

## US Treatment Report



**Customer:** PDC Energy  
**Rep:** Brandon Young  
**Supervisor:** Travis Tolman  
**Job Type:** US Primary  
 Casing-Production

**Rig:** Ensign 152  
**Well:** STOUT 11N  
**UWI:** Stout 11N  
**Surface:** STOUT 11N

**Job #:** JOB00081648  
**Job Date:** Feb 17 2020  
**Time Requested:** 0:00  
**Time Arrived:** Feb 16 2020 22:00  
**Time Released:** Feb 17 2020 08:00

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

1036.7 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 = 282.5bbls      Mix Water: 7.72 gal/sk = 8003.4gal

1884 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 = 452.98bbls      Mix Water: 6.40gal/sack = 12057.6gal

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	HCP-110	Casing 2 Weight (lb/ft)	20	Collapse Csg Pressure (psi)	11080
Float Depth (ft)	17614	Funnel Vis (sec/qt)	55	Hole Size (in)	8.75 +
Max Csg Pressure (psi)	12640	Max Pressure (psi)	4000	Mud Density (lb/gal)	8.5
Mud Type	OBM	Plug Size (in)	5.5	Plug Type	10.8
TMD (ft)	17643	TVD (ft)	7422		Rig
					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: 79      Bulk Sample: Yes

Water Temp: 68      Water Sample: Yes

Bulk Temp: 68      Slurry Sample: Yes

Slurry Returns: 0 Plug Bumped: Yes      Pump Out Lines: Yes      Float Held: Yes

Displace: 10bbls Sugar Water & 380.6bbls Fresh Water

Time	Pressure psi	Annular Pressure psi	Volume Per Stage bbls	Total Stage Volume bbls	Rate bbls/mi n	Treatment Detail
22:00	0.00					Arrive on Location - On location time of 0000
02:00	0.00					Safety Meeting - Safety meeting with company man rig hands and crew
02:30	0.00					Drop Plug - Drop first bottom plug
02:35	296.00		5	5	2	Fill Lines - Load lines with fresh water

02:39	4,700.00					Start Pressure Test - Pressure test with fresh water
02:52	363.00		38	38	3	Pump Preflush - Pump MAG Sweep H+MAG Clean 1 at 11#
03:05	320.00		19	19	3	Pump Preflush - Pump MAG Sweep H at 11.5#
03:10	430.00		19	19	4	Pump Scavenger - Pump scavenger at 12#-1.93 Y
03:14	0.00					Drop Plug - Drop second bottom plug
03:15	694.00		282	282	6.5	Pump Slurry - Pump lead cement at 12.9#-1.53Y-7.72 gps, est top of lead at 499'
04:10	520.00		453	453	6.5	Pump Slurry - Pump tail cement at 13.7#-1.35Y-6.4gps est top of tail at 6702'
05:21	0.00					Stop Pumping
05:25	0.00					Pump Out Treating Lines
05:30	0.00					Drop Plug - Drop top plug, witnessed by tool hand
05:35	3,396.00		370	370	10.5	Displace - Displace with fresh water, first 10bbbls with sugar, rest with Bio-cide, calculated displacement 390.6bbbls
06:16	2,400.00		21	21	4.3	Decrease Rate - Slow rate to land plug
06:18	2,700.00					Bump Plug - Land plug, actual displacement 391bbbls, got 60bbbls of pre-flush back to surface
06:19	3,814.00					Pressure up to shift tool
06:20	2,085.00		5	5	4	Displace - Pump wet shoe
06:22	0.00					Stop Pumping
06:23	0.00					Check Floats - Check float, got 2.5bbbls back
06:45	0.00					Rig Out
07:00	0.00					Wash Up Truck
08:00	0.00					Leave Location

