

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

API 47-051-01827 County Marshall District Meade  
Quad Wileyville 7.5 Pad Name BONNETTE-MSH-PAD1 Field/Pool Name Victory Field  
Farm name BONNETTE, ROBERT & LINDA Well Number 1H  
Operator (as registered with the OOG) SWN PRODUCTION COMPANY LLC  
Address PO BOX 12359 City SPRING State TX Zip 77397-2359

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4396886.008 Easting 524699.514  
Landing Point of Curve Northing 4396813.006 Easting 524220.405  
Bottom Hole Northing 4397819.261 Easting 523037.595

Elevation (ft) 1428 GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine  
Mud Type(s) and Additive(s)  
SOBM

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Date permit issued 6/11/2015 Date drilling commenced 6/16/15 Date drilling ceased 7/20/15  
Date completion activities began 10/28/15 Date completion activities ceased 12/18/15  
Verbal plugging (Y/N) N Date permission granted N/A Granted N/A

WV Department of  
Environmental Protection

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

Freshwater depth(s) ft 404 Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1717 Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 1203-1210 Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

**APPROVED**

NAME: Jacquelin J... 12/02/2016

DATE: 6/30/2016 AX RBDMS 12/01/16

API 47-051 - 01827 Farm name BONNETTE, ROBERT & LINDA Well number 1H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	24	20	126	N	J-55/ 94#		Y
Surface	17.5	13.375	715	N	J-55/ 54.50#		Y
Coal	SEE SURFACE						
Intermediate 1	12.25	9.625	2764	N	J-55/ 40#		Y
Intermediate 2							
Intermediate 3							
Production	8.75 TO 8.50	5.5	12734	N	P-110/20#		Y
Tubing		2.375	7634	N	L-80/4.70#		N
Packer type and depth set		N/A					

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	A	GROUT	15.7	1.29		SURFACE	24
Surface	A	670	15.6	1.19	797	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	A	1152	15.6	1.19	1371	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	A	1056/1280	15.6	1.23/1.19	2822	SURFACE	24
Tubing							

Drillers TD (ft) 12734 Loggers TD (ft) 12734  
 Deepest formation penetrated MARCELLUS Plug back to (ft) NA  
 Plug back procedure NA

Kick off depth (ft) 6608

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

Well cored  Yes  No Conventional Sidewall Were cuttings collected  Yes  No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING \_\_\_\_\_

ALL CASING STRINGS RAN WITH A CENTRALIZER AT A MINIMUM OF 1 PER EVERY 3RD JOINT OF CASING

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_





WR-36  
Rev. 5/08

Date: 06/27/2016  
Operators Well Number: BONNETTE MSH 1H  
API Well No: 47-051 - 01827

**State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas**

Well Operator's Report of  
Initial Gas-Oil Ratio

Well Operator SWN PRODUCTION COMPANY LLC Designated Agent \_\_\_\_\_  
Address PO BOX 12359 Address \_\_\_\_\_  
SPRING, TX 77391-2359 \_\_\_\_\_  
\_\_\_\_\_

Geological Target Formation: MARCELLUS Depth 7044' TVD/7447' MD feet  
Perforation Interval 7779'-12602' MD feet

Guidelines for testing:

1. A minimum of gas vented or flared.
2. A 24 hour pre-flow into pipelines or tanks.
3. Uniform producing rate during the 24 hour test per test period.
4. Measurement standards as for Form WR-39, "Report of Annual Production" (see 35CSR4-15)
5. Separate Form WR-36 for each producing formation in a multiple completion.

**TEST DATA**

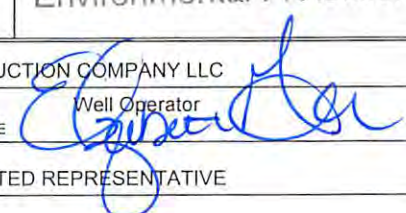
Start of Test Date	Time	End of Test Date	Time	Duration of Test
Tubing Pressure	Casing Pressure	Separator Pressure	Separator Temperature	
Oil Production During Test	Gas Production During Test	Water Production During Test		
BBLs	MCF	BBLs	-Salinity	
Oil Gravity	Producing Method (flowing, pumping, gas lift etc.)			
API				

**GAS PRODUCTION**

Measurement Method Flange Tap <input type="checkbox"/> Pipe Tap <input type="checkbox"/> L-10 <input type="checkbox"/>		Positive Choke <input checked="" type="checkbox"/>
		Positive flow prover <input type="checkbox"/>
Orifice diameter	Pipe Diameter (inside)	Nominal Choke Size inches 9
Differential Pressure range	Max. Static pressure range	Prover and Orifice diameter - inches
Differential		Static
Gas Gravity (Air = 1.0)	Flowing Temperature	Gas Temperature
Measured	Estimated	
24 Hour Coefficient	24 Hour coefficient pressure PSIA	

**TEST RESULTS**

Daily Oil	Daily Water	Daily Gas	Gas-Oil Ratio
74.22	.53	3537.5	

SWN PRODUCTION COMPANY LLC  
Well Operator  
BY: ELIZABETH GEE   
ITS: DESIGNATED REPRESENTATIVE

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JUN 28 2016  
WV Department of  
Environmental Protection

12/02/2016

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/28/2015
Job End Date:	11/4/2015
State:	West Virginia
County:	Marshall
API Number:	47-051-01827-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	BONNETTE MSH 1H
Longitude:	-80.71180970
Latitude:	39.72149185
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,935
Total Base Water Volume (gal):	5,724,474
Total Base Non Water Volume:	0



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## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Operator	Carrier	Water	7732-18-5	100.00000	70.70548	
DustPro Chemical Coating	Baker Hughes	Dust Suppression	MSDS and Non-MSDS Ingredients Listed Below	N/A		13.80545	
Sand, White, 40/70	Baker Hughes	Proppant	MSDS and Non-MSDS Ingredients Listed Below	N/A		8.28014	
Sand, White, 100 mesh	Baker Hughes	Proppant	MSDS and Non-MSDS Ingredients Listed Below	N/A		5.52525	
HCl, 10.1 - 15%	Baker Hughes	Acidizing	MSDS and Non-MSDS Ingredients Listed Below	N/A		1.04796	SmartCare Product
MaxPerm 30	Baker Hughes	Friction Reducer	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.06310	
MaxPerm-20A, 265 gallon tote	Baker Hughes	Friction Reducer	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.01577	SmartCare Product
Scaletrol 720	Baker Hughes	Scale Inhibitor					

			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00844	SmartCare Product
Alpha 1427	Baker Hughes	Biocide					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00820	SmartCare Product
Ferrotrol 300L	Baker Hughes	Iron Control					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00720	SmartCare Product
CI-39	Baker Hughes	Corrosion Inhibitor					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00210	
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Ingredients in Additive (s) (MSDS and non- MSDS)	Baker Hughes	See Trade Name(s) List					
			Crystalline Silica (Quartz)	14808-60-7	100.00000	13.70252	
			Non-hazardous acrylic polymer	NA	75.00000	10.27693	
			Propylene glycol	57-55-6	30.00000	4.11077	
			Water	7732-18-5	85.00000	0.94392	
			Hydrochloric Acid	7647-01-0	15.00000	0.15602	
			Acrylamide Modified Polymer	38193-60-1	60.00000	0.03758	
			Petroleum Distillates	64742-47-8	30.00000	0.01879	
			1-Propanesulfonic acid, 2- methyl-2-[(1-oxo-2-propen-1-yl) amino]-, polymer with 2- propenamide, sodium salt	83446-68-8	60.00000	0.00939	
			Hydrotreated Light Distillate	64742-47-8	30.00000	0.00470	
			Citric Acid	77-92-9	60.00000	0.00429	
			Sodium Chloride	7647-14-5	5.00000	0.00400	
			Oxyalkylated alcohol	78330-21-9	5.00000	0.00391	
			Ethylene Glycol	107-21-1	45.00000	0.00377	
			Sorbitan monooleate ethoxylate	9005-65-5	5.00000	0.00313	
			Sorbitan, mono-(9Z)- 9octadecenoate	1338-43-8	5.00000	0.00313	
			Glutaraldehyde	111-30-8	30.00000	0.00244	
			2-Propenoic, Polymer with Sodium Phosphinate, Sodium Salt	71050-62-9	20.00000	0.00168	
			Oxyalkylated Fatty Acid	61791-002	40.00000	0.00083	
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	10.00000	0.00081	
			Sorbitan, mono-(9Z)-9- octadecenoate	1338-43-8	5.00000	0.00078	
			Polyoxyethylene sorbitan monooleate	9005-65-6	5.00000	0.00078	
			Acetic Acid, Potassium Salt	127-08-2	1.00000	0.00063	
			Tar Bases, Quinoline Derivs., Benzyl Chloride-Quaternized	72480-70-7	30.00000	0.00063	
			Formic Acid	64-18-6	30.00000	0.00063	
			Aldehyde	104-55-2	30.00000	0.00063	
			Quaternary Ammonium Compound	68424-85-1	5.00000	0.00051	

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		Calcium Chloride	10043-52-4	5.00000	0.00042
		Ethanol	64-17-5	5.00000	0.00041
		Isopropanol	67-63-0	5.00000	0.00010
		Sulfurized polyolefin	68037-13-8	5.00000	0.00010
		Potassium Chloride	7447-40-7	1.00000	0.00008
		Acetic Acid	64-19-7	0.10000	0.00006
		Tetrasodium EDTA	64-02-8	0.10000	0.00006
		Potassium Iodide	7681-11-0	2.00000	0.00004
		Polyaklylene	7756-94-7	1.00000	0.00002
		Potassium Acetate	127-08-2	0.50000	0.00001

\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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**BONNETTE MSH 1 - STIMULATION INFORMATION**

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of water bbls	Amount of nitrogen/ other
1	10/29/2015	2	8,224	8,401	4,667	505,089	7,193	
2	10/29/2015	2	8,278	8,604	4,591	504,408	8,934	
3	10/30/2015	2	8,077	8,448	5,139	502,971	7,083	
4	10/30/2015	2	7,756	8,419	4,759	504,449	7,140	
5	10/30/2015	2	7,809	8,177	5,058	502,660	6,982	
6	10/31/2015	2	7,929	8,221	4,752	508,403	7,103	
7	10/31/2015	2	7,860	8,186	4,709	501,988	7,068	
8	10/31/2015	2	7,849	8,514	4,880	503,410	7,029	
9	11/1/2015	2	7,791	8,627	4,493	494,394	7,792	
10	11/1/2015	2	7,784	8,419	4,644	508,971	7,092	
11	11/1/2015	2	7,564	7,943	5,105	502,579	6,906	
12	11/2/2015	2	7,470	7,835	4,826	502,034	7,076	
13	11/2/2015	2	7,572	8,139	4,593	499,687	6,884	
14	11/2/2015	2	7,529	8,155	5,202	503,053	7,053	
15	11/3/2015	2	7,514	8,141	4,820	499,444	6,963	
16	11/3/2015	2	7,431	8,023	4,622	500,803	7,036	
17	11/3/2015	2	7,302	7,912	4,957	498,836	6,889	
18	11/4/2015	2	7,728	8,590	5,780	504,554	6,846	
19	11/4/2015	2	7,181	7,358	5,665	497,605	7,228	
Grand total		2	7,718	8,627	4,909	9,545,338	136,297	

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**BONNETTE MSH 1 - PERFORATION RECORD**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	10/29/2015	12,439	12,602	42
2	10/29/2015	12,179	12,376	42
3	10/30/2015	11,919	12,116	42
4	10/30/2015	11,659	11,856	42
5	10/30/2015	11,399	11,596	42
6	10/31/2015	11,139	11,336	42
7	10/31/2015	10,879	11,076	42
8	10/31/2015	10,619	10,816	42
9	11/1/2015	10,359	10,556	42
10	11/1/2015	10,099	10,296	42
11	11/1/2015	9,839	10,036	42
12	11/2/2015	9,579	9,776	42
13	11/2/2015	9,319	9,516	42
14	11/2/2015	9,059	9,256	42
15	11/3/2015	8,799	8,996	42
16	11/3/2015	8,539	8,736	42
17	11/3/2015	8,279	8,476	42
18	11/4/2015	8,019	8,216	42
19	11/4/2015	7,779	7,961	42

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### BONNETTE MSH 1H

LITHOLOGY/FORMATION	TOP DEPTH, TVD (FT)	BOTTOM DEPTH, TVD (FT)	TOP DEPTH, MD (FT)	BOTTOM DEPTH, MD (FT)	QUANTITY AND TYPE OF FLUID
Base of Fresh Water	N.A.	404.00	N.A.	404.00	
Top of Salt Water	654.00	N.A.	654.00	N.A.	
Pittsburgh Coal	1203.03	1209.99	1204.00	1211.00	
Big Injun (ss)	2313.48	2936.97	2319.00	2945.00	
Berea (siltstone)	2936.97	6471.94	2945.00	6631.03	
Rhinestreet (shale)	6471.94	6742.39	6631.03	6934.54	
Cashaqua (shale)	6742.39	6839.32	6934.54	7062.20	
Middlesex (shale)	6839.32	6910.53	7062.20	7170.27	
Burket (shale)	6910.53	6936.56	7170.27	7213.30	
Tully (ls)	6936.56	6965.52	7213.30	7263.87	
Mahantango (shale)	6965.52	7044.55	7263.87	7447.13	
Marcellus (shale)	7044.55	7075.75	7447.13	7610.14	

Enclosed  
 Office with gas  
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Top Hole 1,171'

Bottom Hole 6,574'

LATITUDE 39-45-00 N

References

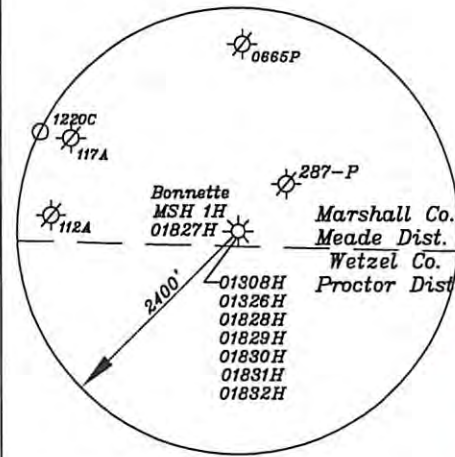
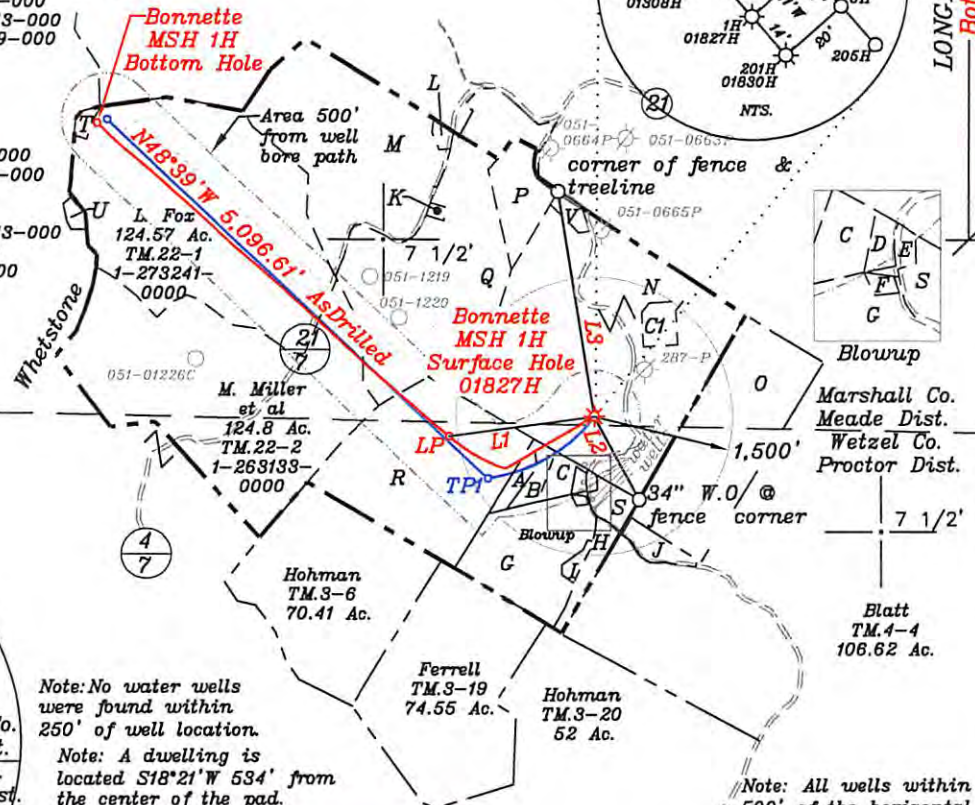


Surface Hole	UTM NAD 83(meters)-4396886.008 N. 524699.514 E
LP	UTM NAD 83(meters)-4396813.006 N. 524220.405 E
Bottom Hole	UTM NAD 83(meters)-4397819.261 N. 523037.595 E
Top Hole	UTM NAD 83(meters)-4396885.9 N. 524699.7 E
TP1	UTM NAD 83(meters)-4396678.1 N. 524350.7 E
Bottom Hole	UTM NAD 83(meters)-4397832.1 N. 523070.8 E

LEGEND

AsDrilled Leg	(Red Text)
Permit Leg	(Blue Text)

- A- Ries 3 Ac. TM.3-8 1-292576-001, 1-254767-000
- B- Hohman 4.07 Ac. TM.3-8.3 1-292576-001, 1-254767-000
- C- Hohman 4.12 Ac. TM.3-8.2 & 8.1 1-292576-001, 1-254767-000
- D- B. Ferrell 1 Ac. TM.3-9 1-292576-001, 1-254916-000
- E- B. Ferrell 0.54 Ac. TM.3-10.1 1-254839-000
- F- B. Ferrell 0.33 Ac. TM. 3-10.5 1-254843-000
- G- J. Ferrell 28.97 Ac. TM.3-10.3 1-254839-000
- H- Miller 5.02 Ac. TM.3-10.2
- I- Ferrell 1.29 Ac. TM.3-10.4
- J- Zombotti 4.34 Ac. TM.3-11.2
- K- Wright 0.617 Ac. TM.22-3.3
- L- Mysliwiec Trust 1.1 Ac. TM.22-3.1
- M- M. Miller 75 Ac. TM.22-3.2 1-254843-000
- N- Bonnette 126.53 Ac. TM.22-8 1-254855-000
- O- Fox 56 Ac. TM.4-1
- P- Frohnappfel 16.62 Ac. TM.22-5 & 6
- Q- H. Miller 63.73 Ac. T.M. 22-3 1-254843-000
- R- Ries 62.32 Ac. T.M. 3-7 1-255029-000
- S- Zombotti 4.15 Ac. TM.3-10 1-254839-000
- T- CNG Transmission Co. TM.22-1.1 1.43 Ac. 1-273241-000
- U- Consol Energy Holdings LLC I TM.25-3.2 1.43 Ac.
- V- Klug 1 Ac. TM.22-7
- C1- The Co. Comm. of Marshall Co. 3.143 Ac. TM.22-8.1



Note: No water wells were found within 250' of well location.  
 Note: A dwelling is located S18°21'W 534' from the center of the pad.

NUMBER	DIRECTION	DISTANCE
L1	S82°18'W	1,590.56'
L2	S28°37'E	1,018.28'
L3	N09°13'W	2,465.84'

Note: All wells within 500' of the horizontal leg are shown on this plat based upon information taken from DEP mapping, well plats and aerial photos.

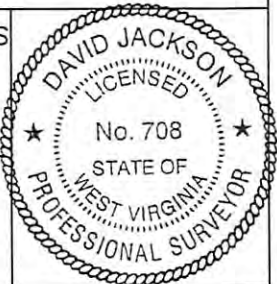
Note: Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 83.

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. \_\_\_\_\_  
 DRAWING NO. 1  
 SCALE 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY 1 in 200  
 PROVEN SOURCE OF ELEVATION GPS  
submeter unit

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

(SIGNED) David L Jackson  
 R.P.E. \_\_\_\_\_ L.L.S. 708



STATE OF WEST VIRGINIA  
 Division of Environmental Protection  
 OFFICE OF OIL AND GAS

DATE March 1, 2016  
 OPERATOR'S WELL NO. Bonnette MSH 1H  
 API WELL NO. 47 051 01827H

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL STATE COUNTY PERMIT  
 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X

LOCATION: ELEVATION 1,427.7' WATER SHED Whetstone Creek  
 DISTRICT Meade COUNTY Marshall  
 QUADRANGLE Wileyville 7 1/2'

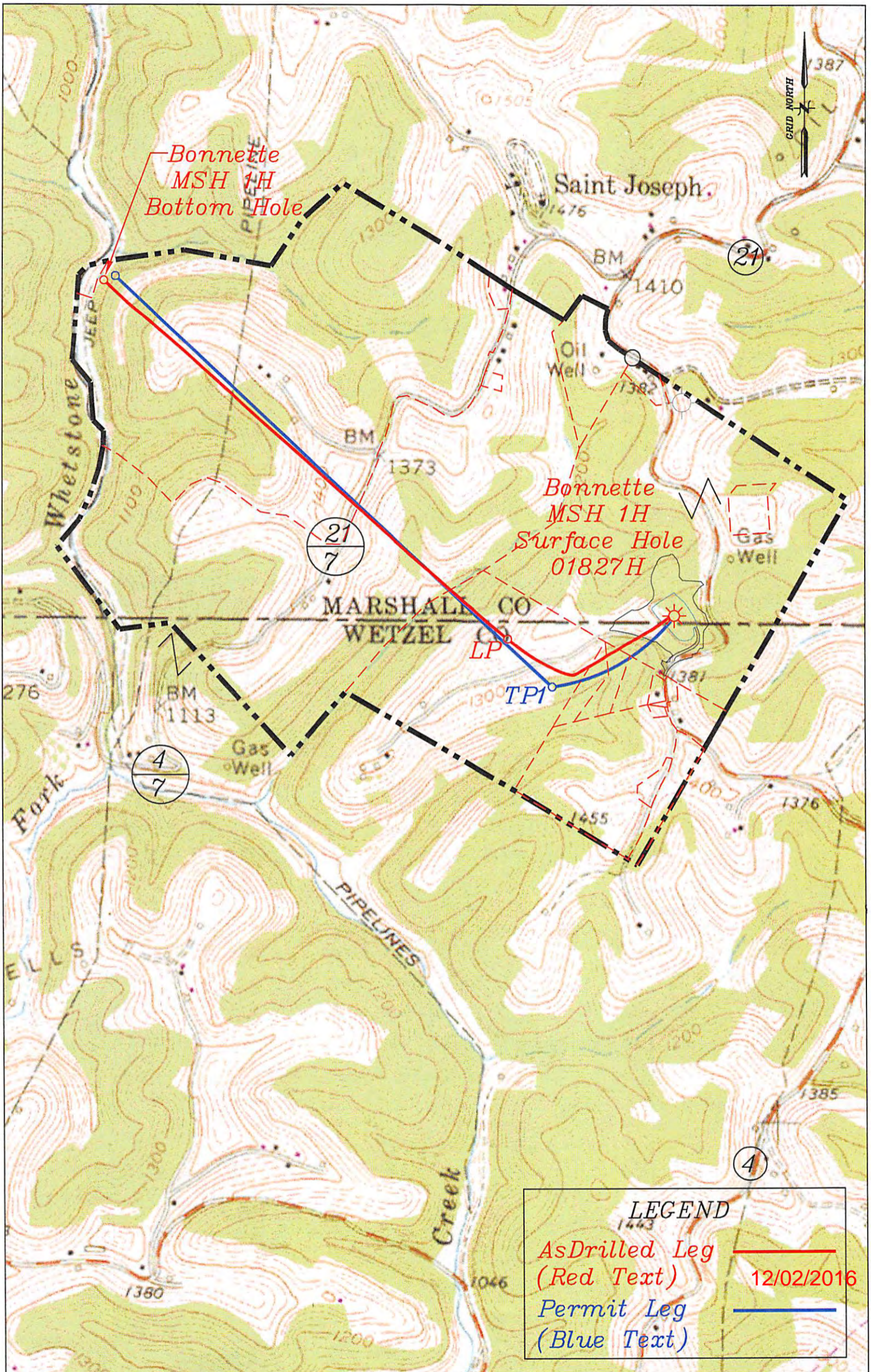
SURFACE OWNER Robert and Linda Bonnette ACREAGE 126.53 ac.  
 OIL & GAS ROYALTY OWNER Robert and Linda Bonnette, Robert and Barbara Bias, & Larry and Glenda Kress LEASE ACREAGE 513.14 ac.

LEASE NO. \_\_\_\_\_

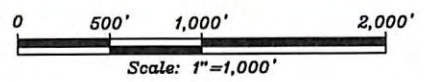
PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AsDrilled

PLUG AND ABANDON CLEAN OUT AND REPLUG  
 TARGET FORMATION Marcellus ESTIMATED DEPTH TVD=7,077'; TMD 12,734'  
 WELL OPERATOR SWN Production Co. LLC DESIGNATED AGENT Dee Southall  
 ADDRESS P.O. Box 1300 Jane Lew, WV 26378 ADDRESS P.O. Box 1300 Jane Lew, WV 26378

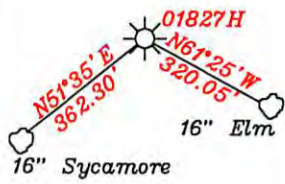
12/02/2016



Well: Bonnette MSH 1H  
 Quad: Wileyville 7 1/2'  
 District: Meade  
 County: Marshall



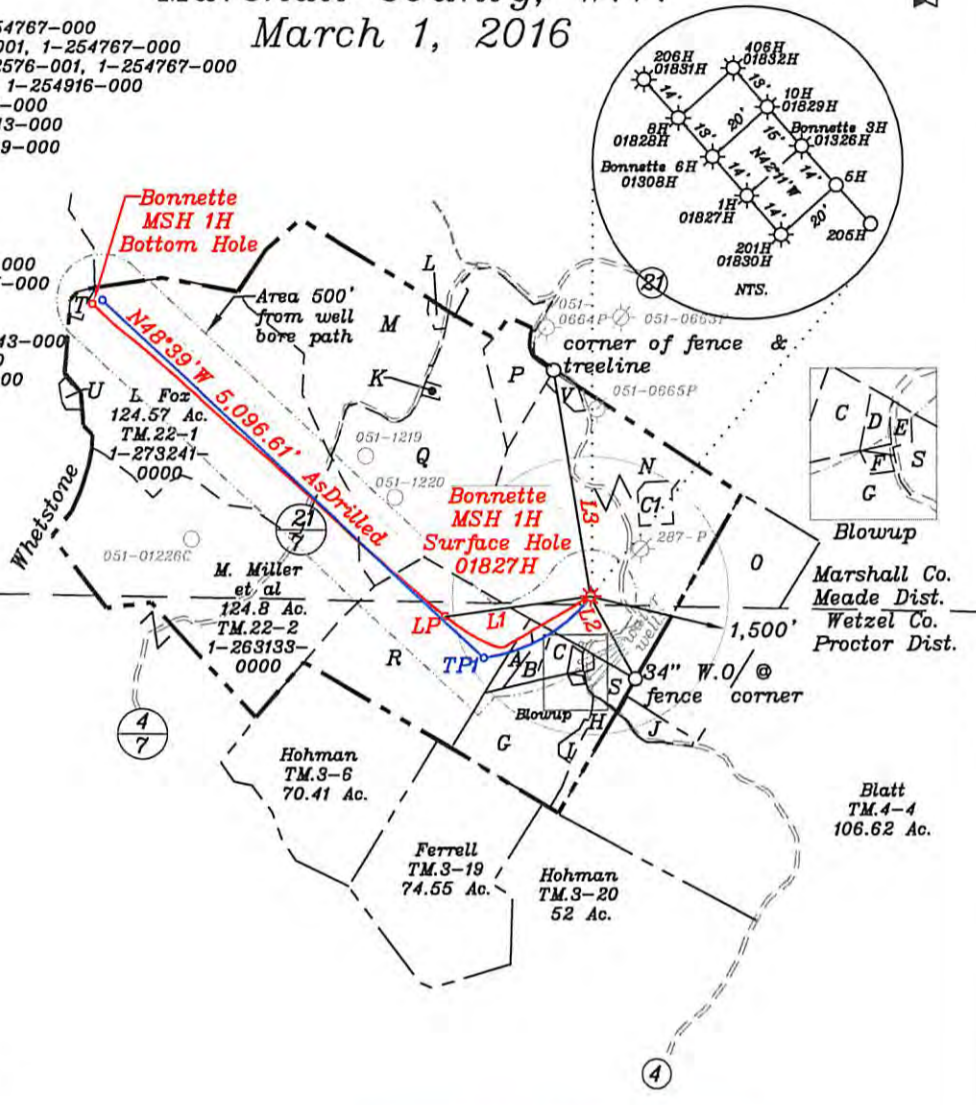
References



SWN Production  
Co. LLC  
AsDrilled  
Bonnette MSH 1H  
Meade District  
Marshall County, W.V.  
March 1, 2016



- A- Ries 3 Ac. TM.3-8 1-292576-001, 1-254767-000
- B- Hohman 4.07 Ac. TM.3-8.3 1-292576-001, 1-254767-000
- C- Hohman 4.12 Ac. TM.3-8.2 & 8.1 1-292576-001, 1-254767-000
- D- B. Ferrell 1 Ac. TM.3-9 1-292576-001, 1-254916-000
- E- B. Ferrell 0.54 Ac. TM.3-10.1 1-254839-000
- F- B. Ferrell 0.33 Ac. TM. 3-10.5 1-254843-000
- G- J. Ferrell 28.97 Ac. TM.3-10.3 1-254839-000
- H- Miller 5.02 Ac. TM.3-10.2
- I- Ferrell 1.29 Ac. TM.3-10.4
- J- Zombotti 4.34 Ac. TM.3-11.2
- K- Wright 0.617 Ac. TM.22-3.3
- L- Mystwiec Trust 1.1 Ac. TM.22-3.1
- M- M. Müller 75 Ac. TM.22-3.2 1-254843-000
- N- Bonnette 126.53 Ac. TM.22-8 1-254855-000
- O- Foz 56 Ac. TM.4-1
- P- Frohnapfel 16.62 Ac. TM.22-5 & 6
- Q- H. Miller 63.73 Ac. T.M. 22-3 1-254843-000
- R- Ries 62.32 Ac. T.M. 3-7 1-255029-000
- S- Zombotti 4.15 Ac. TM.3-10 1-254839-000
- T- CNG Transmission Co.  
TM.22-1.1 1.43 Ac. 1-273241-000
- U- Consol Energy Holdings LLC  
I TM.25-3.2 1.43 Ac.
- V- Klug 1 Ac. TM.22-7
- Cl- The Co. Comm. of Marshall Co.  
3.143 Ac. TM.22-8.1



Note: All wells within 500' of the horizontal leg are shown on this plat based upon information taken from DEP mapping, well plats and aerial photos.

Note: No water wells were found within 250' of well location.

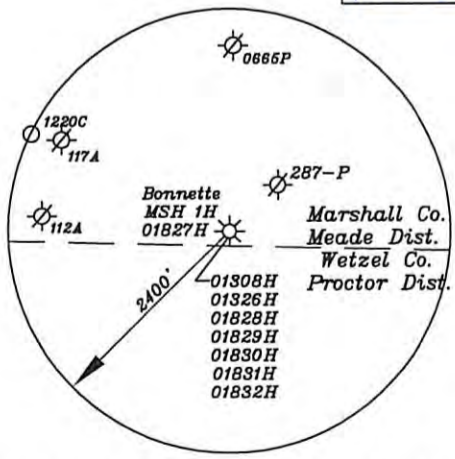
Note: A dwelling is located S18°21'W 534' from the center of the pad.

Note: Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 83.

NUMBER	DIRECTION	DISTANCE
L1	S82°18'W	1,590.56'
L2	S28°37'E	1,018.28'
L3	N09°13'W	2,465.84'

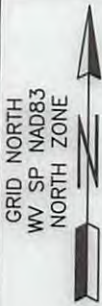
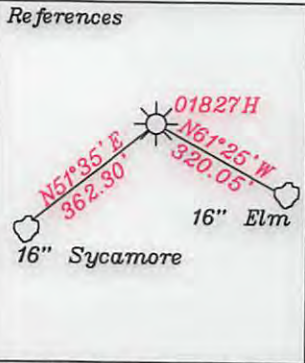
LEGEND	
AsDrilled Leg	— (Red Text)
Permit Leg	— (Blue Text)

NAD 83	
<b>Surface Hole</b>	
UTM NAD 83(meters)	-4396886.008 N. 524699.514 E
Geo. NAD 83	-39.721492 N, 80.711810 W
UTM NAD 83(feet)	-14425450.177 N, 1721451.655 E
<b>LP</b>	
UTM NAD 83(meters)	-4396813.006 N. 524220.403 E
Geo. NAD 83	-39.720848 N, 80.717402 W
UTM NAD 83(feet)	-14425210.671 N, 1719879.774 E
<b>Bottom Hole</b>	
UTM NAD 83(meters)	-4397819.261 N. 523037.595 E
Geo. NAD 83	-39.729947 N, 80.731168 W
UTM NAD 83(feet)	-14428512.027 N, 1715999.175 E
NAD 83	
<b>Top Hole</b>	
UTM NAD 83(meters)	-4396885.9 N. 524699.7 E
Geo. NAD 83	-39.721491 N, 80.711808 W
UTM NAD 83(feet)	-14425449.8 N, 1721452.2 E
<b>TPI</b>	
UTM NAD 83(meters)	-4396678.1 N. 524350.7 E
Geo. NAD 83	-39.719629 N, 80.715888 W
UTM NAD 83(feet)	-14424768.0 N, 1720307.1 E
<b>Bottom Hole</b>	
UTM NAD 83(meters)	-4397832.1 N. 523070.8 E
Geo. NAD 83	-39.730062 N, 80.730780 W
UTM NAD 83(feet)	-14428554.2 N, 1716108.1 E



12/02/2016

Jackson Surveying, Inc.  
677 West Main Street  
Clarksburg, WV 26301



<b>Surface Hole</b>
UTM NAD 83(meters)-4396886.008 N. 524699.514 E
<b>LP</b>
UTM NAD 83(meters)-4396813.006 N. 524220.405 E
<b>Bottom Hole</b>
UTM NAD 83(meters)-4397819.261 N. 523037.595 E
<b>Top Hole</b>
UTM NAD 83(meters)-4396885.9 N. 524699.7 E
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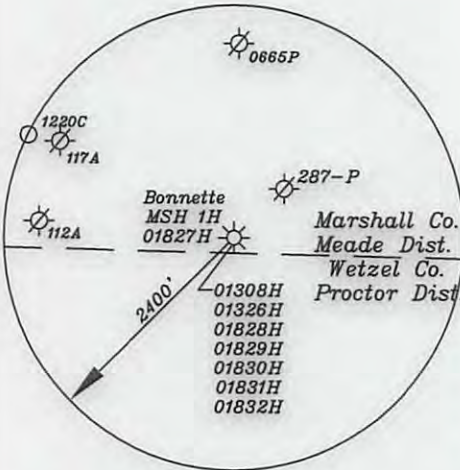
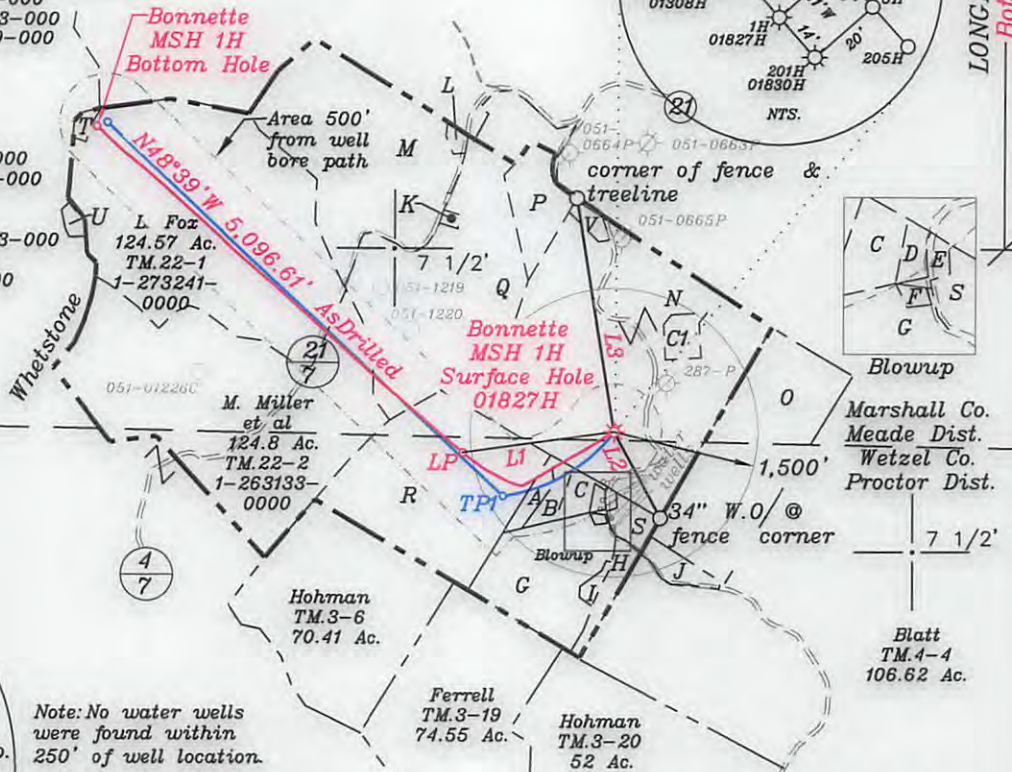
Top Hole 1,171'  
Bottom Hole 6,574'  
LATITUDE 39-45-00 N

**LEGEND**

AsDrilled Leg (Red Text) ———

Permit Leg (Blue Text) ———

- A- Ries 3 Ac. TM.3-8 1-292576-001, 1-254767-000
- B- Hohman 4.07 Ac. TM.3-8.3 1-292576-001, 1-254767-000
- C- Hohman 4.12 Ac. TM.3-8.2 & 8.1 1-292576-001, 1-254767-000
- D- B. Ferrell 1 Ac. TM.3-9 1-292576-001, 1-254916-000
- E- B. Ferrell 0.54 Ac. TM.3-10.1 1-254839-000
- F- B. Ferrell 0.33 Ac. TM. 3-10.5 1-254843-000
- G- J. Ferrell 28.97 Ac. TM.3-10.3 1-254839-000
- H- Miller 5.02 Ac. TM.3-10.2
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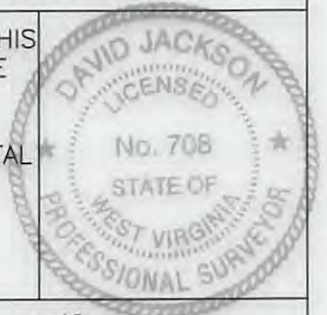
Note: Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 83.

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. \_\_\_\_\_  
DRAWING NO. 1  
SCALE 1" = 2000'  
MINIMUM DEGREE OF ACCURACY 1 in 200  
PROVEN SOURCE OF ELEVATION GPS  
submeter unit

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

(SIGNED) David Jackson  
R.P.E. \_\_\_\_\_ L.L.S. 708



STATE OF WEST VIRGINIA  
Division of Environmental Protection  
OFFICE OF OIL AND GAS

DATE March 1, 2016  
OPERATOR'S WELL NO. Bonnette MSH 1H  
API WELL NO. 47 051 01827H  
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 1,427.7' WATER SHED Whetstone Creek  
DISTRICT Meade COUNTY Marshall  
QUADRANGLE Wileyville 7 1/2'

SURFACE OWNER Robert and Linda Bonnette ACREAGE 126.53 ac.  
OIL & GAS ROYALTY OWNER Robert and Linda Bonnette, Robert and Barbara Bias, & Larry and Glenda Kress LEASE ACREAGE 513.14 ac.

LEASE NO. \_\_\_\_\_

12/02/2016

PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AsDrilled

PLUG AND ABANDON CLEAN OUT AND REPLUG

TARGET FORMATION Marcellus ESTIMATED DEPTH TVD=7,077'; TMD 12,734'

WELL OPERATOR SWN Production Co. LLC DESIGNATED AGENT Dee Southall  
ADDRESS P.O. Box 1300 Jane Lew, WV 26378 ADDRESS P.O. Box 1300 Jane Lew, WV 26378