

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API: **47-051-01672** County: **MARSHALL** District: **CAMERON**
 Quad: **CAMERON** Pad Name: **WOODRUFF** Field/Pool Name: **MARCELLUS SHALE**
 Farm name: WOODRUFF WELL NAME: **WOODRUFF 2H**
 Operator (as registered with the OOG): **TRANS ENERGY, INC.**
 Address: **P. O. BOX 393** City: **ST. MARYS** State: **WV** Zip: **26170**

As Drilled Location NAD 83/UTM *** SEE ATTACHED AS-BUILT WELL LOCATION MAP ***

Top hole	Northing	4411945	Easting	540503
Landing Point of curve	Northing	4412277.4	Easting	540856.9
Bottom hole	Northing	4414443	Easting	540325

Elevation (ft): **1,484'** Type of Well: **NEW** Type of Report: **FINAL**

Permit Type: **HORIZONTAL 6A** Depth Type: **SHALLOW**

Type of Operation: **DRILL**

Well Type: **GAS**

Type of Completion: **SINGLE** Fluids Produced: **BRINE, GAS and NGL**

Drilled With: **ROTARY**

Drilling Media: **MUD** Intermediate hole: **MUD**

Production hole: **MUD**

Mud Type(s) and Additive(s) **MUD TYPE - SYNTHETIC BASE DRILLING MUD**

ADDITIVES:	Calcium Carbonate	Hydrated Lime	Synvert Synthetic 1-L	Citric Acid	Drispac Low Vis
	Calcium Chloride	Cedar Fiber	Bentonite	Sodium Bicarbonate	L-20C
	Synvert LEM	Rubber Crumb	Soda Ash, dense	Glycerine	Bioclear
	Synvert Synthetic WA-L	Cottonseed Hulls	Lignite	Desco	
	Barite	Synvert Synthetic 11-L	Aluminum Sterate	Caustic Soda Beads	

Date permit issued: **9/9/2013** Date drilling commenced: **1/11/2014** Date drilling ceased: **3/9/2014**

Date completion activities began: **4/14/2014** Date completion activities ceased: **4/23/2014**

Verbal plugging: **N/A** Date permission granted: **N/A** Granted by: **N/A**

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug.

Fresh water depth (s) ft: **50'**

Open mine(s) (Y/N) depths: **N RECEIVED**

Salt water depth(s) ft: **1525'**

Void(s) encountered (Y/N) depths: **N** **Office of Oil and Gas**

Coal Depth(s) ft: **900'**

Cavern(s) encountered (Y/N) depths: **MAR 18 2015**

Is coal being mined in area (Y/N) **N**

WV Department of
Environmental Protection
Reviewed by:
SK 6/24/15
WS 07/01/15

API:	47-051-01672	WELL NAME: WOODRUFF 2H
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CASING STINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) Provide details below.
Conductor	26"	20"	80'	NEW	J-55/94	-	-
Surface	17 1/2"	13 3/8"	1052'	NEW	J-55/54.5	-	YES
Coal	-	-	-	-	-	-	-
Intermediate 1	12 1/4"	9 5/8"	3035'	NEW	J-55/40	-	YES
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	8 3/4"	5 1/2"	12,017'	NEW	P-110/20	-	YES
Tubing	-	-	-	-	-	-	-
Packer type and Depth Set							

Comment Details:

CEMENT DATA	Class / type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	-	-	-	-	-	-	-
Surface	TYPE 1	802	15.6	-	-	SURFACE	10.00
Coal	-	-	-	-	-	-	-
Intermediate 1	TYPE 1	-	15.6	-	1092	SURFACE	24.00
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	POSH / CLASS H	1380 / 1154	14 / 15.6	1.34 / 1.18	1849 / 1362	SURFACE	8.00
Tubing	-	-	-	-	-	-	-

Drillers TD (ft): 12,040 Loggers TD (ft): 12,050'
 Deepest formation penetrated: MARCELLUS SHALE Plug back to (ft): N/A
 Plug back procedure: N/A

Kick off depth (ft) 6,795'

Check all wireline logs run: caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored? NO Were cuttings collected? NO

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING

FRESH WATER STRING - 1 CENTRALIZER EVERY 160'

INTERMEDIATE STRING - 1 CENTRALIZER EVERY 100' FROM 3,300' TO 900'

PRODUCTION STRING - 1 CENTRALIZER EVERY 80' FROM TD' TO ABOVE ROP (7000')

WAS WELL COMPLETED AS SHOT HOLE? YES DETAILS: _____

WAS WELL COMPLETED OPEN HOLE? NO DETAILS: _____

WERE TRACERS USED? NO TYPE OF TRACER(S) USED: N/A

RECEIVED
Office of Oil and Gas
MAR 18 2015
WV Department of
Environmental Protection

API:	47-051-01672	WELL NAME : WOODRUFF 2H
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***** SEE ATTACHED WELL PROFILE AND SURVEY REPORTS - 9 PAGES *****

PERFORATION RECORD

Stage No.	Perferated from MD ft.	Perferated to MD ft.	Number of Perforations	Formations
1	12,006	11,840	41	MARCELLUS SHALE
2	11,781	11,632	41	MARCELLUS SHALE
3	11,553	11,387	41	MARCELLUS SHALE
4	11,307	11,130	41	MARCELLUS SHALE
5	11,063	10,878	41	MARCELLUS SHALE
6	10,807	10,636	41	MARCELLUS SHALE
7	10,564	10,420	41	MARCELLUS SHALE
8	10,351	10,221	41	MARCELLUS SHALE
9	9,990	10,143	41	MARCELLUS SHALE
10	9,941	9,770	41	MARCELLUS SHALE
11	9,691	9,555	41	MARCELLUS SHALE
12	9,484	9,304	41	MARCELLUS SHALE
13	9,237	9,092	41	MARCELLUS SHALE
14	9,023	8,880	41	MARCELLUS SHALE
15	8,807	8,642	41	MARCELLUS SHALE
16	8,566	8,390	41	MARCELLUS SHALE
17	8,323	8,485	41	MARCELLUS SHALE
18	8,067	7,893	34	MARCELLUS SHALE

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 MAR 18 2015
 WV Department of Environmental Protection

Please insert additional pages as applicable.

API: **47-051-01672** WELL NAME: **WOODRUFF 2H**

PRODUCING FORMATION(S) MARCELLUS SHALE DEPTHS 7360' TVD 12074' MD

GAS TEST: N/A OIL TEST: N/A

SHUT-IN Surface: _____ psi Bottom hole: _____ psi DURATION OF TEST: _____ hrs

OPEN FLOW

GAS: _____ mcfpd	OIL: _____ bpd	NGL: _____ bpd	WATER: _____ bpd	GAS MEASURED BY: ESTIMATED
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LITHOLOGY / FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H2S, ETC)
Sand	1,630	1,688			
Maxton	2,040	2,062			
Big Lime	2,085	2,151			
Big Injun	2,150	2,235			
Berea	2,364	2,384			
30 Ft	2,684	2,732			
Gordon	2,796	2,848			
4th	2,845	2,885			
5th	2,960	2,980			
Riley	4,484	4,502			
Benson	4,866	4,890			
Alexander	4,980	5,008			
Middlesex	6,898	6,998			
Burkett	7,006	7,028			
Tully Lime	7,028	7,163			
Marcellus	7,163	7,213			
Onondaga	7,213				

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MAR 18 2015
WV Department of
Environmental Protection

Please insert additional pages as applicable.

API: 47-051-01672 WELL NAME: WOODRUFF 2H

Drilling Contractor: NOMAC DRILLING
Address: 3400 SOUTH RADIO ROAD City: EL RENO State: OK Zip: 73036


Logging Contractor: BAKER HUGHES
Address: 17015 ALDINE WESTFIELD ROAD City: WOOSTER State: OH Zip: 44691

Cementing Company: BAKER HUGHES
Address: 17015 ALDINE WESTFIELD ROAD City: WOOSTER State: OH Zip: 44691

Stimulating Company: GO FRAC
Address: 7000 CALMONT AVENUE, SUITE 310 City: FORT WORTH State: TX Zip: 76116

Completed by: Leslie A. Gearhart, Vice President of Operations

Telephone: 304/684-7053

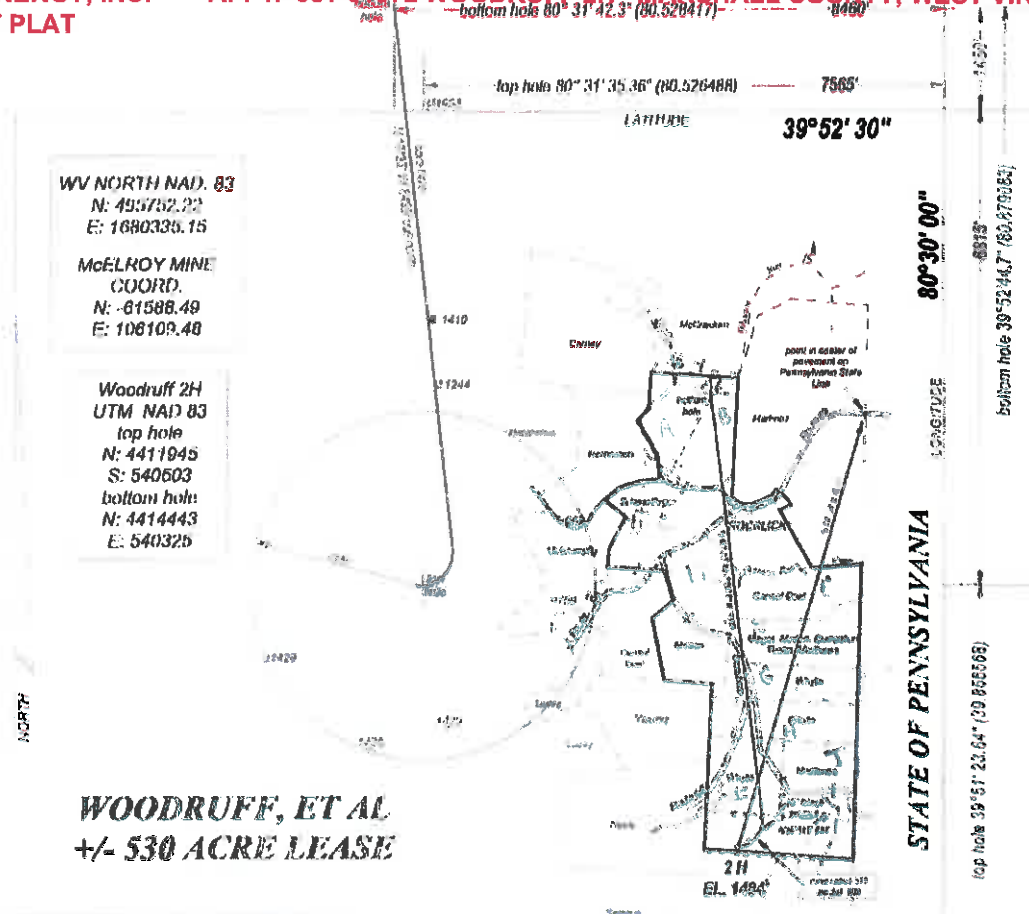
Signature: 

DATE: 3-16-15

**** SEE ATTACHMENT ENTITLED "HYDRAULIC FRACTURING FLUID PRODUCT COMPONENT INFORMATION DISCLOSURE" ****

TRANS ENERGY, INC.
AS-BUILT PLAT

API 47-051-01672 WOODRUFF 2H MARSHALL COUNTY, WEST VIRGINIA



No water wells within 250' of top hole

No buildings of any kind within 625' of top hole

FILE NO. _____
DRAWING NO. _____
SCALE 1" = 2500'
MINIMUM DEGREE OF ACCURACY 1:200
PROVEN SOURCE OF ELEVATION GPS
OBSERVATION

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT THE INFORMATION REQUIRED BY THE REGULATIONS ISSUED AND PRESENTED TO THE DEPARTMENT OF ENERGY

PROFESSIONAL SURVEYOR: 551

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
DIVISION OF OIL AND GAS

DATE JULY 8TH 2015
OPERATORS WELL NO. WOODRUFF 2H

RECEIVED
Office of Oil and Gas
JULY 18 2015

WV Department of Environmental Protection
AS BUILT

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
DIVISION OF OIL AND GAS

DATE JULY 8TH 2015
OPERATORS WELL NO. WOODRUFF 2H

API 47 - 051 - 01672
STATE COUNTY

WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____
(IF GAS) PRODUCTION STORAGE _____ DEEP _____ SHALLOW

LOCATION: ELEVATION 1494' WATER SHED NORTH FORK OF GRAVE CREEK
DISTRICT CAMERON COUNTY MARSHALL QUADRANGLE CAMERON

SURFACE OWNER VIOLETTA MATTHEWS ACREAGE 64.318
OIL & GAS ROYALTY WOODRUFF, ET AL LEASE AC +/- 530

PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REFRILL _____
FRACTURE OR STIMULATE _____ PLUG OFF OLD FORMATION _____
PERFORATE NEW FORMATION _____
OTHER PHYSICAL CHANGE IN WELL _____
PLUG AND ABANDON _____ CLEAN OUT AND REPLY DIG _____

TARGET FORMATION MARCELLUS SHALE ESTIMATED DEPTH 7200'

WELL OPERATOR TRANS ENERGY, INC DESIGNATED AGENT LOREN BAGLEY
ADDRESS P. O. BOX 393 ADDRESS P. O. BOX 393
ST. MARYS, WV 26170 ST. MARYS, WV 26170

TRANS ENERGY, INC. - HYDRAULIC FRACTURING FLUID PRODUCT COMPONENT INFORMATION DISCLOSURE

Fracture Start Date/Time:	4/14/14 7:37
Fracture End Date/Time:	4/23/14 1:39
State:	West Virginia
County:	Marion
API Number:	47-051-01672
Operator Number:	494481575
Well Name:	Woodruff 2H
Federal Well:	No
Longitude:	-80.5264
Latitude:	39.8565
Long/Lat Projection:	NAD27
True Vertical Depth (TVD):	7,172'
Total Clean Fluid Volume* (gal):	5,384,946

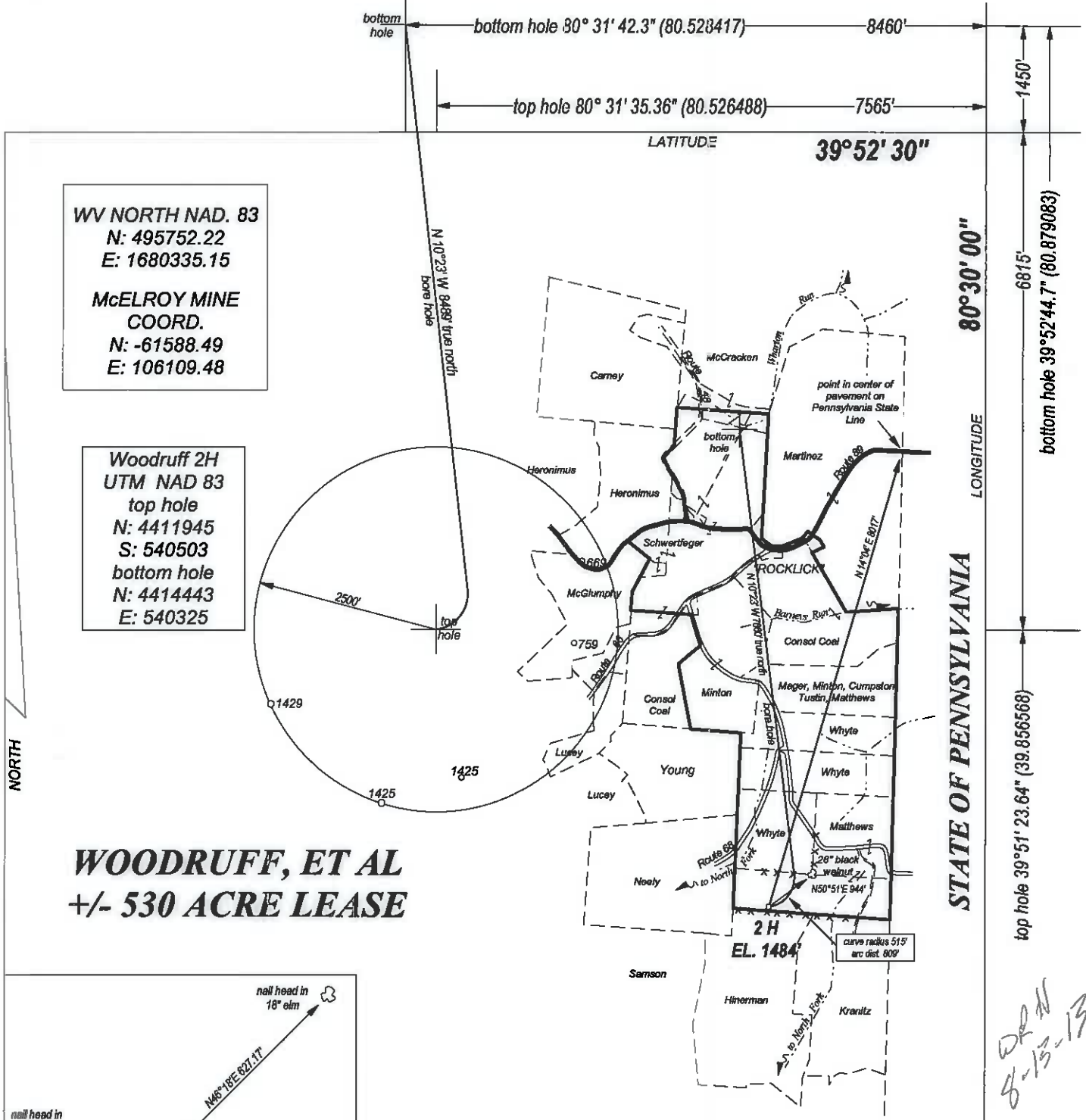
Additive	Specific Gravity	Additive Quantity	Mass (lb)	
Freshwater	1.00	5,384,946	44,937,374	gal
100 Mesh	2.65	1,925,550	1,925,550	lb
40/70 White Sand	2.65	1,636,419	1,636,419	lb
20/40 White Sand	2.65	798,330	798,330	lb
Plexhib 256	0.86	48	344	gal
HCl Acid 10-15%	1.07	16,000	142,866	gal
Ferriplex 66	1.15	48	461	gal
Greenflush	0.81	292	1,974	gal
Sodium Persulfate	2.60	115	115	lb
Beta M-4.0	1.01	345	2,902	gal
Plexbreak 145	0.95	16	127	gal
Plexslick 953	1.06	2,838	25,104	gal
SOS 1545	1.06	458	4,051	gal
				gal
				gal
				gal

Ingredients Section:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Mass per Component (LBS)	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Freshwater	Republic Energy	Frac Base	Water	7732-18-5	100.00%	44,937,374	90.82731%	
100 Mesh	US Silica	Proppant	Sand	14808-60-7	100.00%	1,925,550	3.89192%	
40/70 White Sand	US Silica	Proppant	Sand	14808-60-7	100.00%	1,636,419	3.30753%	
20/40 White Sand	US Silica	Proppant	Sand	14808-60-7	100.00%	798,330	1.61358%	
HCl Acid 10-15%	GoFrac	Acid	Hydrochloric Acid	7647-01-0	15.00%	21,430	0.04331%	
Ferriplex 66	Chemplex	Iron Control	Acetic Acid	64-19-7	50.00%	230	0.00047%	
			Citric Acid	77-92-9	30.00%	138	0.00028%	
			Water	7732-18-5	35.00%	161	0.00033%	
Greenflush	Chemplex	Cleaner	Alcohol Ethoxylate Surfactants	Proprietary	10.00%	197	0.00040%	
Plexbreak 145	Chemplex	Non-Emulsifier	Cocamide Diethanolamine Salt	68603-42-9	10.00%	13	0.00003%	
			Diethanolamine	111-42-2	5.00%	6	0.00001%	
			Ethylene Glycol Monobutyl Ether	111-76-2	15.00%	19	0.00004%	
			Methyl Alcohol	67-56-1	15.00%	19	0.00004%	
			Water	7732-18-5	66.00%	84	0.00017%	
Plexhib 256	Chemplex	Corrosion Inhibitor	Alcohol Ethoxylate Surfactants	Proprietary	30.00%	103	0.00021%	
			Methyl Alcohol	67-56-1	70.00%	241	0.00049%	
			n-olefins	Proprietary	10.00%	34	0.00007%	
			Propargyl Alcohol	107-19-7	8.00%	28	0.00006%	
			Thiourea-formaldehyde copolymer	68527-49-1	30.00%	103	0.00021%	
Sodium Persulfate	Chemplex	Active Breaker	Sodium Persulfate	7775-27-1	100.00%	115	0.00023%	
Plexslick 953	Chemplex	Friction Reducer	Alcohol Ethoxylate Surfactants	Proprietary	8.00%	2,008	0.00406%	
			Hydrotreated Petroleum Distillate	64742-47-8	30.00%	7,531	0.01522%	
			Polyacrylamide-co-acrylic acid	Proprietary	32.00%	8,033	0.01624%	
			Water	7732-18-5	35.00%	8,786	0.01776%	
Beta M-4.0	PP	Guar Gel	Guar Gum	9000-30-0	50.00%	1,451	0.00293%	
			Petroleum Distillate	64742-47-8	55.00%	1,396	0.00283%	
			Clay	Proprietary	5.00%	145	0.00029%	
SOS 1545	Ultrablend	Guar Gel	Hydrocarbons	64741-85-1	70.00%	2,836	0.00573%	

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(i) and Appendix D.

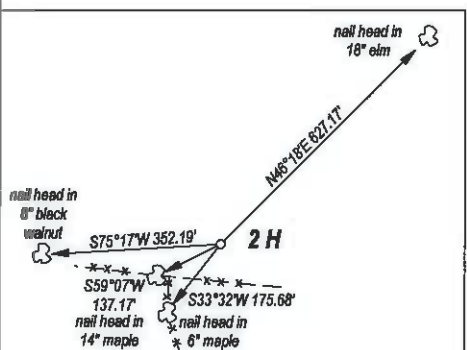
Environmental Protection
 Department of
 MAR 18 2015
 Office of Oil and Gas
 E-MAIL: EOWED



WV NORTH NAD. 83
 N: 495752.22
 E: 1680335.15
 McELROY MINE
 COORD.
 N: -61588.49
 E: 106109.48

Woodruff 2H
 UTM NAD 83
 top hole
 N: 4411945
 S: 540503
 bottom hole
 N: 4414443
 E: 540325

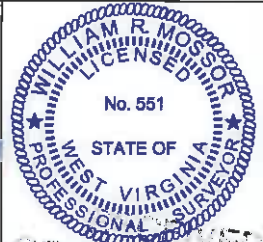
**WOODRUFF, ET AL
 +/- 530 ACRE LEASE**



FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 2500'
 MINIMUM DEGREE OF ACCURACY 1 : 200
 PROVEN SOURCE _____
 OF ELEVATION GPS
 OBSERVATION

I, THE UNDERSIGNED HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY

(SIGNLD) _____
 PROFESSIONAL SURVEYOR: 551



**STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 DIVISION OF OIL AND GAS**

DATE JULY 8TH, 2013
 OPERATORS WELL NO. WOODRUFF 2H

API 47 - 051 - 01672

WELL TYPE: OIL XX GAS XX LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF GAS) PRODUCTION XX STORAGE _____ DEEP _____ SHALLOW XX

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 ADDRESS P. O. BOX 393 ADDRESS P. O. BOX 393
ST. MARYS, WV 26170 ST. MARYS, WV 26170

FORM WW-6

DRN
 8-13-13

