

# US Treatment Report



**Customer:** PDC Energy  
**Rep:** Shane Paris  
**Supervisor:** Travis Tolman  
**Job Type:** US Primary

**Rig:**  
**Well:** FERGUSON 23F-212  
**UWI:** 923'FNL, 2240'FEL, Sec 24

**Job #:** JOB00083069  
**Job Date:** Mar 9 2020  
**Time Requested:** 14:00  
**Time Arrived:** 14:00

Casing-Production

**Surface:** Lat 40.385787, Long -  
104.524891

**Time Released:** Mar 10 2020 00:30

## 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 = 19bbls Mix Water: 10.71 gal/sk = 592.08 gal

959.7 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 = 261.51bbls Mix Water: 7.72 gal/sk = 7408.96gal

1497 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 = 359.93bbls Mix Water: 6.40gal/sack = 9580.8gal

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)	11080
Float Depth (ft)	15314	Funnel Vis (sec/qt)	55	Hole Size (in)	8.5
Max Csg Pressure (psi)	12640	Max Pressure (psi)	4000	Mud Density (lb/gal)	10.8
Mud Type	OBM	Plug Size (in)	5.5	Plug Type	Rig
TMD (ft)	15347	TVD (ft)	6544		Supplied

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

Preflush: 5bbls Fresh Water & 38bbls MAG Sweep-H + MAG Clean-1 & 19bbls MAG Sweep-H

Circulation Time: 4.5

Slurry Temp: 63 Bulk Sample: Yes

Water Temp: 54 Water Sample: Yes

Bulk Temp: 68 Slurry Sample: Yes

Slurry Returns: 40 Plug Bumped: Yes Pump Out Lines: Yes Float Held: Yes

Displace: 10bbls Sugar Water & 329.6bbls Fresh Water

Time	Pressure psi	Annular Pressure psi	Volume Per Stage bbls	Total Stage Volume bbls	Rate bbls/mi n	Treatment Detail
14:00	0.00					Arrive on Location - On location time of 1400
19:00	0.00					Safety Meeting - Safety meeting with company man rig hands and crew
19:33	0.00					Drop Plug - Drop first bottom plug

19:37	300.00		5	5	2	Fill Lines - Load lines with fresh water
19:40	4,600.00					Start Pressure Test - Pressure test with fresh water
19:46	500.00		38	38	5	Pump Preflush - Pump MAG Sweep H+MAG Clean 1 at 11#
19:54	267.00		19	19	3.6	Pump Preflush - Pump MAG Sweep H at 11.5#
20:02	550.00		19	19	5	Pump Scavenger - Pump scavenger at 12#-1.93 Y
20:05	0.00					Drop Plug - Drop second bottom plug
20:06	700.00		261	261	6.5	Pump Slurry - Pump lead cement at 12.9#-1.53Y-7.72 gps, est top of lead at 363'
20:49	700.00		359	359	6.5	Pump Slurry - Pump tail cement at 13.7#-1.35Y-6.4gps est top of tail at 6544'
21:56	0.00					Stop Pumping
21:58	0.00					Pump Out Treating Lines
22:00	0.00					Drop Plug - Drop top plug, witnessed by tool hand
22:11	3,000.00		320	320	10.5	Displace - Displace with fresh water, first 10bbbls with sugar, rest with Bio-cide, calculated displacement 339.6bbbls
22:43	22.00		20	20	5	Decrease Rate - Slow rate to land plug
22:47	2,700.00					Bump Plug - Land plug, actual displacement 340bbbls, got 76bbbls of pre-flush back and 40bbbls of cement to surface
22:49	4,058.00					Pressure up to shift tool
22:51	2,146.00		5	5	4	Displace - Pump wet shoe
22:52	0.00					Stop Pumping
22:53	0.00					Check Floats - Check float, got 2bbbls back
23:00	0.00					Wash Up Truck
23:20	0.00					Rig Out
00:30	0.00					Leave Location