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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Monday, November 29, 2021  
WELL WORK PERMIT  
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC  
POST OFFICE BOX 12359  
SPRING, TX 773914954

Re: Permit approval for BETTY SCHAFER MSH 3H  
47-051-02417-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

A blue ink signature of James A. Martin, Chief.

James A. Martin  
Chief

Operator's Well Number: BETTY SCHAFER MSH 3H  
Farm Name: ROY A SCHAFER JR & EDW   
U.S. WELL NUMBER: 47-051-02417-00-00  
Horizontal 6A New Drill  
Date Issued: 11/29/2021

Promoting a healthy environment.

12/03/2021

# PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

## CONDITIONS

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1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
8. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
9. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
10. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

API Number: \_\_\_\_\_

## PERMIT CONDITIONS

11. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to [DEPOOGNotify@wv.gov](mailto:DEPOOGNotify@wv.gov).

12/03/2021

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator: SWN Production Co., LLC 494512924 051-Marshall Sand Hill Moundsville  
Operator ID County District Quadrangle

2) Operator's Well Number: Betty Schafer MSH 3H Well Pad Name: Betty Schafer MSH Pad

3) Farm Name/Surface Owner: Roy A. Schafer & Edward J. Schafer Public Road Access: Big Wheeling Creek

4) Elevation, current ground: 848.4' Elevation, proposed post-construction: 848.4'

5) Well Type (a) Gas  Oil  Underground Storage

Other

(b) If Gas Shallow  Deep

Horizontal  *Layne J. Kuntowski 11/10/20*

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Target Formation- Marcellus, Up-Dip well to the North, Target Top TVD- 5969', Target Base TVD- 6021', Anticipated Thickness- 52', Associated Pressure- 3913'

8) Proposed Total Vertical Depth: 6005'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 22750'

11) Proposed Horizontal Leg Length: 11,494.34'

12) Approximate Fresh Water Strata Depths: 281'

13) Method to Determine Fresh Water Depths: Salinity calculations from Betty Schafer MSH 8H (API 47-051-02297)

14) Approximate Saltwater Depths: 803' Salinity Profile

15) Approximate Coal Seam Depths: 353'

16) Approximate Depth to Possible Void (coal mine, karst, other): None that we are aware of.

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes  No

(a) If Yes, provide Mine Info: Name: Ohio County Mine  
Depth: 353'  
Seam: Pittsburgh  
Owner: American Consolidated Natural Resources

18)

**CASING AND TUBING PROGRAM**

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	J-55	94#	126'	126'	CTS
Fresh Water	13 3/8"	New	H-40	48#	351'	351'	355 sx/CTS
Coal	See	Interm	Casing				
Intermediate	9 5/8"	New	J-55	36#	1710'	1710'	758 sx/CTS
Production	6	New	P-110 HP	24#	0'	4900'	
Tubing	5 1/2"	New	P-110 HP	20#	4900'	22750'	Test 3747sc/ 100 Inside Intermediate
Liners							

*Bang Kelly 9-30-21*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	30"	0.25	2120	81	Class A	1.20/30% Excess
Fresh Water	13 3/8"	17.5"	0.380	2730	633	Class A	1.20/30% Excess
Coal	See	Interm	Casing				
Intermediate	9 5/8"	12 1/4"	0.395	3950	1768	Class A	1.19/40% Excess
Production	5 1/2"	8 3/4"-8 1/2"	0.361	14360	10500	Class A	1.19/5% Excess
Tubing							
Liners							

**PACKERS**

Kind:				
Sizes:				
Depths Set:				

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WW-6B  
(10/14)

4705102417  
API NO. 47- 051 -  
OPERATOR WELL NO. Betty Schafer MSH 3H  
Well Pad Name: Betty Schafer MSH Pad

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill and stimulate any potential zones between and including the Benson to Marcellus. \*\*If we should encounter a void place basket above and below void area- balance cement to bottom of void and grout from basket to surface or run external casing packer/cementing stage tool above void interval and perform 2 stage cementing operation dependent upon depth of void. Run casing not less than 20' below void nor more than 75' below void. (\*If freshwater is encountered deeper than anticipated it must be protected, set casing 50' below and cts.)

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This will be performed in stages with the plug and perf method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. In some instances, additional toe prep may be performed by pumping additional water in the toe of the well prior to perforating and pumping Stage 1 to ensure that the toe guns/toe sleeves are fully open prior to pumping stage 1. The well is produced through surface facilities consisting of high pressure production units, horizontal separation units, water and oil storage tanks. Max press and anticipated max rate- 9000 lbs @ 100 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 7.82

22) Area to be disturbed for well pad only, less access road (acres): 2.99

23) Describe centralizer placement for each casing string:

All casing strings will be ran with a centralizer at a minimum of 1 per every 3 joints of casing.

24) Describe all cement additives associated with each cement type:

See Attachment \*\*\*

25) Proposed borehole conditioning procedures:

All boreholes will be conditioned with circulation and rotation for a minimum of one bottoms up and continuing until operator is satisfied with borehole conditions.

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\*Note: Attach additional sheets as needed.

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

API 47 - 051 - 02297 County MARSHALL District SAND HILL  
 Quad MOUNDSVILLE Pad Name BETTY SCHAFER MSH PAD Field/Pool Name PANHANDLE FIELD WET  
 Farm name BETTY JANE SCHAFER Well Number BETTY SCHAFER MSH 8H  
 Operator (as registered with the OOG) SWN PRODUCTION COMPANY, LLC  
 Address PO BOX 12359 City SPRING State TX Zip 77391-2359

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
 Top hole Northing 4,426,813.904 Easting 531,107.946  
 Landing Point of Curve Northing 4,426,696.032 Easting 531,356.483  
 Bottom Hole Northing 4,424,785.481 Easting 532,079.900

Elevation (ft) 848.4' 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

Date permit issued 2/19/2020 Date drilling commenced 3/19/2020 Date drilling ceased 3/31/2020  
 Date completion activities began 7/13/2020 Date completion activities ceased 8/20/2020  
 Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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

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Freshwater depth(s) ft 280' Open mine(s) (Y/N) depths N  
 Salt water depth(s) ft 802' Void(s) encountered (Y/N) depths N  
 Coal depth(s) ft 352' Cavern(s) encountered (Y/N) depths N  
 Is coal being mined in area (Y/N) N

Reviewed by:  
*Jim Hedges*  
12/17/2020  
12/03/2021

API 47-051 - 02297

Farm name BETTY JANE SCHAFER

Well number BETTY SCHAFER MSH 8H

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	NEW	J-55/94#		Y
Surface	17.5	13.375	331	NEW	J-55/54.50#		Y, 17 BBLS
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	1710	NEW	J-55/36#		Y, 39 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	20437	NEW	P-110/20#		Y, 75 BBLS
Tubing		2.875	6366	NEW	P-110/6.5#		N
Packer type and depth set							

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	CLASS A	GROUT TO SURFACE				SURFACE	24
Surface	CLASS A	340	15.60	1.20	408	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	885	15.60	1.19	815.15	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	3,850	15.60	1.21	4,658.5	SURFACE	24
Tubing							

Drillers TD (ft) 20,442

Loggers TD (ft) 20,442

Deepest formation penetrated MARCELLUS

Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 6,311'

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 \_\_\_\_\_

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SURFACE: 7 CENTRALIZERS - EVERY THIRD JOINT OF CASING

INTERMEDIATE: 24 CENTRALIZERS - EVERY THIRD JOINT OF CASING

PRODUCTION: 181 CENTRALIZERS - EVERY THIRD JOINT FROM SURFACE TO TOP OF CURVE, THEN EVERY JOINT UNTIL TD

~~OCT-26-2020~~

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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 \_\_\_\_\_

12/03/2021



API 47- 051 - 02297 Form name BETTY JANE SCHAFFER Well number BETTY SCHAFFER MSH 8H

PRODUCING FORMATION(S)	DEPTHS	
<u>MARCELLUS</u>	<u>5,974'</u> TVD	<u>6,209'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 2935 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas 7,928 mcfpd Oil 384 bpd NGL \_\_\_\_\_ bpd Water 1,038 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

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, H <sub>2</sub> S, ETC)
	<u>0</u>		<u>0</u>		
	<u>SEE</u>	<u>ATTACHMENT</u>	<u>3</u>		

Please insert additional pages as applicable.

Drilling Contractor SWN DRILLING COMPANY  
Address PO BOX 12359 City SPRING State TX Zip 77391-2359

Logging Company BAKER HUGHES  
Address 9110 GROGANS MILL RD City THE WOODLANDS State TX Zip 77380

Cementing Company C&J ENERGY SERVICES, INC  
Address 3990 ROGERDALE RD City HOUSTON State TX Zip 77042

Stimulating Company HALLIBURTON ENERGY SERVICES  
Address 4851 MILNER ROAD, GATE 5A City HOUSTON State TX Zip 77032

Please insert additional pages as applicable.

Completed by BOBBY WILLIS Telephone 832-788-2884  
Signature [Signature] Title SENIOR REGULATORY ANALYST Date 10/22/2020

Submital of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

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**Southwestern Energy Company**

**Proposed Drilling Program**

Well: **BETTY SCHAFER MSH 3** Re-entry Rig: **TBD**  
 Field: **PANHANDLE FIELD \** Prospect: **Marcellus Shale**  
 County: **MARSHALL** State: **WV**  
 SHL: **39.9910 Latitude -80.6355 Longitude**  
 BHL: **40.0316 Latitude -80.6596 Longitude**  
 KB Elev: **874 ft MSL** KB: **26 ft AGL** GL Elev: **848 ft MSL**



NO COAL VOID ANTICIPATED

PROD TOC Lead @ 1,910' MD

PROD TOC Tail @ 6,293' MD

**TUBULAR DETAIL**

Casing String	Casing Size (in)	Weight (Min)	Grade (Min)	Planned Interval	
				From	To
Conductor	20	94.0 #	J-55	0'	126'
Surface	13.375	48.0 #	H-40	0'	351'
Intm/Coal	9.625	36.0 #	J-55	0'	1,210'
Production	6	24.0 #	P-110 HP	0'	4,900'
Production	5.5	20.0 #	P-110 HP	4,900'	22,750'

**CEMENT DETAIL**

	Sacks	Class	Density
Conductor:	151	A	19.3
Surface:	355	A	15.6
Intermediate:	758	A	15.6
Production:	3747	A	15-15.6

126' to 371'  
Air/Mist

371' to 1,730'  
Air/Mist

10.5# Brine

1,730' to 5,107'  
Air/Mist

TD at 5,107'

5,107' to 6,493'  
11.5-12.8 ppg

6,493' to 22,750'  
12.8-13.5 ppg

KOP at 5,107' MD

Freshwater Depth - 281' TVD

Coal Depth - 353' TVD

Saltwater Depth - 803' TVD

TVD - 6,005'

TMD - 22,750'

6,005' Target Center

TD at 22,750' MD  
5,819' TVD

EOB at 6,493' MD

Onondaga 5,835' TVD

SHL Onondaga 6,021' TVD

Created by: Derek Motely on 09/14/2021

*B.S. 9-30-21*

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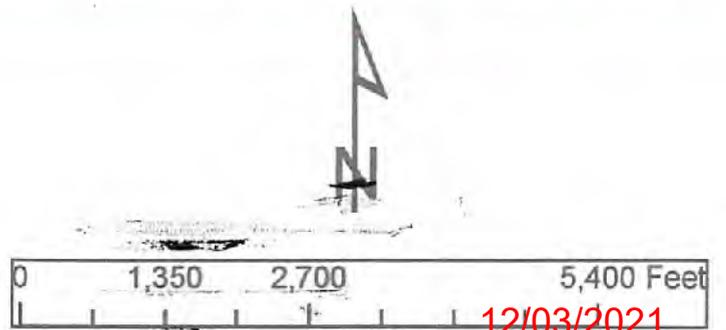
12/03/2021



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

### Legend

-  1000ft Radius
-  BettySchaferMSHPad1
-  Coal Mining







4705102417

**SWN PRODUCTION COMPANY, LLC**

Location: Marshall County, WV  
 Field: Marshall  
 Facility: Betty Schaefer MSH Prod  
 Well: Slot BH  
 Well: Betty Schaefer MSH BH  
 Workover: Betty Schaefer MSH RH PWR



See additional logs in Betty Schaefer MSH Prod well log  
 Measurements were taken in accordance with API RP 9B  
 Measurements were taken in accordance with API RP 9B  
 SDC 41 (K) to Mean Sea Level (MSL) per  
 Mean Sea Level (MSL) per  
 Other well logs are obtained to agree with a printed MD report

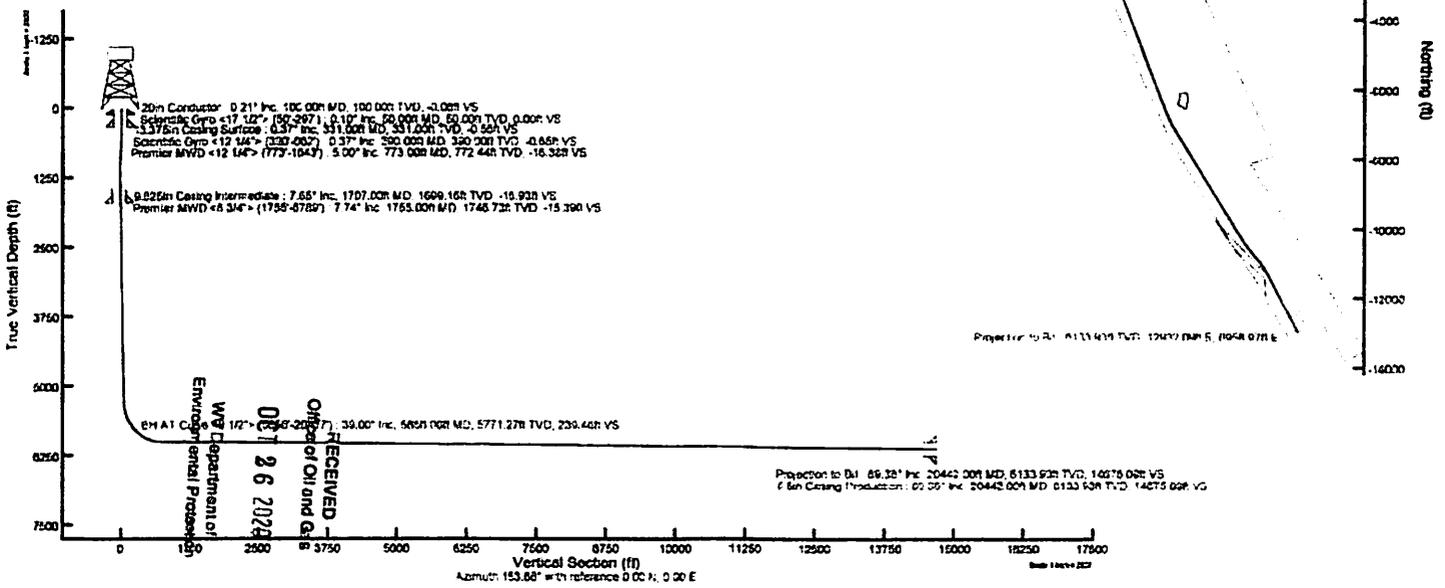
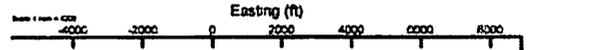
**Location Information**

Facility Name	Grid East (US FT)	Grid North (US FT)	Latitude	Longitude
Betty Schaefer MSH Prod	1743482.883	14532614.847	39°39'27.1070"N	80°30'13.550"W
Slot	Local E (ft)	Grid East (US FT)	Latitude	Longitude
Slot BH	23.00	1743478.850	39°39'27.3413"N	80°30'13.2141"W
SDC 41 (K) to Mean Sea Level (MSL) per Slot BH			368	
Mean Sea Level to Mean Sea Level (MSL) per Slot BH			-648.30	
SDC 41 (K) to Mean Sea Level			874.33	

API 47-051-02207-0000  
 BH Job # 110235795A  
 Rig SDC 41  
 Duration 03/24/2020 - 03/27/2020



See additional logs in Betty Schaefer MSH Prod well log  
 Measurements were taken in accordance with API RP 9B  
 Measurements were taken in accordance with API RP 9B  
 SDC 41 (K) to Mean Sea Level (MSL) per  
 Mean Sea Level (MSL) per  
 Other well logs are obtained to agree with a printed MD report



Scientific Cyno <17 1/2" (50-297) 50.00R TVD, 0.01R N, 0.02R E  
 Scientific Cyno <12 1/4" (330-662) 330.00R TVD, 1.12R N, 0.81R E  
 Premier MWD <12 1/4" (773-1643) 772.64R TVD, 18.71R N, 0.92R E  
 Premier MWD <8 3/4" (1755-6769) 1748.73R TVD, 65.45R N, 104.84R E  
 BH AT Casing <8 1/2" (5655-20417) 5771.27R TVD, 53.87R N, 653.78R E

Projection to Dtl: 8133.93R TVD, 12470.00R E, 1064.07R E

Projection to Dtl: 89.38" inc, 20442.00R MD, 8133.93R TVD, 14678.06R VS  
 8 1/2 in Casing Production: 62.50" inc, 20442.00R MD, 8133.93R TVD, 14678.06R VS

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WW-9  
(4/16)

API Number 47 - 051 - \_\_\_\_\_  
Operator's Well No. Betty Schafer MSH 3H

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name SWN Production Co., LLC OP Code 494512924

Watershed (HUC 10) Wheeling Creek Quadrangle Moundsville

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No

Will a pit be used? Yes  No

If so, please describe anticipated pit waste: \_\_\_\_\_

Will a synthetic liner be used in the pit? Yes  No  If so, what ml.? \_\_\_\_\_

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number Various Approved Facilities )
- Reuse (at API Number At the next anticipated well )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain recovery and solidification on site )

Will closed loop system be used? If so, describe: Yes- See Attachment 3A

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. All drill to KOP, full drill with SOB from KOP to TD

-If oil based, what type? Synthetic, petroleum, etc. Synthetic Oil Base

Additives to be used in drilling medium? Attachment 3B

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Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. landfill

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-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) \_\_\_\_\_

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-Landfill or offsite name/permit number? Meadowfill SWF- 1032, Short Creek SWF-1034, Carbon Limestone MSWL018781, Wetzel County 1021

Apex Sanitary Landfill 06-08438, Brooke Co SWF-1013,

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Brittany Woody*  
Company Official (Typed Name) Brittany Woody  
Company Official Title Senior Regulatory Analyst

Subscribed and sworn before me this 14th day of September, 2021

*Elizabeth R Day*  
My commission expires May 6 2023



12/03/2021

SWN Production Co., LLC

Proposed Revegetation Treatment: Acres Disturbed 7.82 Prevegetation pH \_\_\_\_\_

Lime as determined by pH test min.2 Tons/acre or to correct to pH 2.99

Fertilizer type 10-20-20

Fertilizer amount 600/500 lbs/acre

Mulch Hay/Straw Tons/acre

Seed Mixtures

**Temporary**

**Permanent**

Seed Type lbs/acre

Seed Type lbs/acre

Attachment 3C

**Attach:**

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, include dimensions (L x W x D) of the pit, and dimensions (L x W), and area in acreage, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Benny Schump

Comments: \_\_\_\_\_

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OCT 26 2021

WV Department of  
Environmental Protection

Title: Oil & Gas Inspector

Date: 9-30-21

Field Reviewed?  Yes  No

## Attachment 3A

**CLOSED LOOP SYSTEM**

The closed loop system is designed to eliminate the use of reserve pits by providing a higher level of solids control processing and using steel pits for capture of drill cuttings. The cuttings are then processed to achieve landfill requirements before hauling to approved landfills. The liquids are processed to recycle into the active mud system or to transfer to onsite temporary storage as needed.

The closed loop system consists of several sets of a shale gas separator (often called a 'methana'), several banks of solids shakers, high speed centrifuges (1 or 2) used to process the fluid portion of the mud system to remove low gravity solids, low speed centrifuge used for barite recovery in high weight liquid drilling systems, a dewatering system (for air intervals and if freshwater mud systems are in use) used to further clean liquids by flocculation and additional mechanical separation, associated open top tanks for processing liquids and capturing solids for disposal, and transfer pumps to move fluids through the processes. There is an area adjacent to the cuttings tanks (Red Zone) where a track hole is utilized to recover the processed cuttings for loading into containers for hauloff. (See attached schematic of a generic closed loop system layout)

Below are discussions of the processes used when drilling the air interval or liquids interval.

**AIR DRILLING INTERVALS**

During air drilling operations, flow from the rig will pass down the flowline to the Shale Gas Separator (sometimes called a methane) where gas and liquids/solids are separated. Gas is sent to the flare scrubber tank and is flared at the flare stack. Solids and fluids pass across a shaker system to separate solids from liquids. Solids pass into the cuttings tanks where they are captured for drying and hauloff to an approved landfill site. Liquids fall into a shaker tank and are collected by a centrifugal pump to be processed by the high speed centrifuge to further separate liquids and solids. Solids are then dumped into the cuttings tank for drying and hauloff. Liquids are further processed to remove additional low gravity solids before being reused or transferred to onsite storage.

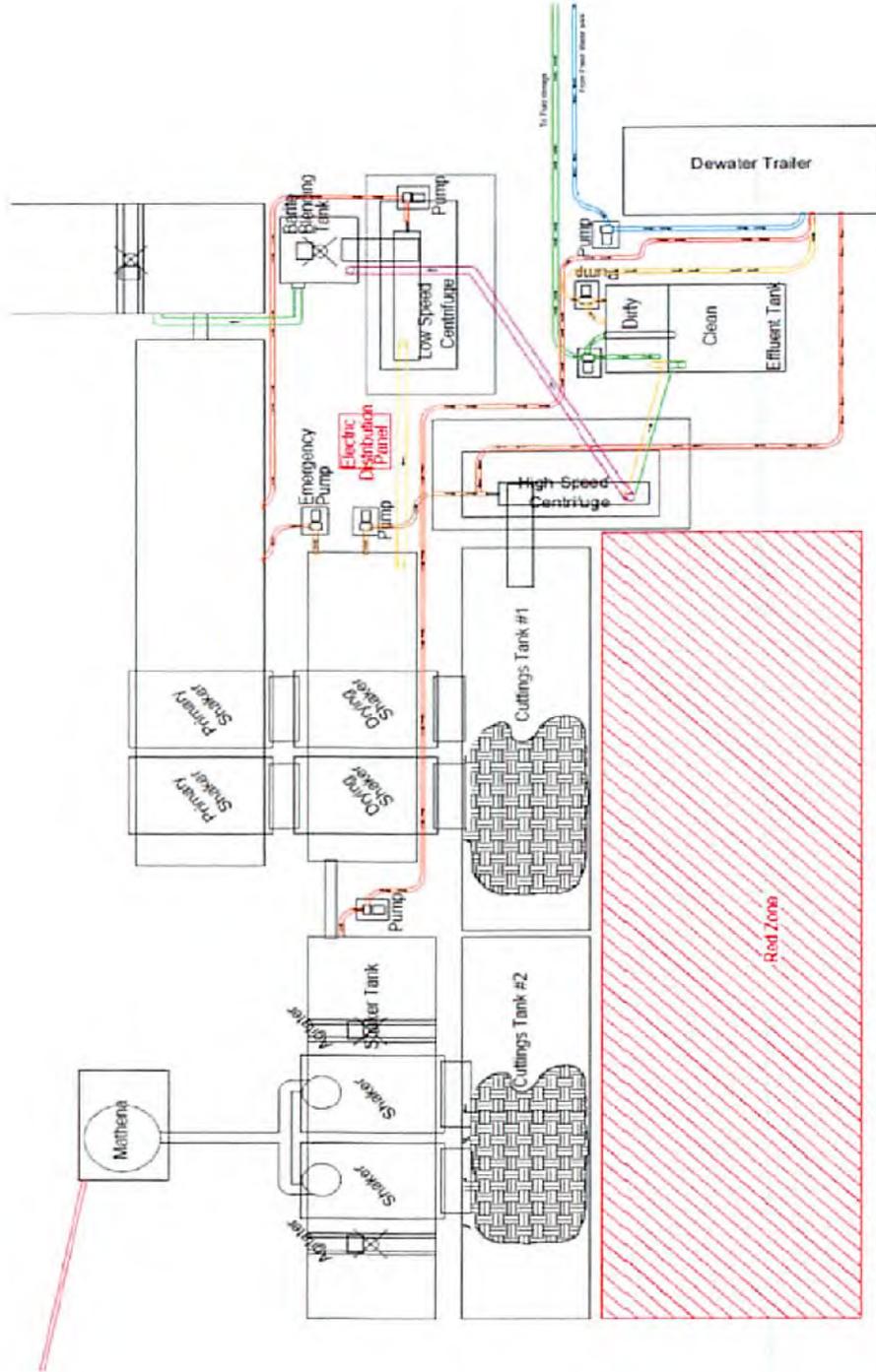
**LIQUIDS DRILLING (FRESHWATER, BRINE, SOBM)**

When drilling is converted to liquids drilling, the shale gas separator and associated shaker tank are bypassed, and the liquids system is processed over the primary and drying shaker systems. Cuttings drop into the cuttings tank for additional processing. Any recoverable associated liquids attached to the cutting are recovered out the tank and processed through the low gravity (high speed) and barite recovery centrifuges (low speed) to further remove low gravity solids and to recover barite for reuse in the mud systems.

EXAMPLE SCHEMATIC FOR CLOSED LOOP SOLIDS CONTROL SYSTEM



# Solids Control Layout



**Attachment 3B**  
**Drilling Mediums**

**Surface/Coal(if present)/Freshwater Intervals:**

Air

Freshwater (if needed based on conditions)

**Intermediate/Coal (if present):**

Air

**Production Hole:**

Air

Synthetic Oil (Base Fluid for mud system)

Barite

Calcium Chloride

Lime

Organophilic Bentonite

Primary and Secondary Emulsifiers

Gilsonite

Calcium Carbonate

Friction Reducers



### WVD Seeding Specification



To Order Seed contact Lyndsi Eddy Flippo office 570-996-4271 cell 501-269-5451 lyndsi\_eddy@swn.com (please allow 7 to 10 days for delivery)

NON-ORGANIC PROPERTIES	
Seed Mixture: ROW Mix	SWN Supplied
Orchardgrass	40%
Timothy	15%
Annual Ryegrass	15%
Brown Top Millet	5%
Red Top	5%
Medium Red Clover	5%
White Clover	5%
Birdsfoot Trefoil	5%
Rough Bluegrass	5%
All legumes are inoculated at 5x normal rate	
Apply @ 100lbs per acre April 16th- Oct. 14th	
Apply @ 200lbs per acre Oct. 15th- April 15th PLUS 50lbs per acre of Winter Wheat	

SOIL AMENDMENTS	
10-20-20 Fertilizer	*Apply @ 500lbs per Acre
Pelletized Lime	Apply @ 2 Tons per Acre
*unless otherwise dictated by soil test results	

**Seeding Calculation Information:**  
 1452' of 30' ROW/LOD is One Acre  
 871' of 50' ROW/LOD is One Acre  
 622' of 70' ROW/LOD is One Acre

**Synopsis:**  
 Every 622 linear feet in a 70' ROW/LOD, you should be using (2) 50lb bags of seed, (4) 50lb bags of fertilizer and (80) 50lb bags of Lime (2x seed in winter months + 50lb Winter Wheat/ac).

**Special Considerations:**  
 Landowner Special Considerations including CREP program participants require additional guidance that is not given here. Discuss these requirements with SWN supervision at the beginning of the project to allow time for special seed delivery.

ORGANIC PROPERTIES	
Seed Mixture: SWN Production Organic Mix	SWN Supplied
Organic Timothy	50%
Organic Red or White Clover	50%
OR	
Organic Perennial Ryegrass	50%
Organic Red or White Clover	50%
Apply @ 100lbs per acre April 16th- Oct. 14th	
Apply @ 200lbs per acre Oct. 15th- April 15th	
Organic Fertilizer @ 200lbs per Acre	Pelletized Lime @ 2 Tons per Acre

WETLANDS (delineated as jurisdictional wetlands)	
Seed Mixture: Wetland Mix	SWN Supplied
VA Wild Ryegrass	20%
Annual Ryegrass	20%
Fowl Bluegrass	20%
Cosmos 'Sensation'	10%
Redtop	5%
Golden Tickseed	5%
Maryland Senna	5%
Showy Tickseed	5%
Fox Sedge	2.5%
Soft Rush	2.5%
Woolgrass	2.5%
Swamp Verbena	2.5%
Apply @ 25lbs per acre April 16th- Oct. 14th	
Apply @ 50lbs per acre Oct. 15th- April 15th	
NO FERTILIZER OR LIME INSIDE WETLAND LIMITS	

# MARCELLUS WELL DRILLING PROCEDURES AND WELL SITE SAFETY PLAN



SWN Production Company, LLC  
1300 Fort Pierpont Drive, Suite 201  
Morgantown, West Virginia 26508

**API NO. 47-XXX-XXXXX**  
**WELL NAME: Betty Schafer MSH 3H**  
**Moundsville QUAD**  
**Sand Hill DISTRICT**  
**MARSHALL COUNTY, WEST VIRGINIA**

Submitted by:

*Bryan Stiles 9-30-21*

Name: Brittany Woody

Date: 9/8/2021

*Brittany Woody*

Title: Senior Regulatory Analyst

SWN Production Co., LLC

Approved by:

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Title: \_\_\_\_\_

Approved by:

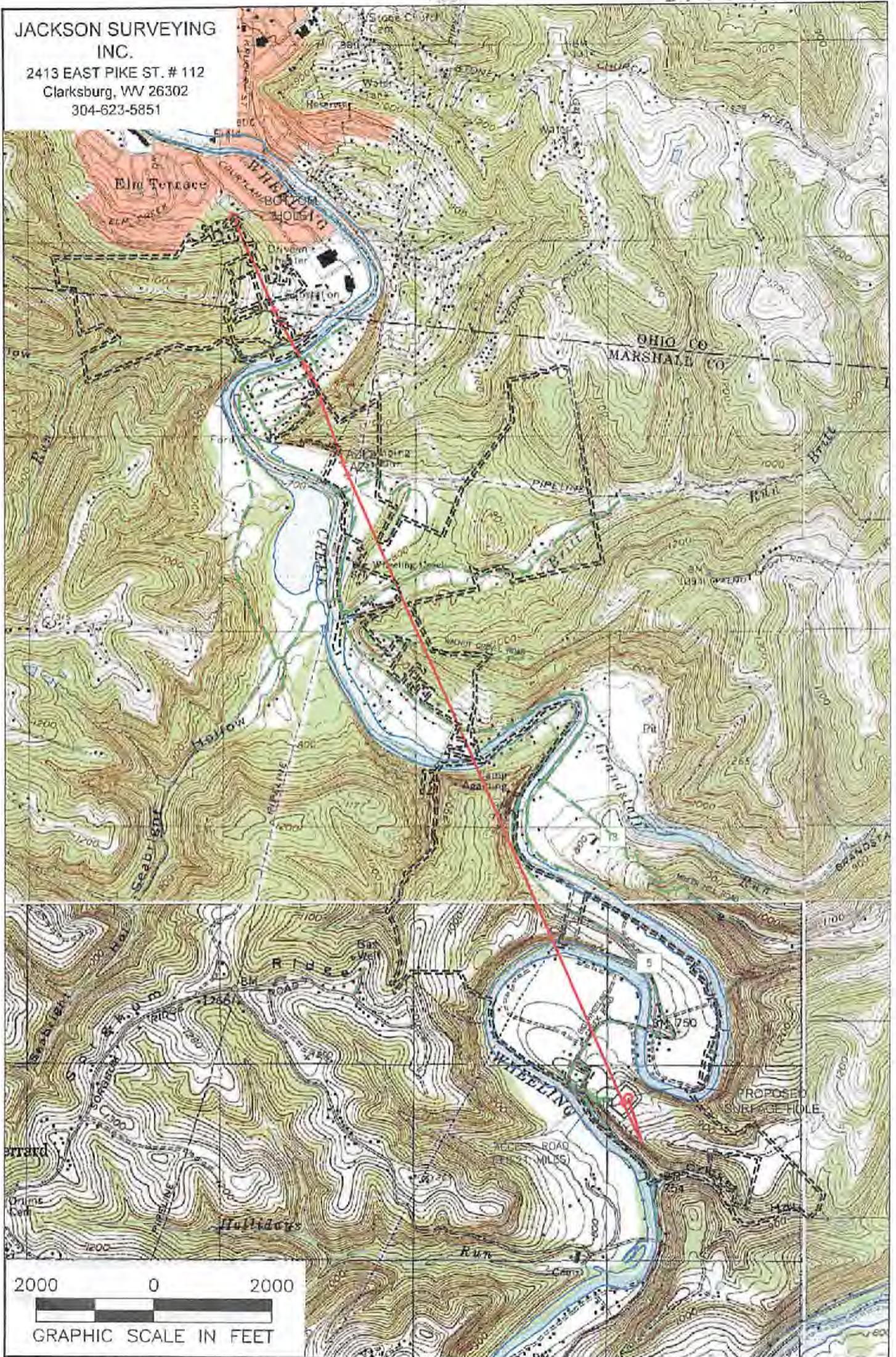
Name: \_\_\_\_\_

Date: \_\_\_\_\_

Title: \_\_\_\_\_

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WV Department of  
Environmental Protection

**JACKSON SURVEYING  
INC.**  
2413 EAST PIKE ST. # 112  
Clarksburg, WV 26302  
304-623-5851



**NOTES ON SURVEY**  
1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.  
2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.  
3. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

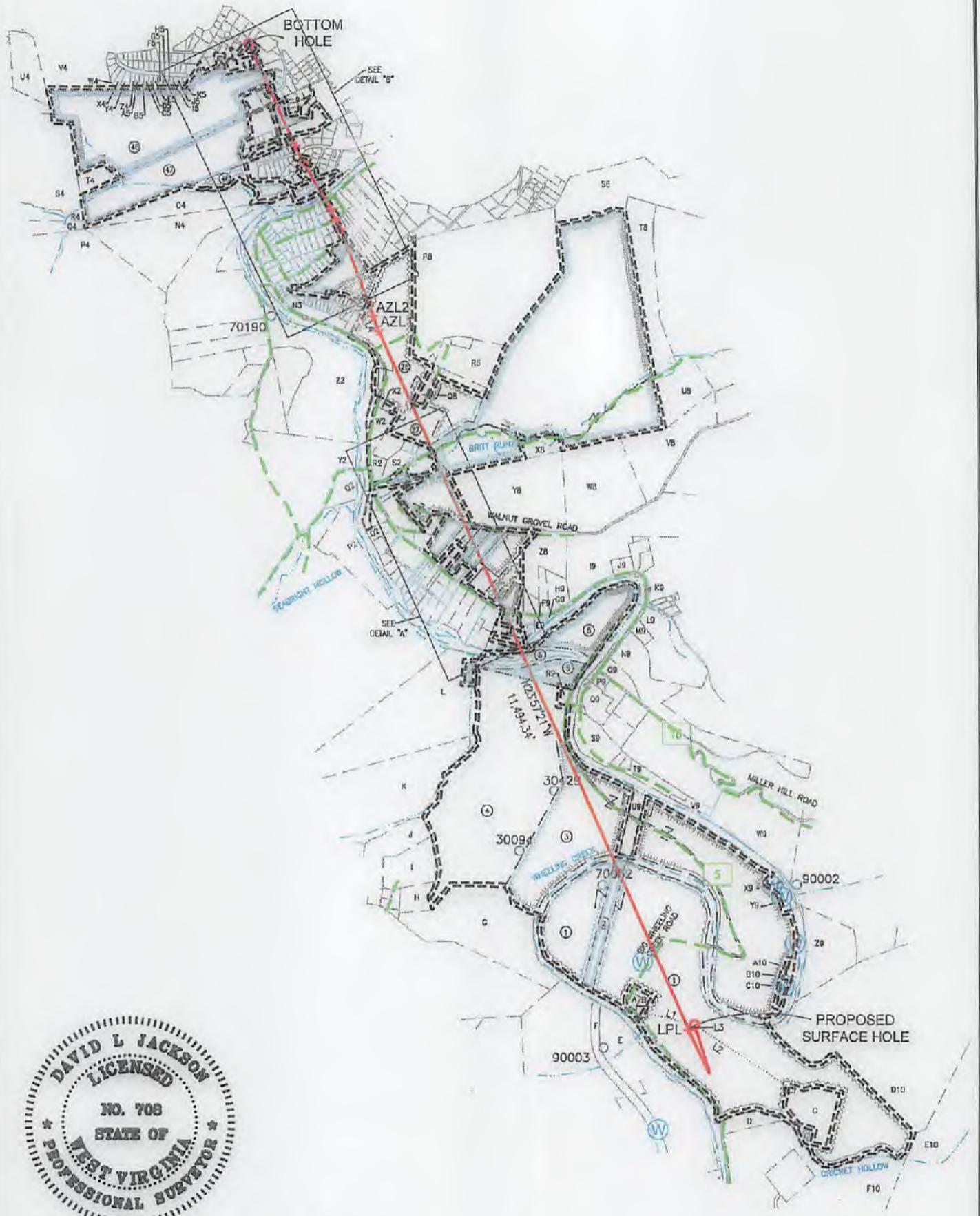
- LEGEND:**
- PROPOSED SURFACE HOLE / BOTTOM HOLE
  - \* EXISTING / PRODUCING WELLHEAD
  - \* LPL LANDING POINT LOCATION
  - FLOOD PLAIN
  - PUBLIC ROAD
  - ACCESS ROAD TO PREV. SITE
  - LEASE BOUNDARY
  - PROPOSED PATH

12/03/2021

<b>WELL OPERATOR:</b> SWN PRODUCTION COMPANY, LLC	<b>WELL (FARM) NAME:</b> BETTY SCHAFER MSH	<b>WELL #</b> 3H	<b>SERIAL #</b>
<b>ADDRESS:</b> 1300 FORT PIERPONT ROAD, SUITE 200 MORGANTOWN, WV 26508	<b>COUNTY - CODE</b> MARSHALL - 051	<b>DISTRICT:</b> SAND HILL	
<b>SURFACE OWNER:</b> ROY A. SCHAFER JR. & EDWARD J. SCHAFER	<b>USGS 7 1/2 QUADRANGLE MAP NAME</b> MOUNDSVILLE, WV	<b>API #</b> 47-051-02417	



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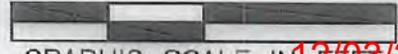


I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 708

*David L Jackson*

2000 0 2000



GRAPHIC SCALE IN FEET 12/03/2021

REVISIONS:	COMPANY:			
	OPERATOR'S			
	WELL #:		API #	DATE: 10-13-2021
	DISTRICT:		47-051-0247	DRAWN BY: N. MANO
	COUNTY:		STATE:	SCALE: 1" = 2000'
	MARSHALL		WV	DRAWING NO:
	SAND HILL		WELL LOCATION PLAT 2	

JACKSON SURVEYING  
 INC.  
 2413 EAST PIKE ST. # 112  
 Clarksburg, WV 26302  
 304-623-5851



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 REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 708 *David L. Jackson* 12/03/2021

REVISIONS:	COMPANY:		
	OPERATOR'S	BETTY SCHAFER MSH	API #
	WELL #:	3H	47-051-02417
	DISTRICT:	SAND HILL	COUNTY:
			MARSHALL
		STATE:	DATE:
		WV	10-13-2021
			DRAWN BY: N. MANO
			SCALE: N/A
			DRAWING NO:
			WELL LOCATION PLAT 3

JACKSON SURVEYING  
 INC.  
 2413 EAST PIKE ST. # 112  
 Clarksburg, WV 26302  
 304-623-5851

WELL BORE TRACTS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	SCHAFER ROY A JR & SCHAFER EDWARD J (S/R)	12-0009-22
2	SCHAFER ROY A JR & SCHAFER EDWARD J (S)	12-0009-24
3	GRAY JOHN ALVIN (S)	13-0003-14
4	HART JOHN J AND HART RENEE A (S)	13-0003-11
5	MAAS BRIAN J & AMY C - TRUST (S)	13-0003-10
6	MAAS BRIAN J & AMY C - TRUST (S)	13-0003-08
7	MALARSKI PETE E ET UX (S)	12-0018-34
8	MATTUCCI MARK A (S)	12-0018-29
9	GREENE JANNELLE R (S)	12-0018-30
10	FERRERA THOMAS JR & SHAWNNA (S)	12-0018-31.1
11	GRIFFITH JOHN W & BARBARA J (S)	12-0018-32
12	GRIFFITH THOMAS A (S)	12-0001-37
13	STEGMAN MATTHEW D ET UX (S)	12-0018-25
14	ESTEP DOUGLAS J & LINDA B (S)	12-0001-38
15	SLIGAR NOEL W & CHRISTA M (S)	12-0001-39.2
16	MCCULLEY JOSEPH DANIEL ET UX (S)	12-0001-39.1
17	LITTELL MIHELLE LYNN & SUGAR NOEL WOODROW (S)	12-0001-39
18	ROMAN JEWELL L (S)	12-0001-40.1
19	EARNEST ALLEN DOUGLAS (S)	12-0001-40
20	HENRY LORI MYLES (S)	12-0001-41
21	HENRY LORI MYLES (S)	12-0001-42.1
22	KIMPEL TIM W ET UX (S)	12-0001-42
23	MARPLE JEFFREY J & BARBARA J (S)	12-0001-32.1
24	HIGGINS CONSTANCE L - LIFE (S)	12-0001-7.3
25	COFFIELD MICHAEL L & TYLER R (S)	12-0001-10
26	SUGAR KAREN SCHENK (S)	12-0001-5
27	SUGAR KAREN SCHENK (S)	12-0001-5.2
28	STACEY VILLAGE LTD PARTNERSHIP (S)	16-0002-1.1
29	MERINAR KENNETH LEE, MERINAR JAMES MARTIN, MERINAR JEFFREY THOMAS & MERINAR STANLEY JOSEPH (S)	16-0001-85
30	EBERHARD CAMERON JACOB (S)	16-0001-75
31	CALDWELL WILLIAM B & CRYSTAL K (S)	16-0001-59
32	CATLETT HAROLD J (S)	16-0001-23
33	CATLETT HAROLD J (S)	16-0001-22
34	PERONI CONSTRUCTION INC (S)	13-0002-17
35	DORAN ROBERT F ET UX (S)	16-0200-10
36	DOYLE JOHN J & TAMMY R (S)	13-0200-20
37	DORAN ROBERT F ET UX (S)	16-0200-11
38	KRAMER KATHLEEN S (S)	13-0200-19
39	SOUTH RONALD L & LORLA (S)	13-0200-18
40	BELBY PATRICK H (S)	13-0200-15
41	EBELUNG GLENNA MAE (S)	13-0200-16
42	CLAYTON GREGORY P & DENISE (S)	16-0200-41
43	SCHUTZ JOHN A & CYNTHIA L (S)	10-0W95-39.8
44	PERONI CONSTRUCTION INC (S)	10-0W95-39.2
45	PERONI CONSTRUCTION INC (S)	10-W95-112
46	BONACCI BRIAN F (S)	10-W95-213
47	DUNLEVY RICHARD B & JENNIFER L (S)	10-W95-215
48	CJ RYAN INC (S)	10-W95-109
49	WHARTON PETER R AND WHARTON CHRISTINE L (S)	P/O 10
50	CONTRAGUERRA ROBERT C SR & JODY A (S)	10-W95-109.13

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	SCHAFER ROY A JR & SCHAFER EDWARD J	12-0009-23
B	SCHAFER ROY A JR & SCHAFER EDWARD J	12-0009-22.1
C	CONSOLIDATION COAL COMPANY/MURRAY ENERGY C/O LAND DEPT	12-0009-22.2
D	ROMAN EUGENE M	12-0010-01
E	HOGG THOMAS S. & DONN W. ET AL	13-0008-3
F	HOGG THOMAS S. & DONN W. ET AL	13-0008-4
G	HART JOHN J & RENEE A	13-0008-4.1
H	BLACK TERRY J	13-0003-12.7
I	LILLEY DEANNA BLACK & MICHAEL	13-0003-12.11
J	BLACK DONNA M	13-0003-12.12
K	BONACCI FRANK A	13-0003-5.5
L	BONACCI BRIAN F	13-0003-5.1
M	MCADAMS ROBERT E & JODY L	12-0018-27.1
N	MATTUCCI MARK A	12-0018-28
O	MATTUCCI MARK A	12-0018-28.2
P	MATTUCCI MARK A	12-0018-28.1
Q	WEST THOMAS E & CATHERINE M	12-0018-26
R	NORMAN LEA M ET VIR	12-0018-31
S	FERRERA THOMAS JR & SHAWNNA	12-0018-31.2
T	DAWSON THOMAS A ET AL	12-0018-21.1
U	MARTIN BRIAN	12-0018-21
V	BENNINGTON LEA & JAMES R	12-0018-21.4
W	SELL MARIA A	12-0018-21.2
X	HAYNES LORIS M ET AL	12-0018-24
Y	MCKENZIE DONALD F	12-0018-23
Z	KINS HEIDI JO	12-0018-28
A2	THOMAS ANTHONY R & JESSICA	12-0001-41.2
B2	STEPHAN CRAIG E	12-0001-41.1
C2	CUSTER KIMBERLY A	12-0018-16
D2	BECKWITH WILLIAM	12-0018-13
E2	BECKWITH WILLIAM	12-0018-12
F2	NORMAN ARCH JASON & KIM S	12-0018-11.1
G2	SELL MARIA A	12-0018-7
H2	WAYNE LYNN ANNE ET AL	12-0001-42.3
I2	URACO JOHN J ET UX	12-0001-43
J2	HICKEY ERIC M	12-0001-43.1
K2	SCHAFER EDWARD J & BRENDA M	12-0001-44
L2	SCHAFER EDWARD J & BRENDA M	12-0001-7.1
M2	HAND WILLIAM L & CARNEY-HAND CHARMAINE J	12-0018-1
N2	SCHAFER EDWARD J ET UX	12-0018-3
O2	MOSA BRADLEY J & LEDBETTER BEVERLY	12-0018-4.1
P2	HUGHES HEIDI SCHENK	13-0003-5.2
Q2	WHITE HORSE FARM LLC	13-0003-6
R2	SIMMS JOYCE A GEER ET AL	12-0001-7.4
S2	ELLIOTT JOAN E - LIFE	12-0001-7
T2	RUNKLE SHERRY L	12-0001-7.2
U2	RUNKLE RICHARD T & MICHELLE L	12-0001-9
V2	ELLIOTT JOAN E - LIFE	12-0001-8
W2	SUGER KAREN SCHENK & TERRY B	12-0001-6
X2	SLIGAR KAREN SCHENK & TERRY B	12-0001-5.3
Y2	WHITE HORSE FARM LLC	13-0003-2
Z2	COVENANT COMMUNITY CHURCH TRS	13-0002-22
A3	MCCORMICK MARY RITA	16-0002-7
B3	STACEY VILLAGE LTD PARTNERSHIP	16-0002-4.1
C3	STACEY VILLAGE LTD PARTNERSHIP	16-0002-23
D3	STACEY VILLAGE LTD PARTNERSHIP	16-0002-24
E3	STACEY VILLAGE LTD PARTNERSHIP	16-0002-25
F3	STACEY VILLAGE LTD PARTNERSHIP	16-0002-26
G3	STACEY VILLAGE LTD PARTNERSHIP	16-0002-14
H3	STACEY VILLAGE LTD PARTNERSHIP	16-0002-13
I3	STACEY VILLAGE LTD PARTNERSHIP	16-0002-12
J3	STACEY VILLAGE LTD PARTNERSHIP	16-0002-11
K3	STACEY VILLAGE LTD PARTNERSHIP	16-0002-10
L3	STACEY VILLAGE LTD PARTNERSHIP	16-0002-9
M3	STACEY VILLAGE LTD PARTNERSHIP	16-0002-8
N3	STACY CROSSING LIMITED PARTNERSHIP	16-0002-1
O3	SCHERRER EDWARD A	16-0001-76
P3	MERINAR KENNETH LEE, MERINAR JAMES MARTIN, MERINAR JEFFREY THOMAS & MERINAR STANLEY JOSEPH	16-0001-77
Q3	POSEY CARY DAVID	16-0001-78
R3	POSEY CARY DAVID	16-0001-79
S3	TAYLOR MATTHEW J & CAROLINE	16-0001-80
T3	TAYLOR MATTHEW J & CAROLINE	16-0001-81
U3	DRNACH JOANN	16-0001-82
V3	CATLETT DIANE, DEBOLT MATTHEW S & DEBOLT STEPHANIE R	16-0001-83
W3	BLEIFUS BRIAN ALLAN	16-0001-84
X3	EBERHARD CAMERON JACOB	16-0001-85
Y3	FLEMING LOIS A	16-0001-74
Z3	GRIFFITH ROSE MARIE	16-0001-54

12/03/2021

REVISIONS:	COMPANY:	 	
	OPERATOR'S	BETTY SCHAFER MSH	API #
	WELL #:	3H	47-051-0247
	DISTRICT:	SAND HILL	STATE:
		COUNTY:	WV
			DATE: 10-13-2021
			DRAWN BY: N. MANO
			SCALE: N/A
			DRAWING NO:
			WELL LOCATION PLAT 4

**JACKSON SURVEYING  
INC.**

2413 EAST PIKE ST. # 112  
Clarksburg, WV 26302  
304-623-5851

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A4	AUBER FRANCES J.	16-0001-56
B4	KOSEN JOSEPH	16-0001-55
C4	CARTER STEVEN	16-0001-57
D4	BOWMAN MICHELLE E	16-0001-21
E4	BUNGARD SHAYNE D	16-0001-20
F4	DIEFENBAUGH GREGORY & JESSICA	16-0001-18
G4	NAUMANN ROBERT W & BECKY JANE	16-0001-17
H4	MURAD THOMAS A ET UX	16-0001-15
I4	SCHAFFER JAMES H	16-0001-14
J4	ROBINSON EUZABETH A	16-0001-12
K4	TENNANT CALEB & AMANDA	16-0001-7
L4	NORRIS BRANDON C & CARLIE L	13-0002-21.1
M4	HOLDREN BARBARA	13-0002-18
N4	LONG RICHARD E ET UX	13-0002-20
O4	SCHANE THOMAS L & SANDREA M	13-0002-19
P4	LONG TODD ELI	13-0002-35
Q4	SEIDLER E. DALE JR.	13-0002-14.9
R4	SEIDLER TIMOTHY J, TRUSTEE OF THE PATRICIA L SEIDLER IRREVOCABLE TRUST DATED JANUARY 29, 2021	13-0002-14.7
S4	RAHBAR AHMAD CREDIT SHELTER TRUST	13-0002-102
T4	RENFORTH GEORGE III	13-0002-16.2
U4	POTTS PATRICK J & KRISTEN	01-0882-31.5
V4	CARROLL PATRICK J & JEAN A	10-0W94-1.1
W4	FARRELL STEPHEN V & CHRISTINE	10-0W95-150
X4	LEFTWICH NEIL & MCFARLAND JUDY	10-0W95-151
Y4	RALOVSKY VICKI L; NICHERSON BRIAN D	10-0W95-152
Z4	TROSCHE JUDITH S	10-0W95-153
A5	DUKE MICHAEL S	10-0W95-154
B5	HUGHES VICTORIA R	10-0W95-155
C5	REMIAS WILLIAM P JR & MARY F	10-0W95-156
D5	ROBINSON MACIE	10-0W95-157
E5	EBARB JANICE L	10-0W95-158
F5	PALMER JAMES J & STACIE R	10-0W95-159
G5	SIEBER MICHAEL G & MARY C	10-0W95-160
H5	WOJCIK JOSEPH B & JOHNSTON W L	10-0W95-161
I5	GUERRIERO ROSEMARY E	10-0W95-162
J5	LEE ROBIN M	10-0W95-163
K5	ICE CHARLES AND ARLA D	10-0W95-164
L5	SMITH BRANDON T	10-0W95-168
M5	PELUCHE PAUL M. & HORAN MEGHAN	10-0W95-194
N5	TRUAX LEE D. & CLURE TARA S.	10-0W95-109.1
O5	PELUCHE PAUL M & HORAN MEGHAN E	10-0W95-194
P5	SMITH DAVID L & DIANE K	10-0W95-109.8
Q5	C J RYAN INC.	10-0W95-109.6
R5	MATYSKIELA ERIC & KRISTINA	10-0W95-109.11
S5	NEVERLY RAYMOND J & MELANIE B	10-0W95-109.4
T5	GALARDI & DIANE T	10-0W95-109.3
U5	CONTRAGUERRO R C & J A	10-0W95-109.10
V5	BIRCH SUSAN A	10-0W95-58.5
W5	EVICK TIMOTHY L & MELISSA R	10-0W95-58.6
X5	GUMP RENTALS LLC	10-0W95-220
Z5	SALEM THOMAS & PAULINE	10-0W95-109.14
A6	SHARPSKY DAVID P & NANCY J	P/O 10-0W95-109
B6	GUMP RENTALS LLC	10-0W95-219
C6	BUTTS RONALD M & TINA M	10-0W95-218
D6	BUTTS RONALD M & TINA M	10-0W95-217
E6	SHELK DONALD W & CHRISTY L	10-0W95-216
F6	WILSON CHERYL B	10-0W95-214
G6	WILSON CHERYL B	10-0W95-221
H6	ROBRECHT RICHARD M & SUSAN L	10-0W95-112.8
I6	KARRAS JOHN M REVOCABLE TR	13-02CC-44
J6	KARRAS JOHN M REVOCABLE TR	13-02CC-45
K6	SHAPAKA PHILIP M & SHIRLEY B	13-02CC-42
L6	WHIPKEY ARCHIE W & RUTH A	13-02CC-43
M6	DOLGHERTY CHERYL L	10-0W95-112.5
N6	VANAMAN ROBERT M & VICKI L	10-0W95-112.6
O6	GILLESPIE DANIEL L & STEPHANIE H	10-0W96-39.7
P6	EVANS LUTHER & LYNN M	16-02CC-33
Q6	NARRISH ROBERT A	16-02CC-34
R6	TUEL JAMES E & LINDA	16-02CC-35
S6	LAW CRYSTAL A & IVAN T	16-02CC-36
T6	MEGALE WILLIAM B	16-02CC-37
U6	BENNETT NDL & USA	16-02CC-38
V6	VANDERGRIFT CHRISTOPHER & ERIKA L	16-02CC-39
W6	MCCROSKEY ROBIN L	16-02CC-40
X6	WALLACE KENNETH R SR & SUSAN	16-02CC-26
Y6	BOBER SUZANNE L TROVATO	13-02CC-25
Z6	MILLER THOMAS E & ANNA MARIE	13-02CC-24
A7	STEPHENSON RICHARD E & LORI R	13-02CC-21
B7	BIENIEK JACQUELINE S	13-02CC-22
C7	DOBKIN JOSEPH T	13-02CC-23

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
D7	RADOSEVICH DEBORAH A	16-02CC-29
E7	WAGNER JOSEPH M & REBECCA L	16-02CC-30
F7	GOODNIGHT LARRY S & LISA A	16-02CC-31
G7	MURTY GOLLAPUDI S ET UX	16-02CC-32
H7	DIETRICH THOMAS V & JUDITH L	10-0W95-212
I7	RYAN CJ INC	10-0W95-211
J7	WHEELER CHARLES D AND DENISE M	10-0W95-112.4
K7	PERONI CONSTRUCTION INC	10-0W95-111.1
L7	PERONI CONSTRUCTION INC	10-0W95-111
M7	PERONI LOUIS D & ELLEE M	10-0W95-112.3
N7	BENTZ CHAD EDWARD & AMBER LYNN	10-0W95-112.1
O7	PEKLINSKY CARLENE B	10-0W96-42
P7	DEI TODD D & STACIE L	10-0W95-209
Q7	MUSSER NATHAN M & AMBER L	10-0W96-31
R7	CARDINAL HEALTH 110 LLC	10-0W95-39.1
S7	WOJCIK STEPHEN E III & CRISTI	10-0W96-41
T7	ROBRECHT RICHARD M & SUSAN L	10-0W95-112.7
U7	TIG PROPERTIES LLC	10-0W95-08
V7	WALTON PAULA JEAN	10-0W95-12
W7	DAVIS HEATHER A.	10-0W99-11
X7	BOLDUC KATIE L & BRANDON E.	10-0W98-06
Y7	BOBER AMYROSE M & SHARON L	13-02CC-17
Z7	LITTLETON BRUCE C & ANITA L	16-02CC-13
A8	BOWMAN PATRICIA L	16-02CC-12
B8	HARSH SANDRA	16-02CC-09
C8	T J G PROPERTIES LLC	16-02CC-04
D8	T J G PROPERTIES LLC	13-0002-16
E8	MERRITT REBECCA A & ROBERT A; MILLER JR	16-0001-27
F8	WHEELING MAR-WIN CHURCH OF NAZARENE TRUSTEES	16-0001-26
G8	HONE MARK A ET UX	16-0001-25
H8	GIBBONS MELISSA A	16-0001-24
I8	GIBBONS MELISSA A	16-0001-24.1
J8	LESNETT WALTER B & KAIYA	16-0001-61
K8	CALDWELL WILLIAM B & CRYSTAL K	16-0001-60
L8	ELIAS BENJAMIN A	16-0001-62
M8	FARHATT MARY JAYNE	16-0001-63
N8	UNKNOWN	12-001A-24
O8	ROMAGNOLI JUDY E	12-001A-23
P8	HAMILTON MARY SCHENK & GARY P	12-0001-5.1
Q8	REARDON SHELLEY S	12-0001-5.6
R8	HAMILTON MARY SCHENK & GARY P	12-0001-5.4
S8	HARTMAN WALTER L ET UX	12-0001-10.1
T8	BARTOLOVICH STEPHEN M	12-0001-47
U8	BARTOLOVICH STEPHEN M	12-0001-11
V8	WALTON PAULA JEAN	12-0001-30
W8	KUNTZ JOHN H	12-0001-31
X8	CONSOLIDATION COAL COMPANY/MURRAY ENERGY CO/LAND DEPT	12-0001-10.2
Y8	MERCER DARICK B & RENEE A	12-0001-32
Z8	ESTEP DOUGLAS J & LINDA R	12-0001-33.1
A9	PATEL SHYAMSUNDRAR K	12-0001-36
B9	MALARSKI PETE E ET UX	12-001B-33
C9	MALARSKI PETE E ET UX	12-001B-35
D9	MALARSKI PETE E ET UX	12-001B-36
E9	STEGMAN CATHERINE A	12-001B-37
F9	STEGMAN CATHERINE A	12-001B-37.1
G9	STEGMAN CATHERINE A	12-001B-38
H9	WHARTON PETER R ET AL	12-0001-34
I9	ADASE GEORGE & LAURIE	12-0001-29
J9	SAYAGE CHARLES JACKSON	12-0001-29.1
K9	ADASE GEORGE & LAURIE	12-0001-28
L9	HADSELL SANDRA L	12-0001-20
M9	MERINAR JUSTIN K	12-0001-21
N9	DYE WILLIAM R, DYE RICHARD D, & DYE MARK M; DYE-SCHODGER KIMBERLY	12-0009-06
O9	DYE WILLIAM R	12-0009-01
P9	THIELE CHARLES L. & THIELE NAIDINE R. MANNERS	12-0009-2.3
Q9	STRONG GREGORY S & LOUISE M	12-0009-02
R9	MAAS BRIAN J & AMY C - TRUST	13-0003-09
S9	LANGMYER SCOTT R & MELANIE F	12-0003-03
T9	LANGMYER RAYMOND J	12-0003-04
U9	GRAY JOHN ALVIN	13-0003-13
V9	SMITH BEVERLY JILL ANITA	12-0009-5.5
W9	STEADMAN FRANKLIN L ET UX	12-0009-5.1
X9	PROVANCE FRANK J & ELIZABETH A; PROVANCE BARRY F	13-0003-14.5
Y9	SHEPHERD TIMOTHY & DEBORAH L	13-0003-14.4
Z9	GRAY JOHN ALVIN	12-0009-21
A10	JESTERS COURT 13 INC	13-0003-14.3
B10	JESTERS COURT 13 INC	13-0003-14.2
C10	JESTERS COURT 13 INC	13-0003-14.1
D10	FISHER CHARLES B & CARLA S	12-0009-20
E10	MERINAR CALVIN C - LIFE	12-0009-19
F10	FISH PATRICIA A & FREDERICK W	12-0010-1.2

12/03/2021

REVISIONS:	COMPANY:		 	
	OPERATOR'S	BETTY SCHAFFER MSH	API #	DATE: 10-13-2021
	WELL #:	3H	47-051-02407	DRAWN BY: N. MANO
	DISTRICT:	SAND HILL	COUNTY:	SCALE: N/A
			STATE:	DRAWING NO:
			WV	WELL LOCATION PLAT 5

WW-6A1  
(5/13)

Operator's Well No. Betty Schafer 3H

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6A, Section 5(a)(5)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
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**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

RECEIVED  
Office of Oil and Gas

OCT 26 2021

WV Department of  
Environmental Protection

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: SWN Production Company, LLC.  
By: *Des Carlisle*  
Its: Staff Landman

RECEIVED  
Office of Oil and Gas

OCT 26 2021

WV Department of  
Environmental Protection

## EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator  
 Betty Schafer North 3H  
 Marshall County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG				
1	12-09-22	733731-000	Betty Jane Schafer, a widow (Life Estate Interest); Roy Alvin Schafer, Jr. (Remainderman); and Edward J. Schafer (Remainderman)	TriEnergy Holdings, LLC	18.00%	722/505				
				TriEnergy Holdings, LLC	NPAR, LLC	24/199				
				NPAR, LLC	Chevron U.S.A. Inc.	756/332				
				Chevron U.S.A. Inc.	Statoil USA Onshore Properties Inc.	30/494				
				Chevron U.S.A. Inc.	Chesapeake Appalachia, L.L.C.	30/532				
				Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC	33/110				
				Statoil USA Onshore Properties Inc.	SWN Production Company, LLC	33/424				
				Pending	Roy Alvin Schafer, Jr., a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1077/97		
				751411-001	Edward John Schafer, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1077/102		
				2	12-09-24	733731-000	Betty Jane Schafer, a widow (Life Estate Interest); Roy Alvin Schafer, Jr. (Remainderman); and Edward J. Schafer (Remainderman)	TriEnergy Holdings, LLC	18.00%	722/505
TriEnergy Holdings, LLC	NPAR, LLC	24/199								
NPAR, LLC	Chevron U.S.A. Inc.	756/332								
Chevron U.S.A. Inc.	Statoil USA Onshore Properties Inc.	30/494								
Chevron U.S.A. Inc.	Chesapeake Appalachia, L.L.C.	30/532								
Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC	33/110								
Statoil USA Onshore Properties Inc.	SWN Production Company, LLC	33/424								
3	13-03-14	744736-000	John Alvin Gray and Judy C. Gray, his wife Chesapeake Appalachia, L.L.C.					Chesapeake Appalachia, L.L.C.	18.00%	840/631
								SWN Production Company, LLC		35/32
4	13-03-11	733785-000	Mildred Black, a widow					TriEnergy Holdings, LLC	12.50%	748/226
				TriEnergy Holdings, LLC	AB Resources	655/538				
				AB Resources	Chevron U.S.A. Inc.	19/623				
				Chevron U.S.A. Inc.	Statoil USA Onshore Properties Inc.	756/397				
				Chevron U.S.A. Inc.	Chesapeake Appalachia, L.L.C.	30/494				
				Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC	30/532				
				Statoil USA Onshore Properties Inc.	SWN Production Company, LLC	33/110				
		33/424								

5	13-03-10	744892-000	Brian J. Maas and Amy C. Maas, Trustees under the Brian and Amy Maas Living Trust, dated August 6, 2007, as amended Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C.	18.00%	842/125
		Pending	Brian J. Maas and Amy C. Maas, Trustees under the Brian and Amy Maas Living Trust, dated August 6, 2007, as amended	SWN Production Company, LLC	18.00%	35/32 1106/609
6	13-03-08	749932-000	Bounty Minerals, LLC	SWN Production Company, L.L.C.	18.00%	1074/555
7	12-01B-34	733699-000	Pete E. Malarski and Susan K. Malarski, his wife	TriEnergy Holdings, LLC	16.00%	701/460
			TriEnergy Holdings, LLC	NPAR, LLC		24/180
			NPAR, LLC	Chevron U.S.A. Inc.		756/332
			Chevron U.S.A. Inc.	Statoil USA Onshore Properties Inc.		30/494
			Chevron U.S.A. Inc.	Chesapeake Appalachia, L.L.C.		30/532
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110
			Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424
8	12-01B-29	733695-000	Mark A. Mattucci, a married man dealing in his sole and separate property	TriEnergy Holdings, LLC	16.00%	725/222
			TriEnergy Holdings, LLC	NPAR, LLC		25/463
			NPAR, LLC	Chevron U.S.A. Inc.		756/332
			Chevron U.S.A. Inc.	Statoil USA Onshore Properties Inc.		30/494
			Chevron U.S.A. Inc.	Chesapeake Appalachia, L.L.C.		30/532
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110
			Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424
9	12-01B-30	733696-000	William J. Greene and Jannelle Greene, his wife	TriEnergy Holdings, LLC	16.00%	720/618
			TriEnergy Holdings, LLC	NPAR, LLC		25/463
			NPAR, LLC	Chevron U.S.A. Inc.		756/332
			Chevron U.S.A. Inc.	Statoil USA Onshore Properties Inc.		30/494
			Chevron U.S.A. Inc.	Chesapeake Appalachia, L.L.C.		30/532
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110
			Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424
10	12-01B-31.01	733698-000	Thomas Ferrera, Jr. and Shawna L. Ferrera, his wife	TriEnergy Holdings, LLC	16.00%	720/616
			TriEnergy Holdings, LLC	NPAR, LLC		25/463
			NPAR, LLC	Chevron U.S.A. Inc.		756/332
			Chevron U.S.A. Inc.	Statoil USA Onshore Properties Inc.		30/494
			Chevron U.S.A. Inc.	Chesapeake Appalachia, L.L.C.		30/532
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110
			Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424
11	12-01B-32	745376-001	John W. Griffith, a single person	SWN Production Company, L.L.C.	18.00%	879/374

		745376-002	Barbara J. Griffith, a single person	SWN Production Company, L.L.C.	18.00%	879/379	
✓	12	12-01-37	729062-000	Thomas A. Griffith and Mary Ellen Griffith, his wife Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC	18.00%	723/131 25/582 33/110 33/424
✓	13	12-01B-25	744283-000	Matthew D. Stegman and Melissa J. Stegman, his wife	SWN Production Company, L.L.C.	18.00%	866/232
✓	14	12-01-38	733632-000	Douglas J. Estep and Linda R. Estep, his wife NPAR, LLC  Chief Exploration & Development LLC, Radler 2000 Limited Partnership NPAR, LLC Chevron U.S.A. Inc. Chevron U.S.A. Inc. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	NPAR, LLC Chief Exploration & Development LLC, Radler 2000 Limited Partnership Chevron U.S.A. Inc. Statoil USA Onshore Properties Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC SWN Production Company, LLC	18.00%	718/318 24/466 25/1 25/105 756/332 30/494 30/532 33/110 33/424
✓	15	12-01-39.02	733682-000	Noel W. Sligar, a single man TriEnergy Holdings, LLC NPAR, LLC Chevron U.S.A. Inc. Chevron U.S.A. Inc. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	TriEnergy Holdings, LLC NPAR, LLC Chevron U.S.A. Inc. Statoil USA Onshore Properties Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC SWN Production Company, LLC	16.00%	711/515 24/430 756/332 30/494 30/532 33/110 33/424
✓	16	12-01-39.01	728824-000	Joseph Daniel McCulley, single Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC	18.00%	717/574 24/204 33/110 33/424
✓	17	12-01-39	728823-000	John W. Sligar and Barbara C. Sligar, his wife Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC	18.00%	717/370 24/204 33/110 33/424
✓	18	12-01-40.01	732779-000	Jewell L. Roman, widow Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC	18.00%	761/256 31/246 33/110 33/424

✓	19	12-01-40	749928-000	Allen Douglas Earnest and Pamela J. Earnest, husband and wife, as joint tenants with the right of survivorship	SWN Production Company, LLC	18.00%	1075/46
✓	20	12-01-41	728709-000	Gladys M. Griffith, widow	Chesapeake Appalachia, L.L.C.	18.00%	717/358
				Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		24/204
				Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110
				Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424
✓	21	12-01-42.01	728709-000	Gladys M. Griffith, widow	Chesapeake Appalachia, L.L.C.	18.00%	717/358
				Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		24/204
				Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110
				Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424
✓	22	12-01-42	733634-000	Tim W. Kimpel and Jennifer L. Kimpel, his wife	TriEnergy Holdings, LLC	18.00%	720/622
				TriEnergy Holdings, LLC	NPAR, LLC		25/463
				NPAR, LLC	Chevron U.S.A. Inc.		26/269
							756/307
				Chevron U.S.A. Inc.	Statoil USA Onshore Properties Inc.		30/494
				Chevron U.S.A. Inc.	Chesapeake Appalachia, L.L.C.		30/532
				Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110
				Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424
✓	23	12-01-32.01	735449-001	John H. Kuntz, a/k/a John Howard Kuntz, a single man	SWN Production Company, LLC	18.00%	1078/364
			735449-011	Sally Mildred Alig, a widow and not remarried	SWN Production Company, LLC	18.00%	1078/310
			735449-007	Sue Ann Marple, a widow and not remarried	SWN Production Company, LLC	18.00%	1078/346
			735449-008	Joseph Lawrence Kuntz, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1078/340
			735449-014	Mary Darlene Bryniarski, a married woman dealing in her sole and separate property	SWN Production Company, LLC	18.00%	1083/37
			735449-009	Terrence Lee Kuntz, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1078/322
			735449-013	Mark David Kuntz, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1078/352
			735449-010	Stephen Carl Kuntz, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1083/31
			735449-004	Philip B. Kuntz, a/k/a Philip Kuntz, a divorced man and not remarried	SWN Production Company, LLC	18.00%	1083/281
			735449-002	Danial Kuntz, also known as Daniel Kuntz, a single man	SWN Production Company, LLC	18.00%	1078/334
			735449-012	Mary Nichole Kuntz, also known as Mary Nicole Kuntz, a single woman	SWN Production Company, LLC	18.00%	1078/358
			735449-003	Eleanor Virginia Bruney, a married woman dealing in her sole and separate property	SWN Production Company, LLC	18.00%	1078/316
			735449-005	Timothy James Kuntz, a single man	SWN Production Company, LLC	18.00%	1083/25

		735449-006	David Patrick Kuntz, a single man	SWN Production Company, LLC	18.00%	1078/328	
✓	24	12-01-07.03	729124-000	Constance L. Higgins, widow and unmarried Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC	18.00%	726/288 26/42 33/110 33/424
✓	25	12-01-10	745543-006	Michael L. Coffield and Tylene R. Coffield, husband and wife TH Exploration, LLC	TH Exploration, LLC SWN Production Company, LLC	18.00%	851/261 36/488
✓	26	12-01-05	733017-000	Karen Schenk Sligar and Terry B. Sligar, wife and husband Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC	18.75%	768/232 31/246 33/110 33/424
✓	27	12-01-05.02	733017-000	Karen Schenk Sligar and Terry B. Sligar, wife and husband Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC	18.75%	768/232 31/246 33/110 33/424
✓	28	16-02-01.01	750313-000	JRC Minerals, LLC, a West Virginia Limited Liability Company American Petroleum Partners Operating, LLC	American Petroleum Partners Operating, LLC SWN Production Company, LLC	18.00%	984/321 45/381
✓	29	16-01-86	Pending	Louise A. Rogers, widow American Petroleum Partners Operating, LLC	American Petroleum Partners Operating, LLC SWN Production Company, LLC	18.00%	979/79 45/381
			750330-001	Carolyn J. Bennett, widow American Petroleum Partners Operating, LLC	American Petroleum Partners Operating, LLC SWN Production Company, LLC	18.00%	979/83 45/381
			Pending	Frederick W. Rentschler, Jr. and Lynette M. Parker, husband and wife American Petroleum Partners Operating, LLC	American Petroleum Partners Operating, LLC SWN Production Company, LLC	18.00%	989/104 979/87 45/381
✓	30	16-01-75	Pending	Job Sorge, a single man TH Exploration, LLC American Petroleum Partners Operating, LLC	TH Exploration, LLC American Petroleum Partners Operating, LLC SWN Production Company, LLC	16.00%	926/173 43/497 45/381
✓	31	16-01-59	Pending	Robert E. Steele and Mary M. Steele, husband and wife TH Exploration, LLC American Petroleum Partners Operating, LLC	TH Exploration, LLC American Petroleum Partners Operating, LLC SWN Production Company, LLC	18.00%	933/66 43/497 45/381
✓	32	16-01-23	750066-000	Harold J. Catlett, aka Harold Joseph Catlett, Jr., a widower TH Exploration, LLC	TH Exploration, LLC American Petroleum Partners Operating, LLC	15.00%	904/554 43/497

			American Petroleum Partners Operating, LLC	SWN Production Company, LLC		45/381	
✓	33	16-01-22	750066-000	Harold J. Catlett, aka Harold Joseph Catlett, Jr., a widower TH Exploration, LLC American Petroleum Partners Operating, LLC	TH Exploration, LLC American Petroleum Partners Operating, LLC SWN Production Company, LLC	15.00%	904/554 43/497 45/381
✓	34	13-02-17	Pending	Glenn D. Gardner, a/k/a Glenn Gardner, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1106/375
			Pending	Robin G. Anderson, a widow and not remarried	SWN Production Company, LLC	18.00%	1106/377
			Pending	Holly Gardner-Tatomer, a/k/a Holly G. Tatomer, f/k/a Holly J. Gardner, a divorced woman and not remarried	SWN Production Company, LLC	18.00%	1106/373
✓	35	16-02CC-10	Pending	Glenn D. Gardner, a/k/a Glenn Gardner, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1123/529
			Pending	Robin G. Anderson, a widow and not remarried	SWN Production Company, LLC	18.00%	1123/533
			Pending	Holly Gardner-Tatomer, a/k/a Holly G. Tatomer, f/k/a Holly J. Gardner, a divorced woman and not remarried	SWN Production Company, LLC	18.00%	1123/537
✓	36	13-02CC-20	Pending	Glenn D. Gardner, a/k/a Glenn Gardner, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1119/630
			Pending	Robin G. Anderson, a widow and not remarried	SWN Production Company, LLC	18.00%	1120/219
			Pending	Holly Gardner-Tatomer, a/k/a Holly G. Tatomer, f/k/a Holly J. Gardner, a divorced woman and not remarried	SWN Production Company, LLC	18.00%	1120/229
✓	37	16-02CC-11	Pending	Robert F. Doran and Geraldine E. Doran, his wife American Petroleum Partners Operating, LLC	American Petroleum Partners Operating, LLC SWN Production Company, LLC	17.00%	941/488 45/381
✓	38	13-02CC-19	Pending	Glenn D. Gardner, a/k/a Glenn Gardner, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1119/630
			Pending	Robin G. Anderson, a widow and not remarried	SWN Production Company, LLC	18.00%	1120/219
			Pending	Holly Gardner-Tatomer, a/k/a Holly G. Tatomer, f/k/a Holly J. Gardner, a divorced woman and not remarried	SWN Production Company, LLC	18.00%	1120/229

✓ 39	13-02CC-18	Pending	Glenn D. Gardner, a/k/a Glenn Gardner, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1119/630
		Pending	Robin G. Anderson, a widow and not remarried	SWN Production Company, LLC	18.00%	1120/219
		Pending	Holly Gardner-Tatomer, a/k/a Holly G. Tatomer, f/k/a Holly J. Gardner, a divorced woman and not remarried	SWN Production Company, LLC	18.00%	1120/229
✓ 40	13-02CC-15	Pending	Glenn D. Gardner, a/k/a Glenn Gardner, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1119/630
		Pending	Robin G. Anderson, a widow and not remarried	SWN Production Company, LLC	18.00%	1120/219
		Pending	Holly Gardner-Tatomer, a/k/a Holly G. Tatomer, f/k/a Holly J. Gardner, a divorced woman and not remarried	SWN Production Company, LLC	18.00%	1120/229
✓ 41	13-02CC-16	Pending	Glenn D. Gardner, a/k/a Glenn Gardner, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1119/630
		Pending	Robin G. Anderson, a widow and not remarried	SWN Production Company, LLC	18.00%	1120/219
		Pending	Holly Gardner-Tatomer, a/k/a Holly G. Tatomer, f/k/a Holly J. Gardner, a divorced woman and not remarried	SWN Production Company, LLC	18.00%	1120/229
✓ 42	16-02CC-41	Pending	Glenn D. Gardner, a/k/a Glenn Gardner, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	1119/630
		Pending	Robin G. Anderson, a widow and not remarried	SWN Production Company, LLC	18.00%	1120/219
		Pending	Holly Gardner-Tatomer, a/k/a Holly G. Tatomer, f/k/a Holly J. Gardner, a divorced woman and not remarried	SWN Production Company, LLC	18.00%	1120/229
✓ 43	10-W96-39.08	Pending	Peroni Construction, Inc., a West Virginia Corporation American Petroleum Partners Operating, LLC	American Petroleum Partners Operating, LLC SWN Production Company, LLC	18.00%	938/636 980/572
✓ 44	10-W96-39.02	Pending	Peroni Construction, Inc., a West Virginia Corporation American Petroleum Partners Operating, LLC	American Petroleum Partners Operating, LLC SWN Production Company, LLC	18.00%	938/636 980/572
✓ 45	10-W95-112	750388-000	Peroni Construction, Inc., a West Virginia Corporation American Petroleum Partners Operating, LLC	American Petroleum Partners Operating, LLC SWN Production Company, LLC	18.00%	938/122 980/572

✓	46	10-W95-213	Pending	Brian F. Bonacci, a single man	SWN Production Company, LLC	18.00%	1008/570
✓	47	10-W95-215	Pending	Richard B. Dunlevy and Jennifer L. Dunlevy, husband and wife	SWN Production Company, LLC	18.00%	1002/735
✓	48	10-W95-109	Pending	APP Minerals, LLC	American Petroleum Partners Operating, LLC	15.00%	(977/379) 977/187
				American Petroleum Partners Operating, LLC	SWN Production Company, LLC		980/572
✓	49	P/O 10-W95-109	Pending	APP Minerals, LLC	American Petroleum Partners Operating, LLC	15.00%	(977/379) 977/187
				American Petroleum Partners Operating, LLC	SWN Production Company, LLC		980/572
✓	50	10-W95-109.13	Pending	Ridgetop Appalachia, LLC, a Delaware limited liability company	SWN Production Company, LLC	18.00%	1009/193



4705102417

SWN Production Company, LLC  
1300 Fort Pierpont Dr, Ste 201  
Morgantown, WV 26508  
Tel: 304 884 1610  
Fax: 304 471 2497  
www.swn.com

October 20, 2021

Taylor Brewer  
WV DEP Office of Oil & Gas  
601 57<sup>th</sup> St., SE  
Charleston, WV 25304

**RE:** SWN's proposed New Well: Betty Schafer MSH 3H in Marshall County, West Virginia, Drilling under Walnut Grove Road, Big Wheeling Creek Road, Miller Hill Road, Britt Run Road, Cabin Lake Drive, Winter Ave, and Shrader Ave.

Dear Mr. Brewer:

SWN Production Company, LLC ("SWN") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to SWN's right to drill under Walnut Grove Road, Big Wheeling Creek Road, Miller Hill Road, Britt Run Road, Cabin Lake Drive, Winter Ave, and Shrader Ave. Please be advised that SWN has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Thank you.

Sincerely,

*Des Carlisle*

Des Carlisle  
Staff Landman  
SWN Production Company, LLC

$\frac{R^2}{A} \rightarrow V^+$

The Right People doing the Right Things,  
wisely investing the cash flow from our  
underlying assets. **12/03/2021**

WW-6AC  
(1/12)

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OCT 26 2021

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE CERTIFICATION

Date of Notice Certification: \_\_\_\_\_

API No. 47- 051 - \_\_\_\_\_

Operator's Well No. Betty Schafer MSH 3H \_\_\_\_\_

Well Pad Name: Betty Schafer MSH Pad \_\_\_\_\_

**Notice has been given:**

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State: West Virginia	UTM NAD 83 Easting: _____
County: 051-Marshall	UTM NAD 83 Northing: _____
District: Sand Hill	Public Road Access: Big Wheeling Creek
Quadrangle: Moundsville	Generally used farm name: Betty Schafer
Watershed: Wheeling Creek	

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:	
*PLEASE CHECK ALL THAT APPLY	
<input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	<input type="checkbox"/> RECEIVED/ NOT REQUIRED
<input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED	<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)	<input type="checkbox"/> RECEIVED/ NOT REQUIRED
<input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION	<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 5. PUBLIC NOTICE	<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION	<input type="checkbox"/> RECEIVED

**Required Attachments:**

The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

12/03/2021

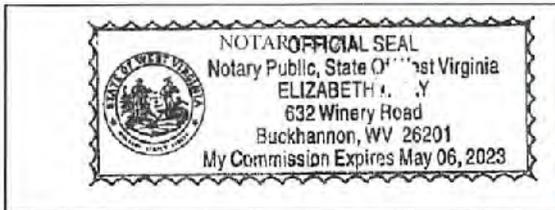
4705102417

**Certification of Notice is hereby given:**

THEREFORE, I Brittany Woody, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator:	<u>SWN Production Co., LLC</u>	Address:	<u>1300 Fort Pierpont Dr., Suite 201</u>
By:	<u>Brittany Woody</u>		<u>Morgantown, WV 26508</u>
Its:	<u>Senior Regulatory Analyst</u>	Facsimile:	<u>304-884-1690</u>
Telephone:	<u>304-884-1610</u>	Email:	<u>Brittany_Woody@swn.com</u>

*Brittany Woody*



Subscribed and sworn before me this 14th day of September, 2021  
*Elizabeth A. Day* Notary Public  
 My Commission Expires May 6 2023

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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 WV Department of  
 Environmental Protection

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 WV Department of  
 Environmental Protection

**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF APPLICATION**

**Notice Time Requirement:** notice shall be provided no later than the **filing date of permit application.**

Date of Notice: \_\_\_\_\_ Date Permit Application Filed: \_\_\_\_\_

Notice of:

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

**Delivery method pursuant to West Virginia Code § 22-6A-10(b)**

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice  WSSP Notice  E&S Plan Notice  Well Plat Notice is hereby provided to:

SURFACE OWNER(s)  
Name: Roy Schafer Jr. ✓  
Address: 3609 Big Wheeling Creek Road  
Wheeling, WV 26003

Name: Edward Schafer ✓  
Address: 871 Big wheeling Creek Road  
Wheeling, WV 26003

SURFACE OWNER(s) (Road and/or Other Disturbance)

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Impoundments or Pits)

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

COAL OWNER OR LESSEE  
Name: American Consolidated Natural Resources attn: Mason Smith  
Address: 46226 National Road ✓  
St. Clairsville, OH 43950

COAL OPERATOR  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER OF WATER WELL  
AND/OR WATER PURVEYOR(s)  
Name: See Attachment 13A  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: TC Energy Attn: Carrett Word ✓  
Address: Houston Office Bank of America 700 Louisiana St  
Houston, TX 77002

\*Please attach additional forms if necessary

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WV Department of  
Environmental Protection

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF APPLICATION

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.

Date of Notice: \_\_\_\_\_ Date Permit Application Filed: \_\_\_\_\_

Notice of:

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice  WSSP Notice  E&S Plan Notice  Well Plat Notice is hereby provided to:

SURFACE OWNER(s)

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Road and/or Other Disturbance)

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Impoundments or Pits)

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

COAL OWNER OR LESSEE

Name: C/O Leatherwood, Inc. Attn: Casey Saunders ✓  
Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317

COAL OPERATOR

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

\*Please attach additional forms if necessary

WW-6A  
(8-13)

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OCT 26 2021

WV Department of  
Environmental Protection

API NO. 47-951  
4705102417  
OPERATOR WELL NO. Betty Schaefer MSH BH  
Well Pad Name: Betty Schaefer MSH Pad

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

**This Notice Shall Include:**

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Well Location Restrictions**

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

12/03/2021

WW-6A  
(8-13)

API NO. 47-051 4705102417  
OPERATOR WELL NO. Betty Schafer MSH 3H  
Well Pad Name: Betty Schafer MSH Pad

examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

**Water Well Testing:**

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

**Water Testing Laboratories:**

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

**Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:**

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

**Written Comment:**

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0450

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Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

12/03/2021

**Time Limits and Methods for Filing Comments.**

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

**Comment Requirements**

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

**Permit Denial or Condition**

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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WW-6A  
(8-13)

4705102417  
API NO. 47-051  
OPERATOR WELL NO. Betty Schafer MSH 3H  
Well Pad Name: Betty Schafer MSH Pad

Notice is hereby given by:

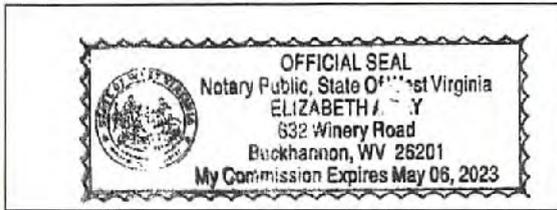
Well Operator: SWN Production Co., LLC  
Telephone: 304-884-1610  
Email: Brittany\_Woody@swn.com

*Brittany Woody*

Address: 1300 Fort Pierpont Dr., Suite 201  
Morgantown, WV 26508  
Facsimile: 304-884-1690

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).



Subscribed and sworn before me this 14th day of September 2021  
*Elizabeth A. Day* Notary Public  
My Commission Expires May 6 2023

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WV Department of  
Environmental Protection

12/03/2021

4705102417

ATTACHMENT 13

PKB Code	PKB Name	PKB Address	PKB City/State	PKB Zip
12 9002200000000	SCHAFFER BETTY JANE - LIFE	RR 6 BOX 285	WHEELING, WV	26003



12/03/2021

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF ENTRY FOR PLAT SURVEY**

**Notice Time Requirement:** Notice shall be provided at least SEVEN (7) days but no more than FORTY-FIVE (45) days prior to entry

**Date of Notice:** 10/17/2019      **Date of Planned Entry:** 10/24/2019

**Delivery method pursuant to West Virginia Code § 22-6A-10a**

- PERSONAL SERVICE     
 REGISTERED MAIL     
 METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to West Virginia Code § 22-6A-10(a), Prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

**Notice is hereby provided to:**

SURFACE OWNER(s) ✓

Name: Betty Schafer ✓

Address: 3504 Big Wheeling Creek Road  
Wheeling, WV 26003 ✓

Name: Roy Schafer, Jr. ✓

Address: 3509 Big Wheeling Creek  
Wheeling, WV 26003

Name: Edward Schafer ✓

Address: 871 Big Wheeling Creek  
Wheeling, WV 26003

COAL OWNER OR LESSEE ✓

Name: C/O Leatherwood, Inc. Attn: Casey Saunders ✓

Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317

MINERAL OWNER(s) ✓

Name: Betty Jane Schafer- LIFE, Alvin Schafer ✓

Address: 3609 Big Wheeling Creek  
Wheeling, WV 26003

\*please attach additional forms if necessary

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OCT 26 2021

WV Department of  
Environmental Protection

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

State:	<u>West Virginia</u>	Approx. Latitude & Longitude:	<u>39.990980, -80.635696</u>
County:	<u>Marshall</u>	Public Road Access:	<u>Big Wheeling Creek Road</u>
District:	<u>Sand Hill</u>	Watershed:	<u>Grandstaff Run-Wheeling Creek</u>
Quadrangle:	<u>Moundsville</u>	Generally used farm name:	<u>Betty Schafer MSH</u>

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

Well Operator:	<u>SWN PRODUCTION COMPANY, LLC</u>	Address:	<u>1300 Fort Pierpont Dr., Suite 201</u>
Telephone:	<u>304-884-1610</u>		<u>Morgantown, WV 26508</u>
Email:	<u>Brittany_Woody@swn.com</u>	Facsimile:	<u>304-884-1690</u>

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

12/03/2021

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF ENTRY FOR PLAT SURVEY**

**Notice Time Requirement:** Notice shall be provided at least SEVEN (7) days but no more than FORTY-FIVE (45) days prior to entry

**Date of Notice:** 10/17/2019      **Date of Planned Entry:** 10/24/2019

**Delivery method pursuant to West Virginia Code § 22-6A-10a**

- PERSONAL SERVICE     
 REGISTERED MAIL     
 METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to West Virginia Code § 22-6A-10(a), Prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

**Notice is hereby provided to:**

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SURFACE OWNER(s)

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

COAL OWNER OR LESSEE

Name: Murray Energy Corporation Attn: Mason Smith  
Address: 46226 National Road      WV Department of  
St. Clairsville, OH 43950      Environmental Protection

OCT 26 2021

MINERAL OWNER(s)

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

\*please attach additional forms if necessary

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

State: West Virginia  
County: Marshall  
District: Sand Hill  
Quadrangle: Moundsville

Approx. Latitude & Longitude: 39.990980, -80.635586  
Public Road Access: Big Wheeling Creek Road  
Watershed: Grandstaff Run-Wheeling Creek  
Generally used farm name: Betty Schafer MSH

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

Well Operator: SWN PRODUCTION COMPANY, LLC  
Telephone: 304-884-1610  
Email: Brittany\_Woody@swn.com

Address: 1300 Fort Pierpont Dr., Suite 201  
Morgantown, WV 26506  
Facsimile: 304-884-1690

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

12/03/2021



**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF PLANNED OPERATION**

**Notice Time Requirement:** notice shall be provided no later than the **filing date of permit application.**  
**Date of Notice:** 09/21/2021      **Date Permit Application Filed:** \_\_\_\_\_

**Delivery method pursuant to West Virginia Code § 22-6A-16(c)**

- |  |                               |
|--|-------------------------------|
| <input checked="" type="checkbox"/> CERTIFIED MAIL | <input type="checkbox"/> HAND |
| RETURN RECEIPT REQUESTED                           | DELIVERY                      |

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

**Notice is hereby provided to the SURFACE OWNER(s)**  
(at the address listed in the records of the sheriff at the time of notice):

Name: Roy A. Schafer Jr.  
Address: 3609 Big Wheeling Creek Road  
Wheeling, WV 26003

Name: Edward J. Schafer  
Address: 871 Big Wheeling Creek Road  
Wheeling, WV 26003

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**OCT 26 2021**

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**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State: <u>West Virginia</u>	UTM NAD 83 Easting: <u>531,116.077</u>
County: <u>Marshall</u>	Northing: <u>4,426,823.710</u>
District: <u>Sand Hill</u>	Public Road Access: <u>Big Wheeling Creek Road</u>
Quadrangle: <u>Moundsville, WV</u>	Generally used farm name: <u>Betty Schafer MSH</u>
Watershed: <u>Wheeling Creek</u>	

**This Notice Shall Include:**

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by W. Va. Code § 22-6A-10(h) to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

Well Operator: SWN Production Company, LLC  
Telephone: 304-884-1675  
Email: justin\_booth@swn.com

Address: 1300 Fort Pierpont Road, Suite 200  
Morgantown, WV 26508  
Facsimile: \_\_\_\_\_

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
**Division of Highways**

1900 Kanawha Boulevard East • Building Five • Room 110  
Charleston, West Virginia 25305-0430 • (304) 558-3505

Byrd E. White, III  
Secretary of Transportation/  
Commissioner of Highways

Jimmy Wriston, P. E.  
Deputy Secretary/  
Deputy Commissioner

September 14, 2021

James A. Martin, Chief  
Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

Subject: DOH Permit for the Betty Shaffer Pad, Marshall County  
Betty Shaffer MSH 3H Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2014-0640 which has been issued to Southwestern Energy for access to the State Road for a well site located off Marshall County Route 5 SLS MP 3.71.

This operator is in compliance with §22-6A-20 of the WV Code. Operator has signed a STATEWIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated October 1, 2018. This letter is valid for permitting purposes for one year from the date of this letter.

Very Truly Yours,

Gary K. Clayton, P.E.  
Regional Maintenance Engineer  
Central Office O&G Coordinator

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Cc: Brittany Woody  
Southwestern Energy  
CH, OM, D-6  
File

Attachment VI Frac Additives

Product Name	Product Use	Chemical Name	CAS Number
AI-303 (U.S. Well Services)	Mixture	Ethylene glycol	107-21-1
		Cinnamaldehyde	104-55-2
		Butyl cellosolve	111-76-2
		Formic acid	64-18-6
		Polyether	Proprietary
AP ONE (U.S. Well Services)	Breaker	Acetophenone, thiourea, formaldehyde polymer	68527-49-1
		Ammonium persulfate	7727-54-0
Bactron K-139 (Champion Technologies)	Biocide	Glutaraldehyde	111-30-8
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
		Ethanol	64-17-5
Bactron K-219 (Champion Technologies)	Biocide	Methanol	67-56-1
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
CarboNRT	Tracer	Ceramic Proppant	66402-58-4
EC6486A (Nalco Champion)	Scale Inhibitor	Amine Triphosphate	Proprietary
		Ethylene Glycol	107-21-1
EC6734A (Champion Technologies)	Biocide	Hydrogen Peroxide	7722-84-1
		Acetic Acid	64-19-7
		Peroxyacetic Acid	79-21-0
Econo-CI200 (SWN Well Services)	Corrosion Inhibitor	Methanol	67-56-1
		Oxyalkylated fatty acid	68951-67-7
		Fatty acids	61790-12-3
		Modified thiourea polymer	68527-49-1
		Water	7732-18-5
		Hydrochloric acid	7647-01-0
		Potassium acetate	127-08-2
Formaldehyde	50-00-0		
Ecopal-FEAC (SWN Well Services)	Iron Control	Acetic Acid	64-19-7
		Citric Acid	77-92-9
		Water	7732-18-5
FDP-S117G-15 (Halliburton)	Friction Reducer	Polyacrylate	Proprietary
		Hydrotreated light petroleum distillate	64742-47-8
FI-CIET DR900 LPP (SWN Well Services)	Friction Reducer	Distillates (petroleum) hydrotreated light	64674-47-8
		Ethylene Glycol	107-21-1
		Alcohols, C12-16, Exoxylated propoxylated	68213-24-1
		Fatty Alcohols ethoxylated	Proprietary
		Water	7732-18-5
FLOJET DRP 1130X (SWN Well Services)	Friction Reducer	Proprietary	Proprietary
FR-75 (Halliburton)	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8
		Inorganic Salt	Proprietary
GYPTRON T-390 (Champion Technologies)	Scale Inhibitor	Methanol	67-56-1
		Nonylphenol Ethoxylate	Proprietary
HAI-150E (Halliburton)	Corrosion Inhibitor	No hazardous substance	N/A
HCL (SWN Well Services)	Hydrochloric Acid	Hydrochloric Acid	7647-01-0
		Water	7732-18-5
LP-65 MC (Halliburton)	Scale Inhibitor	Organic phosphonate	Proprietary
		Ammonium Chloride	12125-02-9
OPTI-FLEX (U.S. Well Services)	Viscosifying Agent	Distillates, petroleum, hydrotreated light	64742-47-8
Plexslick 930	Friction Reducer	Copolymer of 2-propenamides	Proprietary
		Hydrotreated Distillate	64742-47-8
		Sodium Chloride	7647-14-5
		Alcohols, C12-16, Exoxylated	68551-12-2
		Oleic Acid Diethanolamide	93-83-4
Plexslick 953	Friction Reducer	Ammonium Chloride	12125-02-9
		Petroleum Distillate	64742-47-8
		Sodium Chloride	7647-14-5
		Ammonium Chloride	12125-02-9
Plexslick 957	Friction Reducer	N,N-bis (2-hydroxyethyl) oleamide	93-83-4
		Petroleum Distillate	64742-47-8
		Ammonium Chloride	12125-02-9
		Oleic Acid Diethanolamide	93-83-4
		Alcohols, C12-16, Exoxylated	68551-12-2
WFRA-2000 (U.S. Well Services)	Anionic Friction Reducer	Water	7732-15-5
		Hydrotreated light distillate (petroleum)	64742-47-8
Plexaid 655 NM	Scale Inhibitor	Propionic acid, polymer with propenamide	9003-05-9
		Diethylenetriamine penta (methylene phosphonic acid)	15827-30-8
Plexslick 922	no data available	Copolymer of 2-propenamides	69418-26-4
		Distillates (petroleum), hydrotreated light	64742-47-8
		Ammonium chloride [(NH4)Cl]	12125-02-9
		Oleic Acid Diethanolamide	93-83-4
Tolcide P550A	Biocidal product	Tetrakis (hydroxymethyl) phosphonium sulphate	55566-30-8
		Acrylic acid terpolymer containing carboxylate phosphonate and sulfonate groups	397256-50-7
LD-2950	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8
		Ethoxylated alcohol	Proprietary
		Poly (oxy-1,2-ethanediy) alpha.-tridecyl-omega.-hydroxy-, branched	69011-36-5
Legend LD-7750W	Scale Control	Methanol	67-56-1
		Phosphonic Acid Salt	Proprietary
MC MX B-4743	Specialty Product	Sodium Nitrate	7647-14-5

As of 1/16/2020

12/03/2021

RECEIVED  
Oil and Gas  
JAN 26 2021  
U.S. Department of  
Environmental Protection

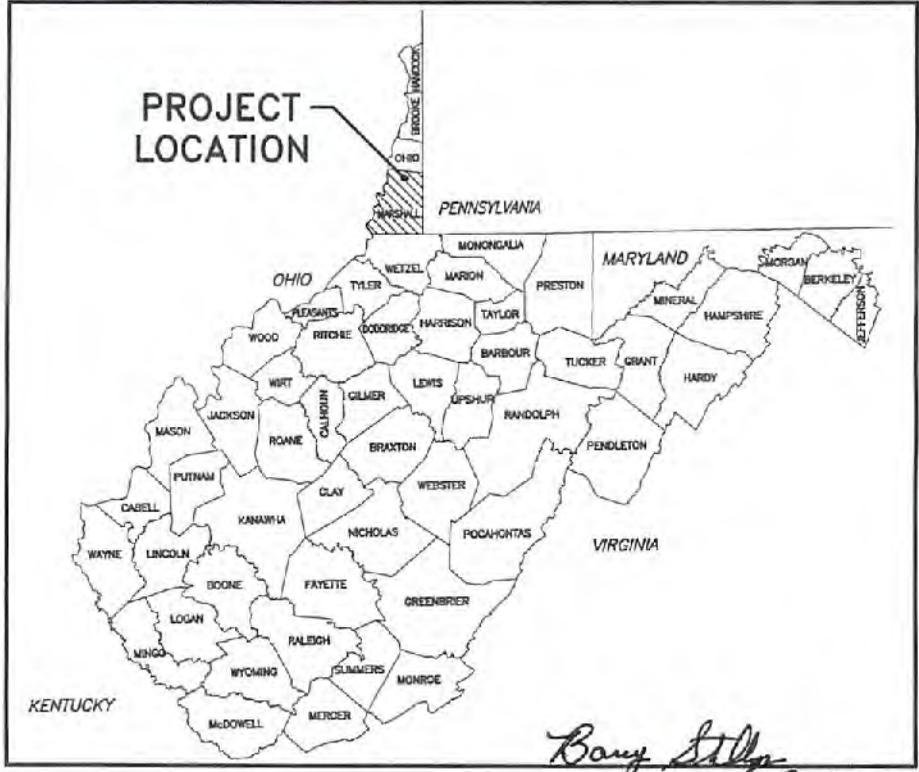
**WVDEP OOG  
ACCEPTED AS-BUILT**

*WJ* 12/20/2019

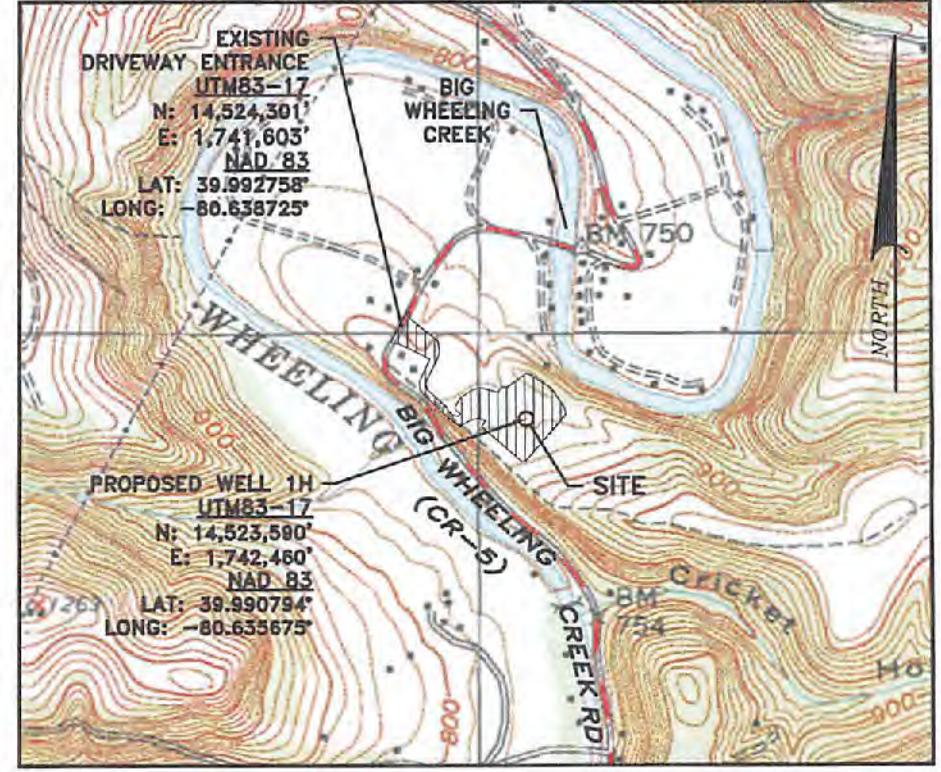
# AS-BUILT SITE PLAN FOR BETTY SCHAFER MSH PAD SAND HILL DISTRICT, MARSHALL COUNTY, WV



DRAWN BY: JAR  
DATE: 12/18/2109  
SCALE: AS SHOWN  
DWG. NO. 087569000



COUNTY MAP  
N.T.S.



LOCATION MAP  
SCALE - 1"=100'

RECEIVED  
Office of Oil and Gas

OCT 26 2021

**WEST VIRGINIA 811**  
CALL BEFORE YOU DIG!  
Dial 811 or 800.245.4848  
Miss Utility of West Virginia

**SWN**  
Southwestern Energy®

**OPERATOR**  
SWN PRODUCTION CO., LLC  
ATTN: DEE SOUTHWALL  
P.O. BOX 1300  
JANE LEW, WV 26378  
(832) 798-1614

**SITE DATA**  
TOTAL DISTURBED AREA: 7.82 ACRES  
ROAD DISTURBED AREA: 0.73 ACRES  
PAD DISTURBED AREA: 2.99 ACRES  
ACCESS ROAD LENGTH: 1,118'  
ACCESS ROAD AVERAGE WIDTH: 28'  
WELL PAD ELEVATION: 849.1'

**WELL API NUMBERS**  
201H API 051-01776  
210H API 051-01777

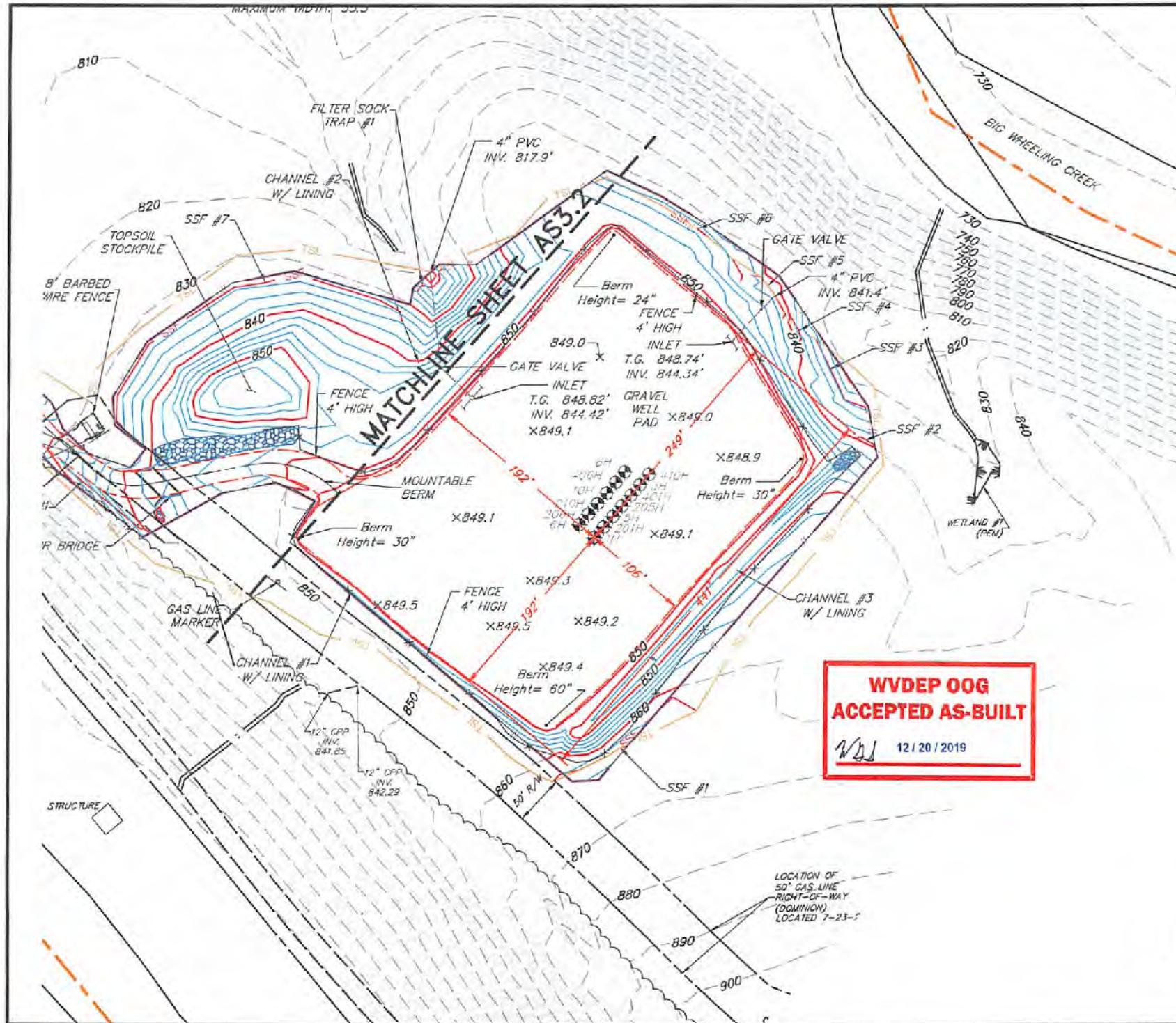
**LIST OF DRAWINGS**

TS1.1	COVER SHEET
EP2.1	EVACUATION ROUTE/ PREVAILING WINDS
EP2.2	EVACUATION ROUTE/ PREVAILING WINDS
AS3.1	AS-BUILT OVERALL SITE PLAN
AS3.2	AS-BUILT SITE PLAN
AS3.3	AS-BUILT SITE PLAN
CRA4.1	ACCESS ROAD PROFILE
CRA4.2	WELL PAD CROSS SECTIONS
MRP5.1	RECLAMATION PLAN
MRD6.1	DETAILS
MRD6.2	DETAILS
MRD6.3	DETAILS
MRD6.4	DETAILS
MRD6.5	DETAILS
MRD6.6	DETAILS
MRD6.7	DETAILS
MRD6.8	DETAILS
MRD6.9	DETAILS

TS1.1

**RETTEW**  
RETTEW Associates, Inc.  
3475 Forest Lake Drive, Suite 100, Uniontown, OH 44685  
Phone (330) 819-9770 Fax (330) 819-0760  
Clyde W. Retrew, P.E. - Surveyor - Landscaping Architect  
Environments Consultants

COVER SHEET FOR  
**BETTY SCHAFER MSH PAD**  
SAND HILL DISTRICT  
MARSHALL COUNTY, WV



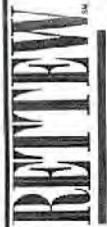
NORTH UTM83 ZONE 17



DRAWN BY: JAR  
 DATE: 12/18/2109  
 SCALE: 1" = 100'  
 DWG. NO. 087599000

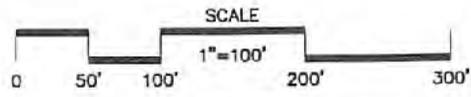
**LEGEND**

- PROJECT BOUNDARY
- TOTAL SURVEY LIMITS
- EXISTING CHAIN-LINK FENCE
- EXISTING CONTOUR LINE
- AS-BUILT MAJOR CONTOUR LINE
- AS-BUILT MINOR CONTOUR LINE
- AS-BUILT SILT FENCE
- EXISTING WELL HEAD



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 3475 Forest Lake Drive, Suite 100, Uniontown, OH 44685  
 Phone: (330) 816-0770 Fax: (330) 819-8760  
 Engineers • Planners • Surveyors • Construction Administrators  
 Environmental Consultants

**WVDEP OOG  
 ACCEPTED AS-BUILT**  
 12/20/2019



AS3.3

AS-BUILT SITE PLAN - WELL PAD  
 FOR  
**BETTY SCHAFER MSH PAD**  
 SAND HILL DISTRICT MARSHALL COUNTY, WV