50% MCR-1 + 0.70% MCFL-7 + 1.00% MCFW-1 + 0.50% MCGC-1 + 0.20% MCDF-P
Weight: 12lb/gal

Yield: 1.93 ft³/sk = 19bbbls Mix Water: 10.71 gal/sk = 592.08 gal

894.7 sk MAG EV 12.9 + 0.80% MCR-3 + 0.50% MCR-1 + 0.70% MCFL-7 + 1.00% MCFW-1 + 0.50% MCGC-1 + 0.20% MCDF-P

Yield: 1.53 ft³/sk = 243.8bbbls Mix Water: 7.72 gal/sk = 6907.16gal

1487 sk MAG EV 13.7 + 0.50% MCA-2 + 0.35% MCR-H + 0.30% MCI-2 + 0.80% MCFL-7 + 0.30% MCFR-2 + 0.50% MCFW-1 + 0.50% MCGC-1 + 0.20% MCDF-P

Yield: 1.35ft³/sack = 357.53bbbls Mix Water: 6.40gal/sack = 9516.8gal

BHCT (F)	235	BHST (F)	235	Casing 1 Casing Size (in)	9.625
Casing 1 Grade	J-55	Casing 1 Weight (lb/ft)	36	Casing 2 Casing Size (in)	5.5
Casing 2 Grade	P-110	Casing 2 Weight (lb/ft)	20	Collapse Csg Pressure (psi)	12640
Float Depth (ft)	15404.5	Funnel Vis (sec/qt)	58	Hole Size (in)	8.5
Max Csg Pressure (psi)	11080	Max Pressure (psi)	3200	Mud Density (lb/gal)	10.5
Mud Type	OBM	Plug Size (in)	5 1/2	Plug Type	Rig Supplie d
TMD (ft)	15463	TVD (ft)	7250		

Treatment Info: Sacks Used: 0 Sacks Not Used: 0

Preflush: 38bbbls MAG Sweep-H + MAG Clean-1 & 19bbbls MAG Sweep-H

Circulation Time: 2

Displace: 10bbbls Fresh Water & 332.1bbbls Fresh Water

Slurry Temp: 65 Bulk Sample: Yes

Water Temp: 64 Water Sample: Yes

Bulk Temp: 60 Slurry Sample: Yes

Slurry Returns: Plug Bumped: Yes Pump Out Lines: Yes Float Held:

Time	Pressure psi	Annular Pressure psi	Volume Per Stage bbls	Total Stage Volume bbls	Rate bbls/mi n	Treatment Detail
21:00	0.00					Arrive on Location - On location time @ 21:00. RIG JUST LANDED CASING
23:34	0.00					Safety Meeting - Held pre job safety meeting to discuss job hazards and procedure. Rig is circulating.

00:45	0.00					Drop Plug - LOAD AND DROP 1st BOTTOM PLUG VERIFIED BY CUSTOMER
00:55	330.00		5	5	2.0	Fill Lines - Load line with fresh water
00:59	4,780.00		0.1	0.1	0.5	Start Pressure Test - Test line to 4780 PSI
01:01	710.00		38	38	5.0	Pump Preflush - Pump MAG Sweep H+MAG Clean 1 @ 11 PPG
01:07	0.00					Drop Plug - DROP 2ND BOTTOM PLUG
01:08	514.00		19	19	5	Pump Preflush - Pump MAG Sweep H @ 11.5 PPG
01:11	350.00		19	19	3.5	Pump Scavenger - Pump scavenger @ 12.0 PPG
01:16	717.00		244	24	7	Pump Slurry - Batch/ Weight/ Pump 895 sks / 243.9 BBLS of lead @ 12.9 PPG / Y 1.53/ MW 7.72. CALCULATED TOP OF LEAD @ 856'
01:56	650.00		357.5	357.5	7	Pump Slurry - Weight/ Pump 1487 sks/ 357.5 BBLS of tail cement @ 13.7 PPG/ Y 1.35/ MW 6.49. CALCULATED TOP OF TAIL @ 6672'
02:52	0.00					Stop Pumping - Finished pumping cement
02:55	250.00		20		5.0	Pump Out Treating Lines - Wash pumps and lines
02:59	0.00					Drop Plug - Load and Drop top plug verified by customer
03:05	3,120.00		320	320	10	Displace - Pump fresh displacement/ First 10 BBLS with 100 # sugar. Remaining with Biocide
03:41	2,400.00		22	22	5	Decrease Rate - Slow rate to 5 BPM
03:46	2,910.00		342	342	0	Bump Plug - BUMP PLUG WITH 500 PSI OVER FINAL CIRCULATING PRESURE. GOT ALL SPACER BACK TO SURFACE + ALL SCAVENGER
03:48	4,510.00		2	2	5	Pressure up to burst disc and pump 5 bbls wet shoe
03:51	1,650.00		0	0	0	Stop Pumping - Shutdown
03:52	0.00		0	0	0	Check Floats - Floats held / 2 BBLS back
04:15	0.00		0	0	0	Rig Out
05:30	0.00		0	0	0	Leave Location