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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)

Tuesday, January 17, 2023  
WELL WORK PERMIT  
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC  
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit approval for STATE OF WV DNR B BRK 401H  
47-009-00333-00-00

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.

James A. Martin  
Chief

A blue ink signature of James A. Martin, written in a cursive style, is positioned above the printed name and title.

Operator's Well Number: STATE OF WV DNR B BRK 401H  
Farm Name: STATE OF WEST VIRGINIA 401H  
U.S. WELL NUMBER: 47-009-00333-00-00  
Horizontal 6A New Drill  
Date Issued: 1/17/2023

Promoting a healthy environment.

01/20/2023

# 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

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.
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).

01/20/2023

**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 009- Brooke 02-Cross 620-Steubenville  
Operator ID County District Quadrangle

2) Operator's Well Number: State of WV DNR B BRK 401H Well Pad Name: State of WV DNR B BRK

3) Farm Name/Surface Owner: State of WV, Bureau of Commerce, DNR Public Road Access: Tent Church Road

4) Elevation, current ground: 1201' Elevation, proposed post-construction: 1201'

5) Well Type (a) Gas  Oil  Underground Storage   
Other

(b) If Gas Shallow  Deep   
Horizontal

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 South, Target Top TVD- 5608', Target Base TVD- 5673', Anticipated Thickness- 65', Associated Pressure- 3687

8) Proposed Total Vertical Depth: 5657'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 28477'

11) Proposed Horizontal Leg Length: 22071.90'

12) Approximate Fresh Water Strata Depths: 543'

13) Method to Determine Fresh Water Depths: Salinity Calculations- nearby well (47-009-00247)

14) Approximate Saltwater Depths: 691' Nearby well

15) Approximate Coal Seam Depths: 135'

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: \_\_\_\_\_  
Depth: \_\_\_\_\_  
Seam: \_\_\_\_\_  
Owner: \_\_\_\_\_

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#	100'	100' ✓	CTS ✓
Fresh Water	13 3/8"	New	J-40	48#	621'	621' ✓	667 sx/CTS ✓
Coal	See	Surface	Casing				
Intermediate	9 5/8"	New	J-55	36#	1480'	1480' ✓	517 sx/CTS ✓
Production	5 1/2"	New	P-110 HP	20#	28477'	28477' ✓	Tall 5517sx/ 100' inside Intermediate
Tubing							
Liners							

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"	0.360	2730	633	Class A	1.20/30% Excess
Coal	See	Surface	Casing				
Intermediate	9 5/8"	12 1/4"	0.352	3520	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:				

*Steve Conrad*  
STEVE CONRAD  
8-10-22

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 unites, horizontal separation units, water and oil storage tanks. Max press and anticipated max rate- 12,500 psi @ 100 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 13.50

22) Area to be disturbed for well pad only, less access road (acres): 9.31

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.

\*Note: Attach additional sheets as needed.

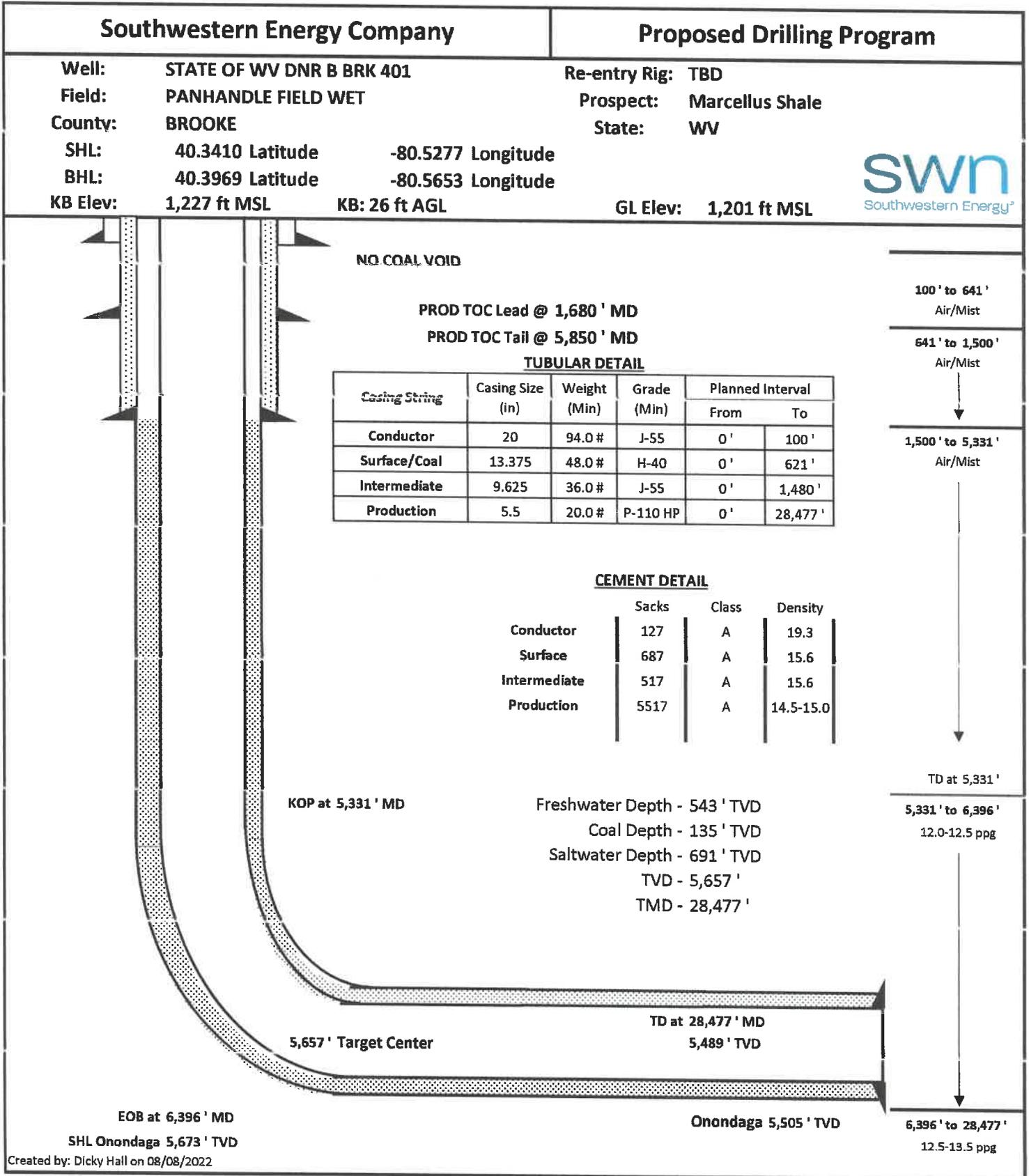
CEMENT ADDITIVES							
INTERVAL	SCHLUMBERGER PRODUCT NAME	BJ PRODUCT NAME	NEXTier PRODUCT NAME	PRODUCT USE	CHEMICAL NAME	CAS-Number	
SURFACE (FRESHWATER)	<del>XXXXXXXXXX</del>	INTEGRA SEAL	CJ600	LOST CIRC MATERIAL	CELLOPHANE FLAKES	9005-81-6	
	S001	A-7P	0110	ACCELERATOR	CALCIUM CHLORIDE	10043-52-4	
COAL PROTECTION	<del>XXXXXXXXXX</del>	INTEGRA SEAL	0600	LOST CIRC MATERIAL	CELLOPHANE FLAKES	9005-81-6	
	S001	A-7P	CJ110	ACCELERATOR	CALCIUM CHLORIDE	10043-52-4	
INTERMEDIATE	D020	BENTONITE	CJ020	EXTENDER	BENTONITE	1302-78-9	
	0047	FP 28L	<del>XXXXXXXXXX</del>	LIQUID ANTIFOAM AGENT	POLYPROPYLENE GLYCOL	25322-69-4	
	<del>XXXXXXXXXX</del>	INTEGRA SEAL	CJ600	LOST CIRC MATERIAL	CELLOPHANE FLAKES	9005-81-6	
	CemNet	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	LOST CIRC MATERIAL	COATED FIBERGLASS FIBERS	PROPRIETARY	
	SUGAR	SUGAR	CJ795	CMT RETARDER	SUCROSE	57-50-1	
	S001	A-7P	CJ110	ACCELERATOR	CALCIUM CHLORIDE	10043-52-4	
	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	CJ111	ACCELERATOR	SODIUM CHLORIDE	7440-23-5
PRODUCTION	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	55-IIW	0880	SURFACTANT	NONIONIC SURFACTANT	6540-99-4
	D047	FP 28L	<del>XXXXXXXXXX</del>	LIQUID ANTIFOAM AGENT	POLYPROPYLENE GLYCOL	25322-69-4	
	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	OX157011	SOLID ANTIFOAM AGENT	FULLERS EARTH(ATTAPULGITE)	8031-18-3
	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	CJ540	HP FLUID LOSS ADDITIVE	ALIPHATICAMIDE POLYMER	PROPRIETARY
	D255	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	MED TEMP FLUID LOSS ADDITIVE	POLYACRILIC POLYMER	PROPRIETARY
	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	CJ213	RETARDER	CHRYSTALLINE SILICA	14808-60-7
	<del>XXXXXXXXXX</del>	FL-66	0501	LOW TEMP FLUID LOSS ADD	POWDERED POLYSACCHARIDE	PROPRIETARY	
	<del>XXXXXXXXXX</del>	BENTONITE	CJ020	EXTENDER	BENTONITE	1302-78-9	
	D208	ASA-301	<del>XXXXXXXXXX</del>	VISCOSI FIER/ANTI-SETTLING AGENT	REFINED POLYMER/ CHRYSTALLINE SILICA	PROPRIETARY	
	D198	R-3	<del>XXXXXXXXXX</del>	CEMENT RETARDER	LIGNIN	8068-51-6	
	SUGAR	SUGAR	CJ795	CEMENT RETARDER	SUCROSE	57-50-1	
	D065	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	DISPERSANT	SODIUM POLYNAPHTHALENE SULFONATE	8068-51-6
	D800	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	CEMENT RETARDER (Mid-Temperature)	SODIUM LIGNOSULFONATE	8061-51-6

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*Strader*  
STRADER LOW BR  
8/10/22

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01/20/2023

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) Upper Ohio North Quadrangle Steubenville East

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. Air drill to KOP, fluid drill with SOBMs from KOP to TD

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

Additives to be used in drilling medium? Attachment 3B

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

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

-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

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Environmental Protection

Subscribed and sworn before me this 15 day of August, 2022

*Jeanette M. Guttler* Notary Public

My commission expires 10/01/2024



SWN Production Co., LLC

Proposed Revegetation Treatment: Acres Disturbed 13.50 Prevegetation pH \_\_\_\_\_

Lime as determined by pH test min.2 Tons/acre or to correct to pH 9.31

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 3B**

**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: \_\_\_\_\_

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

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Title: Oil & Gas Inspector

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

Field Reviewed?  Yes  No

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*Strader Lower*  
STRADER LOWER  
8/10/22

01/20/2023



**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 innoculated 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**

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# 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: State of WV DNR B BRK 401H**  
**Steubenville East QUAD**  
**Cross Creek DISTRICT**  
**Brooke/Ohio COUNTY, WEST VIRGINIA**

Submitted by:

Name: Brittany Woody

Date: 8/4/2022

*Brittany Woody*

Title: Senior Regulatory Analyst

SWN Production Co., LLC

Approved by:

Name: STRADER GOWER

Date: 8/10/22

Title: Oil & Gas Inspector

Approved by:

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

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

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

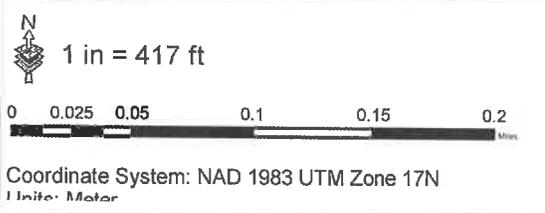
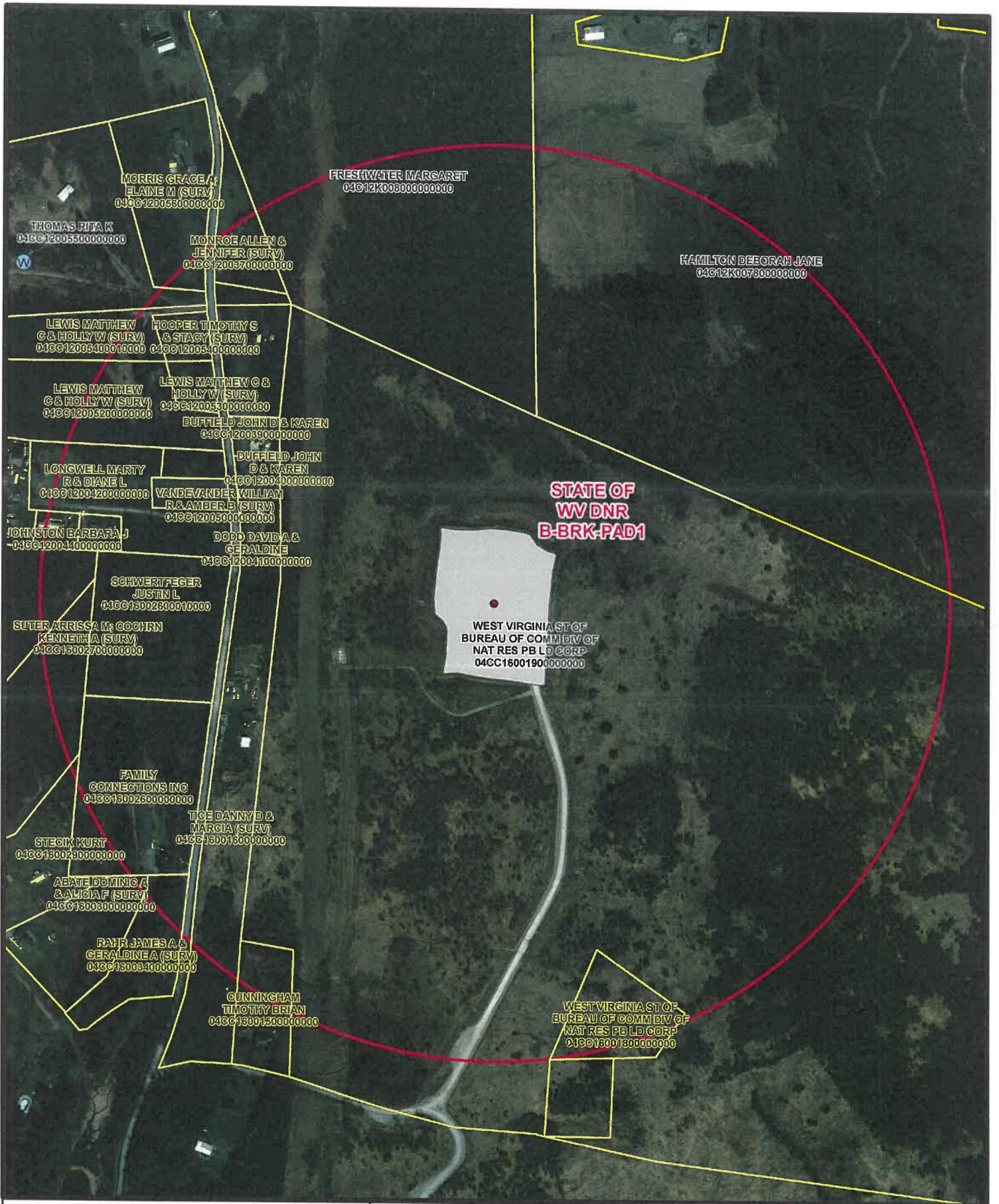
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SWN PRODUCTION COMPANY, LLC – CONFIDENTIAL

01/20/2023



Water Purveyor Map  
Well Pad: State of WV DNR B Pad  
County: BRK

**SWN**  $\frac{R}{A} \rightarrow V^+$   
Southwestern Energy®

Date: 2/14/2022 | Author: willish

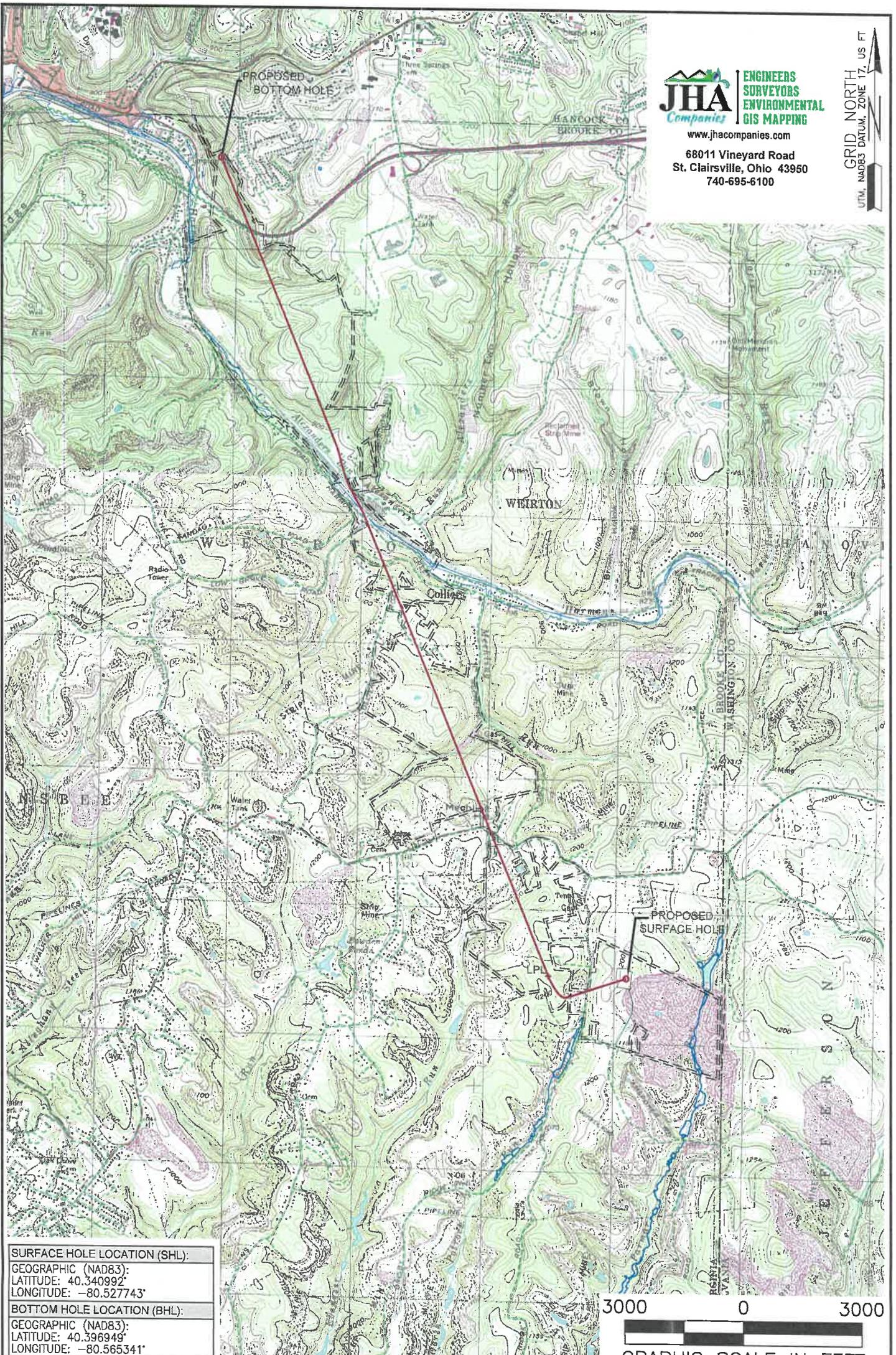
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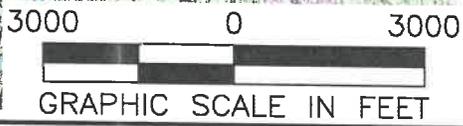
www.jhacompanies.com

68011 Vineyard Road  
St. Clairsville, Ohio 43950  
740-695-6100

GRID NORTH  
UTM, NAD83 DATUM, ZONE 17, US FT



**SURFACE HOLE LOCATION (SHL):**  
GEOGRAPHIC (NAD83):  
LATITUDE: 40.340992'  
LONGITUDE: -80.527743'  
**BOTTOM HOLE LOCATION (BHL):**  
GEOGRAPHIC (NAD83):  
LATITUDE: 40.396949'  
LONGITUDE: -80.565341'



**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:**

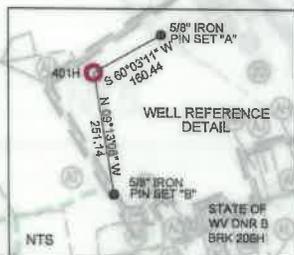
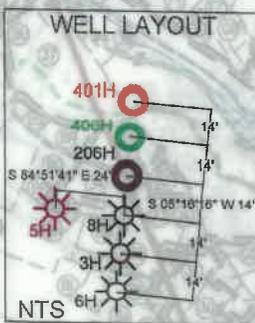
- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- LANDING POINT LOCATION
- FLOOD PLAIN
- NATURAL WATERWAY
- ACCESS ROAD
- PUBLIC ROAD
- ACCESS ROAD TO PREV. SITE
- LEASE BOUNDARY
- PROPOSED PATH

01/20/2023

<b>WELL OPERATOR:</b> SWN PRODUCTION COMPANY, LLC		<b>WELL (FARM) NAME:</b> STATE OF WV DNR B BRK		<b>WELL #</b> 401H	<b>SERIAL #</b> XXXX
<b>ADDRESS:</b> 1300 FORT PIERPONT DRIVE, SUITE 201, MORGANTOWN, WV 26508		<b>COUNTY:</b> BROOKE/OHIO	<b>CODE:</b> 9	<b>DISTRICT:</b> CROSS CREEK	<b>API #</b> 47-000
<b>SURFACE OWNER:</b> STATE OF WEST VIRGINIA, BUREAU OF COMMERCE, DNR		<b>USGS 7 1/2 QUADRANGLE MAP NAME:</b> STEBENVILLE EAST			



68011 Vineyard Road  
St. Clairsville, Ohio 43950  
740-695-8100



<b>SURFACE HOLE LOCATION (SHL):</b>
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4465712.15
EASTING: 540110.53
<b>LANDING POINT LOCATION (LPL):</b>
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4465715.51
EASTING: 539511.54
<b>BOTTOM HOLE LOCATION (BHL):</b>
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4471908.88
EASTING: 536886.69

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. 2450

GRID NORTH  
UTM, NAD83 DATUM, ZONE 17, US FT



NOTES ON SURVEY

1. COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
2. 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.
3. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
4. NO DWELLINGS OR BUILDINGS WITHIN 625 FEET OF PROPOSED CENTER OF PAD
5. NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
6. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF THE LIMITS OF DISTURBANCE.
7. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.

LINE	BEARING	DISTANCE
L1	N05°42'16"E	648.47'
L2	N36°10'46"W	1239.25'

SEE SHEET 2

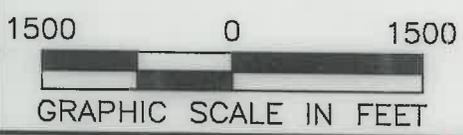
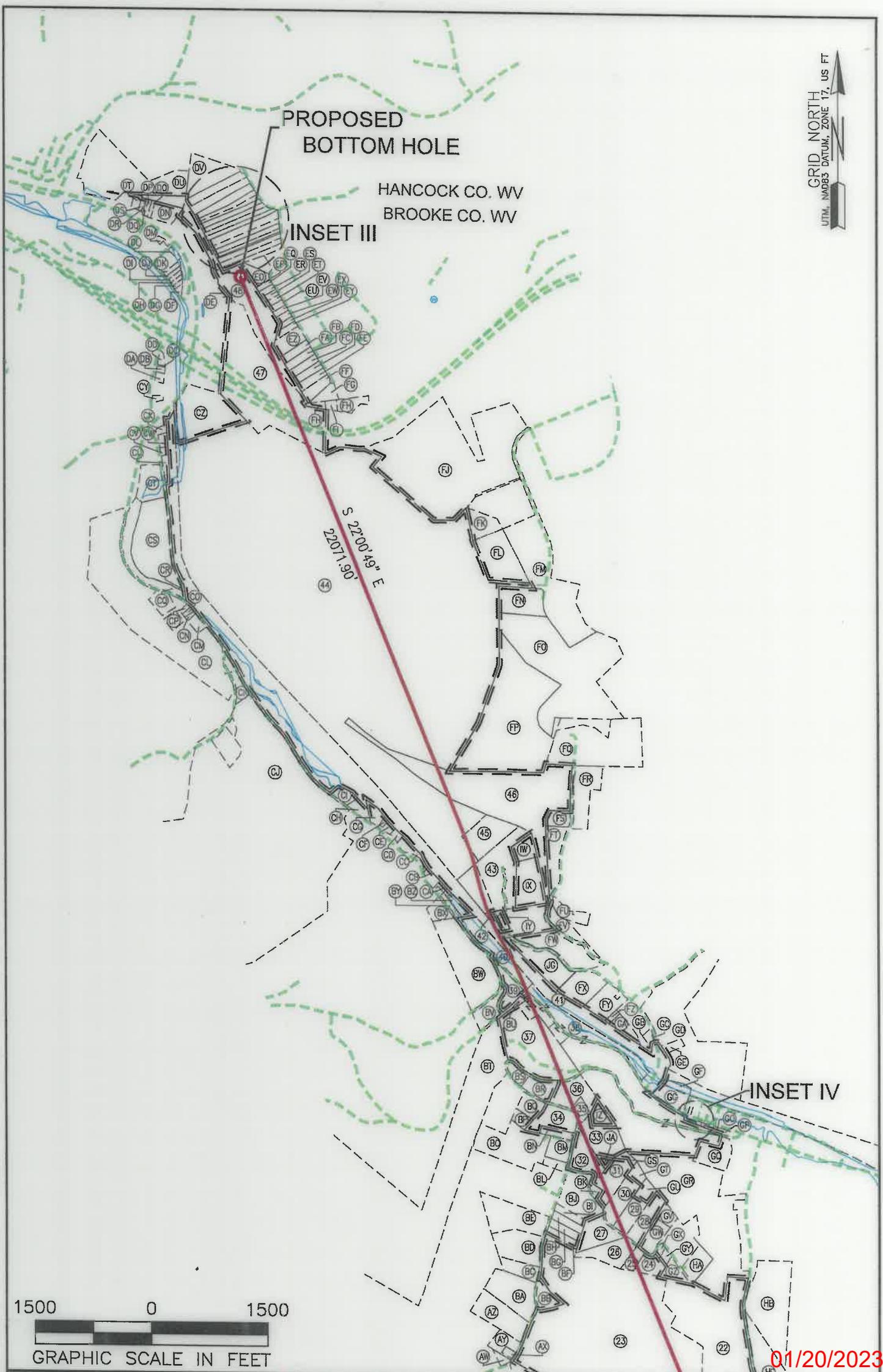


COMPANY: **SWN** Production Company, LLC

<p>(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS</p> <p>WVDEP OFFICE OF OIL &amp; GAS 601 57TH STREET CHARLESTON, WV 25034</p>	MINIMUM DEGREE OF ACCURACY: 1/200 PROVEN SURVEY GRADE GPS SOURCE OF ELEVATION: (NAVD 88, US FT)	STATE OF WV DNR B BRK OPERATOR'S WELL #: 401H API WELL #: 47 009 00333 STATE COUNTY PERMIT
	WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input checked="" type="checkbox"/> DEEP <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/>	WATERSHED: UPPER OHIO NORTH DISTRICT: CROSS CREEK COUNTY: BROOKE/OHIO SURFACE OWNER: STATE OF WEST VIRGINIA, BUREAU OF COMMERCE, DNR OIL & GAS ROYALTY OWNER: STATE OF WEST VIRGINIA, BUREAU OF COMMERCE, DNR
DRILL <input checked="" type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input checked="" type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/> CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input type="checkbox"/> (SPECIFY) _____ TARGET FORMATION: MARCELLUS	ESTIMATED DEPTH: 5,657' 01/20/2026	

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508	DESIGNATED AGENT: BRITTANY WOODY ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508
<b>LEGEND:</b> ○ PROPOSED SURFACE HOLE / BOTTOM HOLE * EXISTING / PRODUCING WELLHEAD LPL * LANDING POINT LOCATION ● EXISTING WATER WELL ● EXISTING SPRING	<b>REVISIONS:</b> DATE: 12-06-2022 API NO: 47-009-XXXX DRAWN BY: Z. WOOD SCALE: 1" = 4000' DRAWING NO: 2017-541 WELL LOCATION PLAT

GRID NORTH  
UTM, NAD83 DATUM, ZONE 17, US FT



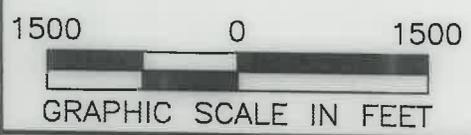
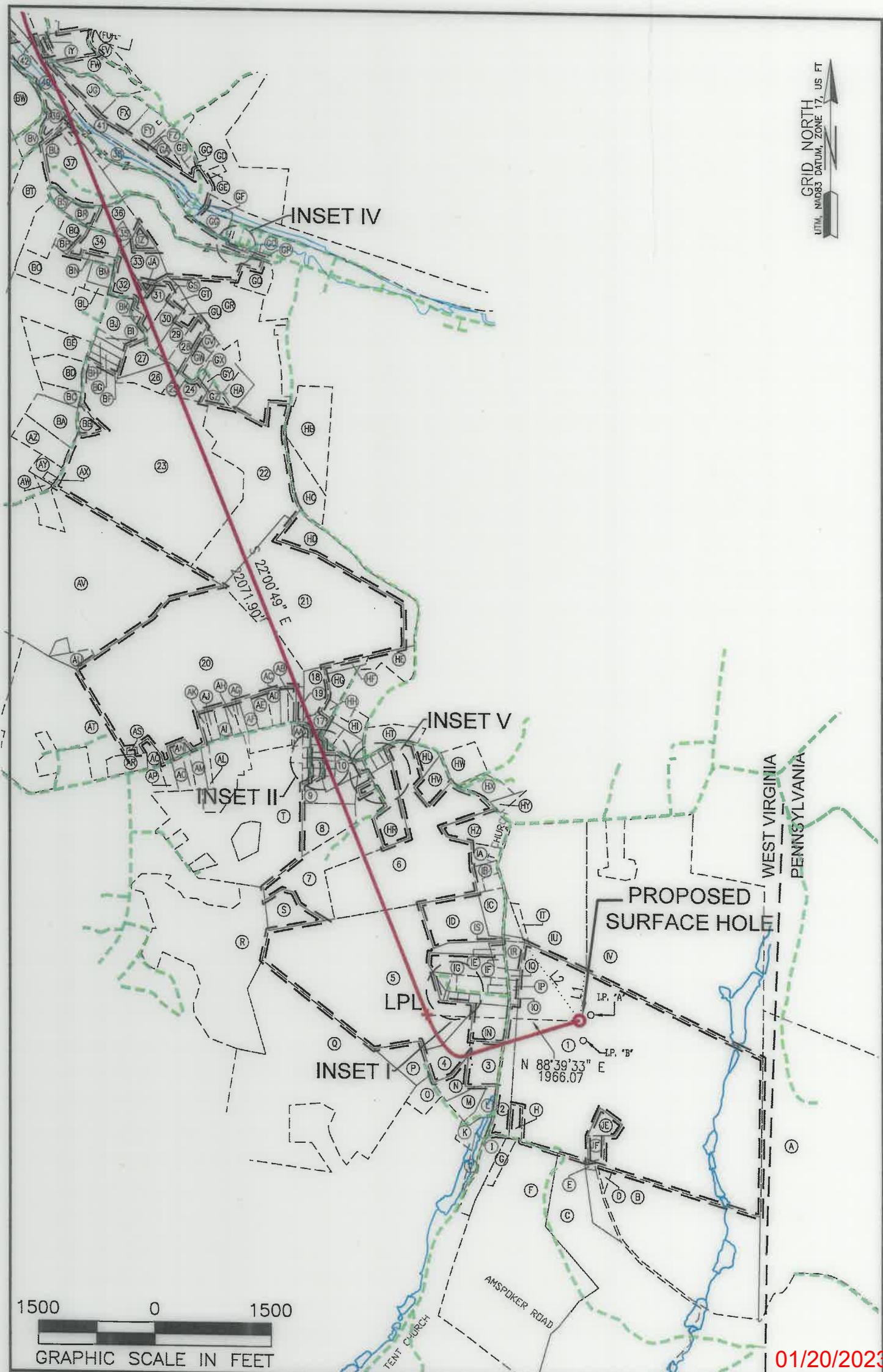
01/20/2023

REVISIONS:

COMPANY:			
OPERATOR'S		STATE OF WV DNR B BRK	
WELL #: 47-009-00333		401H	
DISTRICT:	COUNTY:	STATE:	DATE:
CROSS CREEK	BROOKE/OHIO	WV	12-06-2022
		API NO: 47-009-XXXX	
		DRAWN BY: Z. WOOD	
		SCALE: 1"=1000'	
		DRAWING NO: 2017-541	
		WELL LOCATION PLAT	

COMPLETION ID 2501163306  
PAD ID 3001155614

GRID NORTH  
 UTM, NAD83 DATUM, ZONE 17, US FT

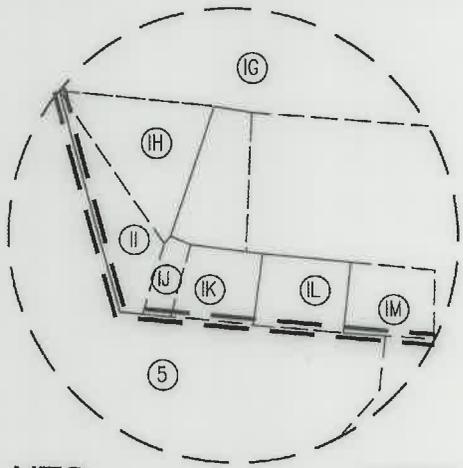


01/20/2023

REVISIONS:

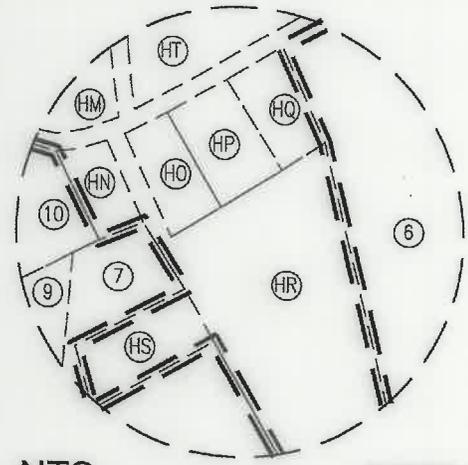
COMPANY:			
OPERATOR'S		STATE OF WV DNR B BRK	
WELL #: 47-001-00333		401H	
DISTRICT:	COUNTY:	STATE:	DATE:
CROSS CREEK	BROOKE/OHIO	WV	12-06-2022
		API NO: 47-009-XXXX	
		DRAWN BY: Z. WOOD	
		SCALE: 1"=1000'	
		DRAWING NO: 2017-541	
		WELL LOCATION PLAT	

COMPLETION ID 2501163306  
 PAD ID 3001155614



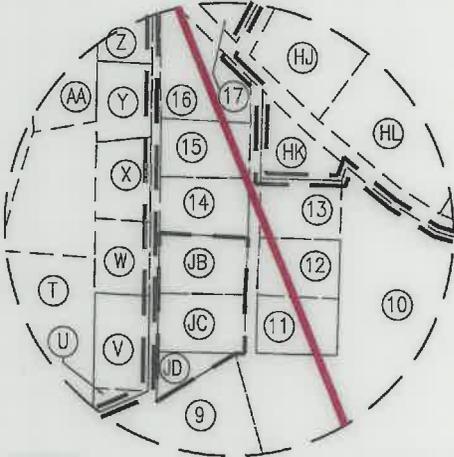
NTS

INSET I



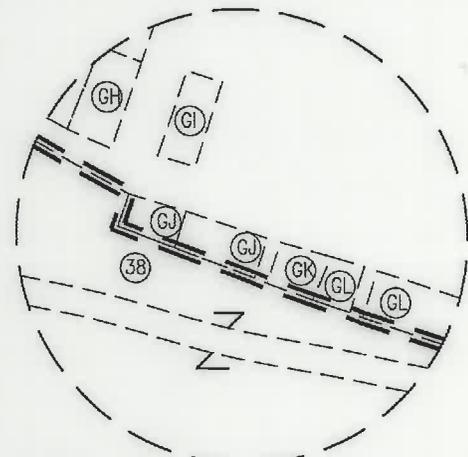
NTS

INSET V



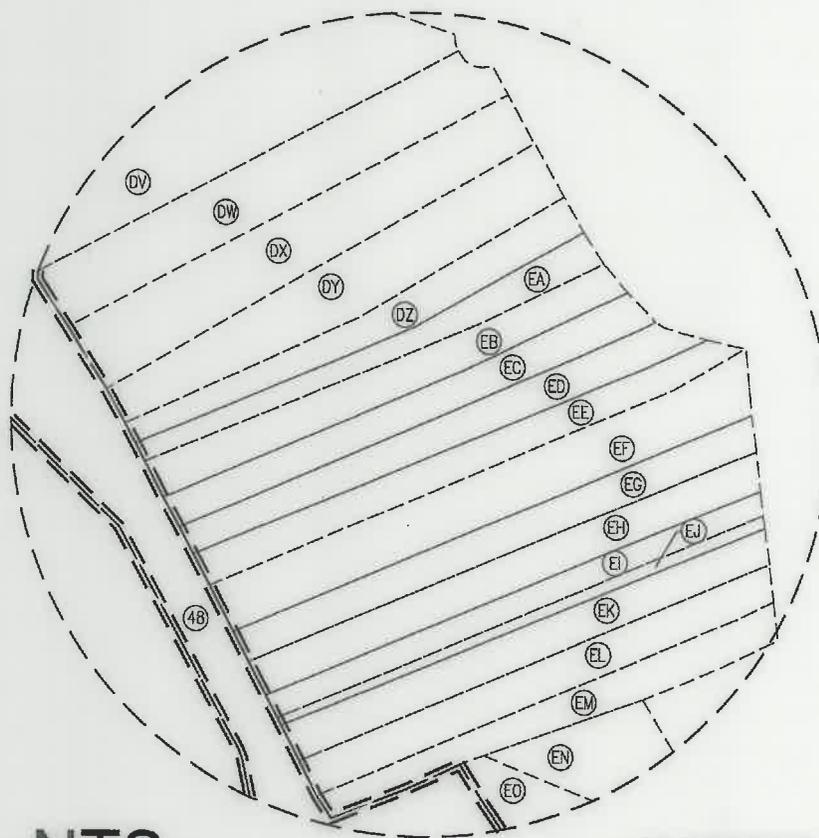
NTS

INSET II



NTS

INSET IV



NTS

INSET III

01/20/2023

REVISIONS:


COMPANY:

**SWN**  
Production Company, LLC

**SWN** *R-V+*  
Production Company™

OPERATOR'S

STATE OF WV DNR B BRK

WELL #: **47-009-00333**

401H

DATE: 12-06-2022

API NO: 47-009-XXXX

DRAWN BY: Z. WOOD

SCALE: N/A

DRAWING NO: 2017-541

WELL LOCATION PLAT

DISTRICT:

CROSS CREEK

COUNTY:

BROOKE/OHIO

STATE:

WV

COMPLETION ID 2501163306  
PAD ID 3001155614

WELL BORE TABLE FOR SURFACE/ROYALTY OWNERS			ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	TRACT	SURFACE OWNER	TAX PARCEL
1	STATE OF WEST VIRGINIA, BUREAU OF COMMERCE, DIVISION OF NATURAL RESOURCES, PUBLIC LAND CORPORATION FOR THE USE AND BENEFIT OF THE WILDLIFE RESOURCES SECTION (S/R)	4-CC16-19	A	MCDERMOTT ARTHUR C JR,	380-8-7-1
			B	WEST VIRGINIA ST OF BUREAU OF COMM DIV OF NAT RES PB LD CORP	4-CC16-22
			C	ST OF WV BUREAU OF COMM-DNR PUBLIC LAND CORP	4-CC16-23.1
			D	WEST VIRGINIA ST OF BUREAU OF COMM DIV OF NAT RES PB LD CORP	4-CC16-20
			E	WEST VIRGINIA ST OF BUREAU OF COMM DIV OF NAT RES PB LD CORP	4-CC16-21
			F	WEST VIRGINIA ST OF BUREAU DIV OF COMM DIV OF NAT RES PB LD	4-CC16-11
			G	PAULES DONNA K	4-CC16-14
			H	CUNNINGHAM TIMOTHY BRIAN	4-CC16-15
			I	MOLNAR DENNIS SR & DENNIS JR	4-CC16-13
			J	MOLNAR DENNIS SR & DENNIS JR	4-CC16-13
			K	HOOPER TIMOTHY S & STACY (SURV)	4-CC12-54
			L	TENNANT WILLIAM J & APRIL L (JTWS)	4-CC16-34
			M	ABATE ALICIA F	4-CC16-30
			N	STECIK KIRK & BRANDY L JTWS	4-CC16-29
			O	WILLS KENNETH 1/3 WILLS TED 1/3 ELLERY DONNA 1/3	4-CC16-33
			P	VANCAMP NEIL E JR & MICHELLE L (SURV)	4-CC16-28
			Q	MAROSI PAUL	4-CC16-1
			R	IVILL LIVING TRUST CHERYL TRUSTEE	4-C115-58
			S	DENNIS TAWNIA R	4-CC12-62
			T	PETREL IRREV TRUST 7/25/13 PETREL NANCY, TRUSTEE	4-C11M-34
			U	PETROSKY STANLEY L & SANDRA M (SURV) (TUD)	4-C12J-54
			V	PETROSKY STANLEY & SANDRA M (SURV) (TUD)	4-C12J-53
			W	PETROSKY STANLEY & SANDRA M (SURV) (TUD)	4-C12J-52
			X	SNATCHKO JOHN & CARRIE (SURV)	4-C12J-51
			Y	DIVENANZO FRANCO	4-C12J-50
			Z	STEVENS STEFANIE & SANDRETH CODY (SURV)	4-C12J-49
			AA	KERNS JAMES M	4-C12J-57
			AB	KERNS ROBERT L JR (LE-PEGGY A STILLWELL)	4-C12J-2
			AC	MCLAUGHLIN KENNETH J JR AMY M (SURV)	4-C12J-1
			AD	CAIN GLENN JR & VALERIE C (SURV)	4-C11M-12
			AE	GASTON LARRY J & TINA C DINIACO GASTON (SURV)	4-C11M-11
			AF	REALE MICHAEL N	4-C11M-5.2
			AG	REALE MICHAEL N	4-C11M-10
			AH	MESTER LUKE A	4-C11M-9
			AI	MESTER LUKE A	4-C11M-8
			AJ	GRIMM STEPHEN R & TAMERA K	4-C11M-7
			AK	GRIMM STEPHEN R & TAMERA K (SURV)	4-C11M-6
			AL	LATIMER ROBERT S	4-C11M-23
			AM	LEMASTERS MARY L	4-C11M-24
			AN	CONN ROBERT W	4-C11M-5.1
			AO	RAHR JAMES W	4-C11M-26
			AP	MCVICKER MATTHEW A & ASHLEY G (JTWS)	4-C11M-27
			AQ	GOURLEY GERALD E	4-C11M-4
			AR	ST JOHNS EPISCOPAL CHURCH	4-C11M-3
			AS	OLDE ST JOHN'S EPISCOPAL CHURCH, TRUSTEES OF	4-C11M-5.3
			AT	SECRIST MARK C JR & MARY E JTWS	4-C11M-1
			AU	LIZON MELISSA MAY	4-CC11-85
			AV	GRIFFITH SUSAN BETH MCBRIDE & MCBRIDE WYLIE JR	4-CC11-83
			AW	JONES DUANE W	4-CC11-65.1
			AX	VIRTUE DANIEL R & DIANE (SURV)	4-CC11-66
			AY	VIRTUE DANIEL R & DIANE L (SURV)	4-CC11-67
			AZ	LYONS JEFFREY C CASEY L (JTWS)	4-CC11-68
			BA	HARRIS DONALD E & LOIS J (SURVIVORSHIP)	4-CC11-69
			BB	WORSTELL WALTER L & JAMES L (SURV)	4-CC11-79.1
			BC	KNOX JEFF	4-CC11-96
			BD	STILLSON ROSEMARY	4-CC7S-10
			BE	UNDERWOOD JOSEPH D	4-CC7S-9
			BF	STROPE LOLA	4-CC7S-11
			BG	VIRTUE DANIEL & DIANE (SURV)	4-CC7S-12
			BH	LONG JASON R & JANET	4-CC7S-13
			BI	LONG JASON R & JANET ANN	4-CC7S-14
			BJ	DAVIS ROBERT E & SHARON (SURV)	4-CC7S-15
			BK	SLOSS RAYMOND T & VERONICA K (SURV)	4-CC7S-29
			BL	DULANEY CARL G	4-CC7S-4
			BM	STEWART THOMAS A	

01/20/2023

REVISIONS:	COMPANY: <b>SWN</b> Production Company, LLC		DATE: 12-06-2022	
	OPERATOR'S: STATE OF WV DNR B BRK		API NO: 47-009-XXXX	
	WELL #: 47-009-00333 401H		DRAWN BY: Z. WOOD	
	DISTRICT: CROSS CREEK	COUNTY: BROOKE/OHIO	STATE: WV	SCALE: N/A
				DRAWING NO: 2017-541
	WELL LOCATION PLAT			

ADJOINING OWNERS TABLE			ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL	TRACT	SURFACE OWNER	TAX PARCEL
BN	RICHTER MILDRED	4-CC7S-3	EA	KARAVOLOS MIKE J & NANCY J (JTWS)	6-W3F-67
BO	HOFF LYNN E (LE-JANET CESSNA)	4-CC7S-5.1	EB	GUGLIELMO EUGENE J	6-W3F-66
BP	DADOUSH MEIR & KIMBERLY AKA LAWVER KIMBERLY (JTWS)	4-CC7S-1.1	EC	BARTLETT CHRISTINE M ET AL (L EST-LOUIS BRUNO JR)	6-W3F-65
BQ	DADOUSH MEIR & LAWVER DADOUSH KIMBERLY (JTWS)	4-CC7S-1	ED	BARTLETT CHRISTINE M ET AL (LE-LOUIS BRUNO JR)	6-W3F-64
BR	BALLATO ROSS L & NANCY C	4-CC7S-35	EE	BARTLETT CHRISTINE M ET AL (L EST-LOUIS BRUNO JR)	6-W3F-63
BS	BALLATO ROSS L & NANCY C	4-CC7-29	EF	SMITH EDDIE LEE (LC-SMITH SHAWN & BEVERLY)	6-W3F-62
BT	WESLEY LLC	4-CC7-105	EG	VUILLER DEBORA K	6-W3F-61
BU	HFS LIMITED LIABILITY COMPANY	4-CC7-113	EH	DAVIS ARTHUR R	6-W3F-60
BV	WESLEY LLC	4-CC7-31	EI	GLOVER FAMILY IRREVOCABLE TR 10/30/03 TRUS REBECCA	6-W3F-59
BW	WESLEY LLC	4-CC7-31	EJ	GLOVER FAMILY IRREVOCABLE TR 10/30/09 TRUS REBECCA	6-W3F-58
BX	HUMES JOHN F III & BONNIE J JTWS	4-CC7-23	EK	ANDERSON PAUL ORANGE O JULIA (SURV)	6-W3G-44
BY	HUMES JOHN F III & BONNIE J JTWS	4-CC7-23	EL	PENARANDA MELANIE ANN	6-W3G-45
BZ	GRANATO MICHAEL; REASBECK AMY M (SURV)	6-W7-3	EM	ROBERTSON EVELYN	6-W3G-46
CA	YOST EVA MARIE REED MELISSA E	4-CC7-22	EN	YENCHOCHIC THOMAS G & MARGARET	6-W3F-55
CB	YOST EVA MARIE REED MELISSA E	4-CC7-20	EO	CUNNINGHAM DONALD C ET AL LE-ROSE ANN CUNNINGHAM	6-W3F-54
CC	BROOKE COUNTY COMMISSION	4-CC7-19	EP	EWUSIAK KEVIN	6-W3F-51
CD	BROOKE COUNTY COMMISSION	4-CC7-18	EQ	EWUSIAK KEVIN	6-W3F-50
CE	TAYLOR GARY R	4-CC7-17	ER	JAROSZYNSKI NICHOLAS J	6-W3F-49
CF	TAYLOR GARY R	4-CC7-16	ES	LAPOSTA KEVAN & CHELSEA (JTWS)	6-W3F-48
CG	TAYLOR GARY R	4-CC7-15	ET	BANE CLAYTON MARCHANT & JOANNE	6-W3G-53
CH	CHAMP RANDALL & CRYSTAL	4-CC7-14	EU	MAKRICOSTAS PROPERTIES LLC	6-W3L-1
CI	GREEN ACRES LLC 1975 HARMON CK RD	4-CC7-13	EV	MORGAN JOHN & SUSAN (JTWS)	6-W3L-2
CJ	PETRELLI BEVERLY GAIL	4-CC7-10	EW	HAJIDANNAOU CONSTANTIA	6-W3L-3
CK	M B INVESTMENTS	4-CC7-7	EX	SAUER JAMES T & ERICA M (SURV) JTWS	6-W3L-4
CL	PETRELLI BEVERLY GAIL	4-CC7-10	EY	MILLER ARTHUR G & JEANETTE	6-W3L-5
CM	CHIODI DOMENIC J & SUE A (SURV)	4-CC7-6	EZ	KAKASCIC THOMAS F & MARY (SURV)	6-W3L-6
CN	CHIODI DOMINIC JOE & SUE ANN (SURV)	4-CC7-5	FA	HIRKALA JAMES F & BARBARA J (SURV)	6-W3L-7
CO	CHIODI SUE ANN DODD SANDRA JEAN	4-CC7-4	FB	RISOVICH FREDERICK A & ALAINA M (JTWS)	6-W3L-8
CP	KIMBALL MITCHELL DALE & DEBORAH SUE (SURV)	4-CC7-3	FC	PLACEK 2015 LIVING TRUST	6-W3L-9
CQ	PETRELLI BEVERLY GAIL	4-CC7-10	FD	SPENCER STEPHEN PAUL	6-W3L-10
CR	MONTANA SKY LLC	4-CC3-37	FE	ZEIGLER JAMES M & CAROL VORHEES-ZEIGLER (SURV)	6-W3L-11
CS	PETRELLI BEVERLY GAIL	4-CC7-10	FF	HAULDREN RICHARD E & FRANCINE E	6-W3L-12
CT	DELONG CHARLES N & BARBARA G (SURV)	4-CC3-34	FG	ZAGULA BONNIE L	6-W3L-13
CU	DULANEY MICHAEL S & KAREN S; (SURV)	4-CC3-21	FH	WEIRTON CITY OF (PARK)	6-W3L-15
CV	MARTIN KRISTOPHER J & ERICKA N (SURV)	4-CC3-20	FI	ZAGULA BONNIE L	6-W3L-14
CW	MARTIN LOIS A	4-CC3K-36	FJ	MORELLI BROTHERS BLOCK & BRICK COMPANY INC	6-W3-7.6
CX	BRENNAN ROBERT JOHN & SHARON LYNN	4-CC3K-37	FK	MORELLI BROTHERS BLOCK & BRICK COMPANY INC	6-W3-4.1
CY	LEMAL JOSEPH JAMES	4-CC3K-38	FL	MORELLI BROTHERS BLOCK & BRICK COMPANY INC	6-W3-5.1
CZ	MORELLI BROTHERS BLOCK & BRICK COMPANY INC	6-W3-3	FM	MORELLI BROTHERS BLOCK & BRICK COMPANY INC	6-W3-7
DA	JAHN DIETER H	4-CC3K-41	FN	MORELLI BROTHERS BLOCK & BRICK COMPANY INC	6-W3-7.12
DB	PANHANDLE RAIL TRAIL ASSOCIATION OF WV INC	4-CC3K-40	FO	GRANATO MICHAEL; REASBECK AMY M (SURV)	6-W7-29
DC	WEIRTON BOARD OF PARKS & RECREATION COMMISSIONERS	4-CC3K-42.1	FP	GRANATO MICHAEL; REASBECK AMY M (SURV)	6-W7-28
DD	SAFARI OUTDOOR ADVERTISING INC	4-CC3K-43	FQ	GRANATO MICHAEL; REASBECK AMY M (SURV)	6-W7-18
DE	W VA DEPT OF HIGHWAYS	6-W3F-46	FR	GRANATO MICHAEL; REASBECK AMY M (SURV)	6-W7-15
DF	WEST VIRGINIA DIVISION OF HIGHWAYS	6-W3F-45	FS	GRANATO MICHAEL; REASBECK AMY M (SURV)	6-W7-22
DG	NORTHERN PANHANDLE SHRINER'S CLUB	6-W3F-44	FT	GRANATO MICHAEL; REASBECK AMY M (SURV)	6-W7-23
DH	NORTHERN PANHANDLE SHRINER'S CLUB	6-W3F-43	FU	GRANATO MICHAEL; REASBECK AMY M (SURV)	6-W7-6
DI	CHANZE CHESTER EUGENE & DONNA	6-W3F-42	FV	REED LARRY E	6-W7M-20
DJ	WEIRTON CITY OF	6-W3F-41	FW	REED LARRY E	6-W7M-20
DK	WEIRTON CITY OF	6-W3F-40	FX	STARGAZER LAND CONSERVANCY LLC	6-W7M-2
DL	HOLLEY CLINTON R & JESSICA (JTWS)	6-W3F-39	FY	REED LARRY E	6-W7M-20
DM	ICE MARK SR	6-W3F-31	FZ	SVOKAS NICK	6-W7M-3
DN	MCABEE MARY	6-W3F-70	GA	CRAIN JAMES R JR & PAMELA K (SURV)	6-W7M-6
DO	MCCOY JACK L	6-W3F-71	GB	NESSERROAD NIKKI (KNA) GEPHART NIKKI & RICHARD	6-W7M-13
DP	JUROSKO BRIAN S	6-W3F-72	GC	GEPHART RICHARD & NIKKI	6-W7M-21
DQ	JUROSKO BRIAN S	6-W3F-73	GD	GRANATO MICHAEL; REASBECK AMY M (SURV)	6-W7-12
DR	JUROSKO BRIAN S	6-W3F-74	GE	STEWART KENNETH R	6-W7M-15
DS	JUROSKO BRIAN S	6-W3F-75	GF	VALERO ENER SERV LLC	4-CC7-27
DT	KLEPACK MICHAEL J & CARLA M	6-W3F-76	GG	COLLIERS STATION LLC	4-CC7S-36
DU	UNKNOWN	UNKNOWN	GH	FABIAN ROBERT J & DEBRA L	4-CC7S-37
DV	WAGNER BENJAMIN K ET UX	6-W43P-67	GI	FABIAN ROBERT & DEBRA	4-CC7S-38
DW	WAGNER BENJAMIN K ET UX	6-W43P-68	GJ	NAZARENE CHURCH OF COLLIERS	4-CC7S-67
DX	GRAY COREY M	6-W43P-69	GK	NAZARENE CHURCH	4-CC7S-66
DY	GUGLIELMO EUGENE (SURV)	6-W3F-69	GL	COLLIERS CHURCH OF THE NAZARENE TRUSTEES	4-CC7S-65
DZ	HIGLEY KEYSTONE TR 7/23/12 TRUS-MARTHA HIGLEY	6-W3F-68	GM	DAVIS JEFFREY A	4-CC7S-64

01/20/2023

REVISIONS:

COMPANY:					
OPERATOR'S		STATE OF WV DNR B BRK		DATE: 12-06-2022	
WELL #: 47-001-00333		401H		API NO: 47-009-XXXX	
DISTRICT: CROSS CREEK		COUNTY: BROOKE/OHIO		DRAWN BY: Z. WOOD	
		STATE: WV		SCALE: N/A	
				DRAWING NO: 2017-541	
				WELL LOCATION PLAT	

ADJOINING OWNERS TABLE			ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL	TRACT	SURFACE OWNER	TAX PARCEL
GN	DAVIS JEFFREY A	4-CC75-63	JA	DAVIS ROBERT E & SHARON E	4-CC75-31.1
GO	DAVIS JEFFREY A	4-CC75-64	JB	PETROSKY STANLEY & SAUNDRA (SURV) (TUD)	4-C12J-45
GP	DAVIS JEFFREY A	4-CC75-63	JC	TAVERNE LISA M	4-C12J-44
GQ	ROBINSON FAMILY REV TRUST TRUS-ROBINSON WESLEY & EVELYN	4-CC75-68	JD	TAVERNE LISA M	4-C12J-43
GR	MERRIFIELD DONNA ROBINSON ROXANN L	4-CC8N-79.8	JE	WEST VIRGINIA ST OF BUREAU OF COMM DIV OF NAT RES PB LD CORP	4-CC16-18
GS	UNKNOWN	UNKNOWN	JF	WEST VIRGINIA ST OF BUREAU OF COMM DIV OF NAT RES PB LD CORP	4-CC16-17
GT	DULANEY CARL G JR	4-CC75-28	JG	REED LARRY E.	6-W7M-1
GU	DULANEY CARL G JR	4-CC75-26			
GV	DOAK BRIAN R	4-CC75-21			
GW	TRUOX MARK LLOYD	4-CC75-23			
GX	MUSICO LARA DONNA;MOTT APRYL DAWN(LE-JOSEPH MUSICO)	4-CC11-99			
GY	GORAY DAVID ALLEN	4-CC11-73			
GZ	PERRONE JAMES & SHANAH S (SURV)	4-CC11-74			
HA	VINCENT CLINTON & CARLETTA	4-CC11-75			
HB	MERRIFIELD DONNA ROBINSON ROXANN L	4-CC12-10			
HC	SZYMANEK THOMAS J. PATE JOHN	4-CC11-78			
HD	SZYMANEK THOMAS J & PAMELA K (SURV)	4-CC12-61			
HE	RICE GEORGE SCOTT; MCGARY AMY JOY (SURV)	4-CC12-59			
HF	EVANS BRAD A & MELISSA J (SURV)	4-CC12-1			
HG	RIGGS CHARLES WILLIAM & MICHELLE LYNN (JTWS)	4-CC12-2			
HH	CAPRARESE ANDREW W	4-C12J-6			
HI	PETREL NANCY; DAVID; BRUCE WIRT LISA (LE-NANCY PETREL)	4-C12J-11			
HJ	PETREL NANCY; DAVID; BRUCE WIRT LISA (LE-NANCY PETREL)	4-C12J-12			
HK	MCCLAIN RONALD WARD & TAMMY JTWS	4-C12J-37			
HL	PETREL NANCY; DAVID; BRUCE; WIRT LISA (LE-NANCY PETREL)	4-C12J-13			
HM	PETREL NANCY L; DAVID; BRUCE WERT LISA (LE-NANCY PETREL)	4-C12J-14			
HN	TRUOX MARK L	4-C12J-35			
HO	HERMAN CHARLES M & MAGDALEN M	4-C12J-31			
HP	HERMAN CHARLES M & MAGDALEN M (SURVIVORSHIP)	4-C12J-30			
HQ	HERMAN CHARLES M & MAGDALEN M	4-C12J-29			
HR	SPERRINGER TODD ALLAN & MIRANDA 3BOYZ PROPMGMT JTWS	4-C12J-32			
HS	FORESTER DONALD D; TIMOTHY ETAL	4-C12J-34			
HT	COPENHAVER JACK L & MARJORIE C	4-C12J-59			
HU	LANTZ KEYSTONE TRUST 1/14/13 TRUS WILLIAM & CAROLYN LANTZ	4-C12J-27			
HV	LANTZ WILLIAM-40% LANTZ SUSAN PORCH-60%	4-C12J-26			
HW	MAVIRCH PHILLIP C	4-C12J-19			
HX	VAVRO DAVID A	4-C12J-20			
HY	COZAD DONALD L JR & LISA J (SURV)	4-C12J-22			
HZ	LANTZ KEYSTONE TRUST 1/14/13 TRUS-WM & CAROLYNN LANTZ	4-C12J-25			
IA	OLENICK JOSEPH JOHN & FRANCES ANN (SURV)	4-CC12-58			
IB	UNITED PRESBYTERIAN CHURCH OF TENT CHURCH ROAD	4-CC12-57			
IC	MORRIS GRACE A; ELAINE M (SURV) (TOD)	4-CC12-56			
ID	THOMAS RITA K	4-CC12-55			
IE	HOOPER TIMOTHY S & STACY (SURV)	4-CC12-54			
IF	LEWIS MATTHEW C & HOLLY W (SURV)	4-CC12-53			
IG	LEWIS MATTHEW C & HOLLY W (SURV)	4-CC12-52			
IH	LONGWELL MARTY R & DIANA L (SURV)	4-CC12-48			
II	LONGWELL MARTY R & DIANA L (SURV)	4-CC12-47			
IJ	LONGWELL MARTY R & DIANA L (SURV)	4-CC12-46			
IK	LONGWELL DIANA LYNN & MARTY ROBBON	4-CC12-45			
IL	BUBECK PHILIP J	4-CC12-44			
IM	BUBECK BRIAN B & STEPHANIE J (SURV)	4-CC12-43			
IN	KUZMA NATHANAEL J AMY L (JTWS)	4-CC16-26.1			
IO	DODD GERALDINE	4-CC12-41			
IP	DODD PAUL C & DONNA A (JTWS)	4-CC12-40			
IQ	DODD PAUL C & DONNA A (JTWS)	4-CC12-39			
IR	DODD LARRY G SR & NORA LOU	4-CC12-38			
IS	THOMAS RITA K	4-CC12-55			
IT	MONROE ALLEN & JENNIFER (JTWS)	4-CC12-63			
IU	FRESHWATER MARGARET	4-C12K-80			
IV	HAMILTON DEBORAH JANE	4-C12K-78			
IW	GRANATO MICHAEL; REASBECK AMY M (SURV)	6-W7-24			
IX	GRANATO MICHAEL; REASBECK AMY M (SURV)	6-W7-25			
IY	GRANATO MICHAEL; REASBECK AMY M (SURV)	6-W7-30			
IZ	KIMBALL KENNETH L & APRIL L (SURV)	4-CC75-32			

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REVISIONS:	 	
	COMPANY:	DATE: 12-06-2022
	OPERATOR'S	API NO: 47-009-XXXX
	STATE OF WV DNR B BRK	DRAWN BY: Z. WOOD
	WELL #: 47-001-00333	SCALE: N/A
	DISTRICT: CROSS CREEK	DRAWING NO: 2017-541
	COUNTY: BROOKE/OHIO	WELL LOCATION PLAT
	STATE: WV	

**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
See Exhibit "A"				

**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

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: *Jay Custard*  
 Its: Staff Landman

## EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil & Gas Permit Form, WW-6A1  
by SWN Production Company, LLC, Operator  
State of West Virginia DNR B BRK 6H  
Brooke County, WV

#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG
1)	04-CC16-0019-0000	Starvaggi Industries, Incorporated	Fortuna Energy Inc. Range Resources-Appalachia, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	9/532 10/226 10/541 30/480
2)	04-CC16-0016-0000	Danny D. Tice and Marcia Tice, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	18/430 30/480
3)	04-CC16-0026-0000	Family Connections Inc.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	28/60 30/480
4)	04-CC16-0027-0000	Arrissa M. Suter, a single woman and Kenneth A. Cochran, a single man	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	27/641 30/480
5)	04-CC12-0054-0001	Matthew C. Lewis and Holly W. Lewis, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	18/81 33/492
6)	04-C12J-0028-0000	Kimberly Carman Worthley, f.k.a. Kimberly Jo (Kim) Carman, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	14.00%	15/111 30/480
7)	04-C12J-0033-0000	Shawn Dennis and Tawna R. Dennis, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	14.00%	11/556 30/480
8)	04-C12J-0042-0000	James L. Deuley, a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	18.00%	20/684 30/480
		Roberta J. Dillon, single	SWN Production Company, LLC	18.00%	61/715
		Kathy A. Roupe, f/k/a Kathy Dunlevy, single	SWN Production Company, LLC	18.00%	61/721
		Donald R. Mechling, single	SWN Production Company, LLC	18.00%	62/146
		Linda L. Perkins	SWN Production Company, LLC	18.00%	63/113
		Drema K. Peterson, single	SWN Production Company, LLC	18.00%	61/709
		Dwight R. Welshans, Single	SWN Production Company, LLC	18.00%	61/703
9)	04-C12J-0041-0000	James L. Deuley, a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	20/684 30/480
10)	04-C12J-0036-0000	Michael T. Koscevic and Sheryl Koscevic, husband and wife	SWN Production Company, LLC	18.00%	40/779 (41/121)
		Jamie Deuley, a single woman	SWN Production Company, LLC	18.00%	42/573
11)	04-C12J-0040-0000	Tracy S. Richmond, divorced	SWN Production Company, LLC	18.00%	62/233
12)	04-C12J-0039-0000	Patricia A. Yandrich a/k/a Patricia Ann Yandrich, widow	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	26/145 30/480
13)	04-C12J-0038-0000	Judy McClain, aka Judith L. McClain, widow	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	26/135 30/480

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14)	04-C12J-0046-0000	Daniel Louis Smith and Judith Ann Smith, husband and wife	SWN Production Company, LLC	18.00%	61/727
15)	04-C12J-0047-0000	Nicholas Cebula and Deborah L. Cebula, husband and wife	SWN Production Company, LLC	18.00%	39/128
16)	04-C12J-0048-0000	Douglas Lee, a single man and Dana M. Headmond, a single woman	SWN Production Company, LLC	18.00%	33/789 (39/715)
17)	04-C12J-0005-0000	Kimberly Carman Worthley, f.k.a. Kimberly Jo (Kim) Carman, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	14.00%	15/90 30/480
18)	04-C12J-0004-0000	Kimberly Carman Worthley, f.k.a. Kimberly Jo (Kim) Carman, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	14.00%	15/91 30/480
19)	04-C12J-0003-0000	Judy Keister, a widow and David Lee Kiester, a married man dealing in his sole and separate property	SWN Production Company, LLC	14.00%	40/579
20)	04-C11M-0005-0000	Mark C. Secrist, Jr. and Mary E. Secrist, husband and wife	Great Lakes Energy Partners, L.L.C. Range Resources - Appalachia, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC	14.00%	10/37 20/733 10/552 30/480
21)	04-CC12-0005-0000	Nancy Lee Petrel, a married woman dealing in her sole and separate property Edna Floryne Williams, a married woman dealing in her sole and separate property  Unknown Heirs or Assigns of Mary Hunter  Tom Meneely, a married man dealing in his sole and separate property  Lois Jean Calfo, a married woman dealing in her sole and separate property  Della Dalene Alrutz, a widow  Brian Tidrick and Lori Tidrick, Husband and Wife Betty Mae Stattler Gary L. Clark Mark D. Clark Lamoine E. Mercer, a widow  Floyd David Hunter a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC  SWN Production Company, LLC  Chesapeake Appalachia, L.L.C.  Chesapeake Appalachia, L.L.C.  Chesapeake Appalachia, L.L.C. SWN Production Company, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC SWN Production Company, LLC Chesapeake Appalachia, L.L.C.  Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00% 18.00%  18.00%  12.50%  12.50%  15.00%  18.00% 15.00% 18.00% 18.00% 15.00%  18.00%	17/146 30/480 17/154 30/480  63/115  21/364 30/480  31/369 30/480  17/790 30/480  27/302 30/480 20/218 30/480 62/764 63/115 19/614 30/480 17/150 30/480
22)	04-CC11-0078-0000	Freestar Energy Group, LLC	SWN Production Company, LLC	18.00%	38/540

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23)	04-CC11-0079-0000	Starvaggi Industries, Incorporated	Fortuna Energy Inc. Range Resources-Appalachia, LLC Chesapeake Appalachia, LLC <u>SWN Production Company, LLC</u>	12.50%	9/532 10/226 10/541 30/480
24)	04-CC11-0072-0000	Joseph C. Musico, widower; Life Tenant	SWN Production Company, LLC	18.00%	44/143
		Apryl Dawn Mott and Jeremy Mott, wife and husband, Remaindermen	SWN Production Company, LLC	18.00%	44/151
		Lara Donna Brown f/k/a Lara Donna Musico and Matthew Brown, wife and husband, Remainderman	SWN Production Company, LLC	18.00%	44/135
25)	04-CC11-0071-0000	Earl Bennett, Jr.	SWN Production Company, LLC	18.00%	62/420
		Patricia Lynn Bennett	SWN Production Company, LLC	18.00%	62/414
		Deviney N. Bennett and Tobis Dawn O'Neal Palavicini, wife and husband	SWN Production Company, LLC	18.00%	62/279
		Codey W. Bennett and Gracie A. Bennett, husband and wife	SWN Production Company, LLC	18.00%	62/221
		Lance M. Bennett, single	SWN Production Company, LLC	18.00%	62/168
		Cheryl L. Bennett	SWN Production Company, LLC	18.00%	62/85
		Jody Feist	SWN Production Company, LLC	18.00%	62/122
		Kimberlee J. Manack	SWN Production Company, LLC	18.00%	62/116
		Shane Michael Bennett and Autumn Bennett, husband and wife	SWN Production Company, LLC	18.00%	62/162
		Leslie Jean Jones, divorced	SWN Production Company, LLC	18.00%	62/255
		Thomas M. Davidson, single	SWN Production Company, LLC	18.00%	62/79
		Chelsie R. Davidson, single	SWN Production Company, LLC	18.00%	62/156
		Bryant Davidson - Carlton	SWN Production Company, LLC	18.00%	62/73
		Stacey A. Bennett, a widower	SWN Production Company, LLC	18.00%	62/67
		Jeremile Alexander, married, dealing in his separate property	SWN Production Company, LLC	18.00%	62/297
		Nicole S. Bennett Berentz, divorced	SWN Production Company, LLC	18.00%	62/746
		Michelle Bennett	SWN Production Company, LLC	18.00%	62/752
		Christopher Warrick, married, dealing in his separate property	SWN Production Company, LLC	18.00%	62/303
		Shawn Bennett-Price and Russell E. Price, wife and husband	SWN Production Company, LLC	18.00%	62/186
		Kevin Lowell Bennett, single	SWN Production Company, LLC	18.00%	62/215
		Pamela B. Kimbro, single	SWN Production Company, LLC	18.00%	62/339
		Donna L. Winland, divorced	SWN Production Company, LLC	18.00%	62/128
26)	04-CC75-0017-0000	Debbie Tomes, married, dealing in her separate property	SWN Production Company, LLC	16.00%	61/165
27)	04-CC75-0016-0000	Carl G. Dulaney, Jr., married, dealing in his separate property	SWN Production Company, LLC	17.00%	58/669
28)	04-CC75-0024-0000	Brian R. Doak, a single man	SWN Production Company, LLC	15.00%	43/334
29)	04-CC75-0025-0000	Carl G. Dulaney, Jr., married, dealing in his separate property	SWN Production Company, LLC	17.00%	58/669
30)	04-CC75-0027-0000	Carl G. Dulaney, Jr., married, dealing in his separate property	SWN Production Company, LLC	17.00%	58/669
31)	04-CC75-0015-0000	Robert E. Davis and Sharon E. Davis, husband and wife	SWN Production Company, LLC	17.00%	45/504
32)	04-CC75-0030-0000	Robert E. Davis and Sharon E. Davis, husband and wife	SWN Production Company, LLC	17.00%	45/504
33)	04-CC75-0031-0000	Richard E. Kimball, married, dealing in his sole and separate property	SWN Production Company, LLC	18.00%	61/47
		Kenneth L. Kimball, married, dealing in his sole and separate property	SWN Production Company, LLC	18.00%	61/41
34)	04-CC75-0002-0000	Mildred M. Richter, a widow	SWN Production Company, LLC	18.00%	62/321
35)	04-CC75-0033-0000	Kenneth L. Kimball and April L. Kimball	SWN Production Company, LLC	18.00%	61/139
36)	04-CC75-0034-0000	Kenneth L. Kimball and April L. Kimball	SWN Production Company, LLC	18.00%	61/139
37)	04-CC7-0028-0000	David S. Browning and Lori L. Browning, husband and wife	SWN Production Company, LLC	18.00%	42/559
38)	04-CC7-0027-0000	HFS Limited Liability Company	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC Operator Owned Minerals	18.00%	22/449 30/480 396/555
		SWN Production Co, LLC		N/A	

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		Valero Ener-Serve, LLC	SWN Production Company, LLC	18.00%	62/225
39)	04-CC7-0031-0001	HFS Limited Liability Company	Chesapeake Appalachia, L.L.C.	18.00%	22/449
		SWN Production Co, LLC	SWN Production Company, LLC		30/480
			Operator Owned Minerals	N/A	396/555
40)	04-CC7-0031-0002	HFS Limited Liability Company	Chesapeake Appalachia, L.L.C.	18.00%	22/449
		SWN Production Co, LLC	SWN Production Company, LLC		30/480
			Operator Owned Minerals	N/A	396/555
41)	06-W8-0048-0000	West Virginia State Rail Authority	SWN Production Company, LLC	20.00%	61/788
42)	06-W7-0012-0000	Rebecca Sims-Illig, a/k/a Becky Sims-Illig, married, dealing in her separate property	SWN Production Company, LLC	18.00%	58/676
		Howard Clark Sims, a/k/a Clark Sims, married, dealing in his separate property	SWN Production Company, LLC	18.00%	58/683
		Ellen Ann Sims	SWN Production Company, LLC	18.00%	58/690
43)	06-W7-0003-0000	John C. Skerbetz and Elizabeth Cook fka Elizabeth Boyer, husband and wife, and April Schill, a married woman dealing in her sole and separate property	SWN Production Company, LLC	15.00%	45/125
44)	06-W3-0004-0000	Brownlee Land Ventures, LP	SWN Production Company, LLC	18.00%	52/183
45)	06-W7-0002-0000	Brian Teslovich and Cara C. Davis, husband and wife	SWN Production Company, LLC	16.00%	41/572
46)	06-W7-0021-0000	Rebecca Sims-Illig, a/k/a Becky Sims-Illig, married, dealing in her separate property	SWN Production Company, LLC	18.00%	58/676
		Howard Clark Sims, a/k/a Clark Sims, married, dealing in his separate property	SWN Production Company, LLC	18.00%	58/683
		Ellen Ann Sims	SWN Production Company, LLC	18.00%	58/690
47)	US ROUTE 22	Brownlee Land Ventures, LP	SWN Production Company, LLC	18.00%	52/183
48)	06-W3F-0047-0000	Cove Presbyterian Church of Weirton, West Virginia, f/k/a Presbyterian Church of Holidays Cove, West Virginia	SWN Production Company, LLC	18.00%	N/R

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December 7, 2022

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

**RE:** SWN's proposed New Well: State of WV DNR B BRK 401H in Brooke County, West Virginia, Drilling under Eldersville Road, Dennis Ridge Road, Tent Church Road, Cherry Lane, Rte 5, Harmon Creek Road, Colliers Steel Road, Thompson Hill Road, and US Hwy 22.

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 Eldersville Road, Dennis Ridge Road, Tent Church Road, Cherry Lane, Rte 5, Harmon Creek Road, Colliers Steel Road, Thompson Hill Road, and US Hwy 22. 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,



Cooper Farish, CPL  
Staff Landman – Southwest Appalachia  
SWN Production Company, LLC



The Right People doing the Right Things,  
wisely investing the cash flow from our  
underlying Assets, will create Value+<sup>®</sup>

01/20/2023

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

Date of Notice Certification: 12/13

API No. 47- 009 -  
Operator's Well No. State of WV DNR B BRK 401H  
Well Pad Name: State of WV DNR B BRK

**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:	<u>West Virginia</u>	UTM NAD 83	Eastings:	<u>540,110.53</u>
County:	<u>009- Brooke/069-Ohio</u>		Northing:	<u>4,465,712.15</u>
District:	<u>Cross Creek</u>	Public Road Access:	<u>Tent Church Road</u>	
Quadrangle:	<u>Steubenville East</u>	Generally used farm name:	<u>State of WV DNR B BRK</u>	
Watershed:	<u>Upper Ohio North</u>			

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		<b>OOG OFFICE USE ONLY</b>  <input type="checkbox"/> RECEIVED/ NOT REQUIRED  <input type="checkbox"/> RECEIVED  <input type="checkbox"/> RECEIVED/ NOT REQUIRED  <input type="checkbox"/> RECEIVED  <input type="checkbox"/> RECEIVED  <input type="checkbox"/> RECEIVED
<input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY	or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	
<input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY	or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED	
<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 checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION		
<input checked="" type="checkbox"/> 5. PUBLIC NOTICE		
<input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		

**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.

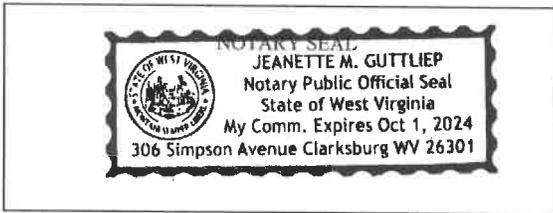
01/20/2023

**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 15 day of August 2022  
Jeanette M. Guttliet Notary Public  
 My Commission Expires 10/01/2024

**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).



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: 12/13 Date Permit Application Filed: 12/13

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: State of WV-DNR Attn: Steve Rausch  
Address: PO Box 99, 1110 Railroad St.  
Farmington, WV 26571

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: Starvaggi Industries, INC.  
Address: 401 Pennsylvania Ave  
Weirton, WV 26062

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

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)  
Name: None  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

\*Please attach additional forms if necessary

01/20/2023

**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

01/20/2023

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

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.**

**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.

WW-6A  
(8-13)

4700900333  
API NO. 47-009 -  
OPERATOR WELL NO. State of WV DNR B BRK 401H  
Well Pad Name: State of WV DNR B BRK

**Notice is hereby given by:**

Well Operator: SWN Production Co., LLC

Telephone: 304-884-1610

Email: Brittany\_Woody@swn.com

*Brittany Woody*

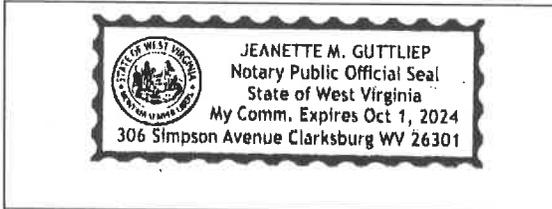
Address: 1300 Fort Pierpont Dr., Suite 201

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 15 day of August 2022

*Jeanette M Guttliet*

Notary Public

My Commission Expires 10/01/2024

01/20/2023

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF INTENT TO DRILL**

4700900333

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

**Notice Time Requirement:** Notice shall be provided at least TEN (10) days prior to filing a permit application.

**Date of Notice:** 08/09/2022      **Date Permit Application Filed:** 12/13

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

- HAND DELIVERY
- CERTIFIED MAIL RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

**Notice is hereby provided to the SURFACE OWNER(s):**

**Name:** Division of Natural Resources, Office of Land and Streams  
**Address:** 324 4th Street, Room 200  
South Charleston, WV 25303

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

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon 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>540,110.53</u>
County:	<u>Brooke/Ohio</u>		Northing:	<u>4,465,712.15</u>
District:	<u>Cross Creek</u>	Public Road Access:	<u>North Potrock Road</u>	
Quadrangle:	<u>Steubenville East</u>	Generally used farm name:	<u>State of WV DNR B BRK</u>	
Watershed:	<u>Upper Ohio North</u>			

**This Notice Shall Include:**

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. 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.dcp.wv.gov/oil-and-gas/pages/default.aspx](http://www.dcp.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

**Well Operator:** SWN Production Company, LLC  
**Address:** 1300 Fort Pierpont Drive, Suite 201  
Morgantown, WV 26508  
**Telephone:** 304-884-1642  
**Email:** Reid\_Croft@swn.com  
**Facsimile:** \_\_\_\_\_

**Authorized Representative:** Reid Croft  
**Address:** 1300 Fort Pierpont Drive, Suite 201  
Morgantown, WV 26508  
**Telephone:** 304-884-1642  
**Email:** Reid\_Croft@swn.com  
**Facsimile:** \_\_\_\_\_

**RECEIVED**  
Office of Oil and Gas  
**DEC 14 2022**

WV Department of  
Environmental Protection

**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).

01/20/2023





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

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

D. Alan Reed, P.E.  
 State Highway Engineer

Jimmy Wriston, P. E.  
 Secretary of Transportation  
 Commissioner of Highways

February 9, 2022

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 State of WV DNR B Pad, Brooke County

State of WV DNR B BRK 401H Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2012-0103 which has been issued to Southwestern Energy for access to the State Road for a well site located off Brooke County Route 7/4 SLS MP 3.36.

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

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

RECEIVED  
 Office of Oil and Gas

DEC 14 2022

WV Department of  
 Environmental Protection

E.E.O./AFFIRMATIVE ACTION EMPLOYER

01/20/2023

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
		Acetophenone, thiourea, formaldehyde polymer	68527-49-1
AP ONE (U.S. Well Services)	Breaker	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
CarboNRT	Tracer	Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
		Ceramic Proppant	66402-68-4
EC6486A (Nalco Champion)	Scale Inhibitor	Amine Triphosphate	Proprietary
EC6734A (Champion Technologies)	Biocide	Ethylene Glycol	107-21-1
		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
Ecopol-FEAC (SWN Well Services)	Iron Control	Acetic Acid	64-19-7
		Citric Acid	77-92-9
		Water	7732-18-5
FDP-S1176-15 (Halliburton)	Friction Reducer	Polyacrylate	Proprietary
		Hydrotreated light petroleum distillate	64742-47-8
FLOJET 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-76 (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-6S 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-propenamide	Proprietary
		Hydrotreated Distillate	64742-47-8
		Sodium Chloride	7647-14-5
		Alcohols, C12-16, Exoxylated	68551-12-2
		Oleic Acid Diethanolamide	93-83-4
		Ammonium Chloride	12125-02-9
Plexslick 953	Friction Reducer	Petroleum Distillate	64742-47-8
		Sodium Chloride	7647-14-5
		Ammonium Chloride	12125-02-9
		N,N-bis (2-hydroxyethyl) oleamide	93-83-4
Plexslick 957	Friction Reducer	Petroleum Distillate	64742-47-8
		Ammonium Chloride	12125-02-9
		Oleic Acid Diethanolamide	93-83-4
		Alcohols, C12-16, Exoxylated	68551-12-2
		Water	7732-15-5
Plexslick V996	no data available	Copolymer of 2-Propeenamide	*****
		Distillates (petroleum), hydrotreated light	64742-47-8
		Alcohol Ethoxylate	*****
		Surfactant	*****
WFRA-2000 (U.S. Well Services)	Anionic Friction Reducer	Hydrotreated light distillate (petroleum)	64742-47-8
		Propenoic acid, polymer with propenamide	9003-06-9
Plexaid 655 NM	Scale Inhibitor	Diethylenetriamine penta (methylene phosphonic acid)	15827-30-8
Plexslick 922	no data available	Copolymer of 2-propenamide	69418-26-4
		Distillates (petroleum), hydrotreated light	64742-47-8
		Ammonium chloride ((NH4)Cl)	12125-02-9
		Oleic Acid Diethanolamide	93-83-4
Tolcide 4Frac	Mixture	Phosphonium, tetrakis (hydroxymethyl), Sulfate	55566-30-8
		Quaternary ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
Tolcide P550A	Biocidal product	Ethanol	64-17-5
		Tetrakis (hydroxymethyl) phosphonium sulphate	55566-30-8
LD-2950	Friction Reducer	Acrylic acid terpolymer containing carboxylate phosphonate and sulfonate groups	397256-50-7
		Hydrotreated light petroleum distillate	64742-47-8
		Ethoxylated alcohol	Proprietary
Legend LD-7750W	Scale Control	Poly (oxy-1,2-ethanediyl) alpha.-tridecyl-omega.-hydroxy-, branched	69011-36-5
		Methanol	67-56-1
MC MX 8-4743	Specialty Product	Phosphonic Acid Salt	Proprietary
		Sodium Nitrate	7631-99-4
Ferriplex 80	Iron Control	Sodium erythorbate	6381-77-7
Plexaid 655 WG	Scale Inhibitor	Glycerine	67-56-1
		Water	7732-18-5
		Organic Phosphonic Acid Salts	15827-60-8

As of 9/8/2022

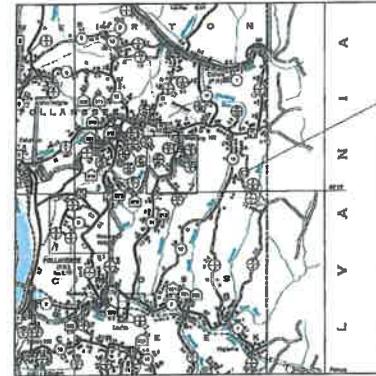
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Office of Oil and Gas  
DEC 14 2022  
WV Department of  
Environmental Protection

01/20/2023

# SWN PRODUCTION COMPANY, LLC AS-BUILT PLANS FOR THE WV DNR BRK PAD "B" BROOKE COUNTY, WV JUNE 2017

**SWN**  
Production Company™  
SWN PRODUCTION COMPANY, LLC  
179 Innovation Drive  
Juno Lew, WV 26378  
(304) 884-1610

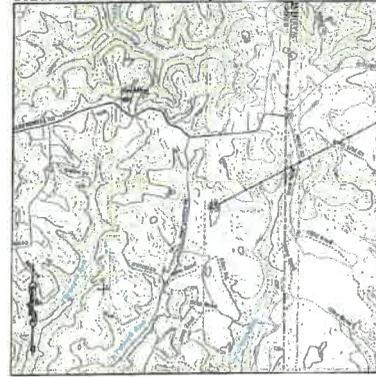
BROOKE COUNTY, WV HIGHWAY MAP



PROJECT LOCATION

HIGHWAY MAP SCALE  
1 MILE 0 1 MILE 2 MILES

STUBENVILLE EAST OHIO QUAD MAP



PROJECT LOCATION

VICINITY MAP SCALE  
2000' 0 2000' 4000'

**PROJECT COORDINATES**

**AS-BUILT ACCESS ROAD BEGINNING**  
NAD83-N Latitude = N 40.336534°  
NAD83-N Longitude = W 80.528659°  
UTM 83-17 Northing = 14649632.5537 ft.  
UTM 83-17 Easting = 1771766.0567 ft.

**AS-BUILT CENTER OF WELL PAD**  
NAD83-N Latitude = N 40.340832°  
NAD83-N Longitude = W 80.527802°  
UTM 83-17 Northing = 14651195.9901 ft.  
UTM 83-17 Easting = 1771995.8158 ft.

**WV DNR BRK PAD "B"**

3H: AP# 47-005-00134  
8H: AP# 47-005-00122

**DISTURBANCE SUMMARY**

Disturbance Location	Total Disturbance (Acres)
Access Road	4.19
Well Pad	8.31
<b>Total Disturbance</b>	<b>12.50</b>

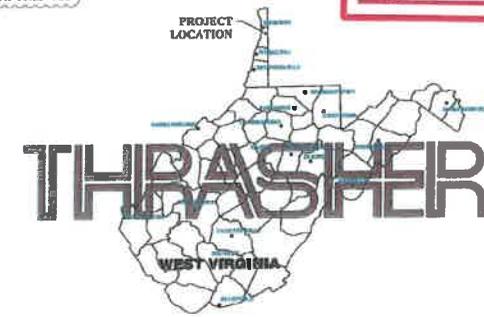
**WVDEP OOG  
ACCEPTED AS-BUILT**  
*WJ* 10 / 10 / 2017

**SHEET INDEX**

SHEET	TITLE SHEET	DESCRIPTION
1	TITLE SHEET	
2-3	EVACUATION PLAN & PREVAILING WINDS	
4	AS-BUILT OVERVIEW	
5-7	AS-BUILT ACCESS ROAD PLAN & PROFILE	
8	AS-BUILT WELL PAD PLAN	
9	AS-BUILT WELL PAD PROFILE & SECTIONS	
10	RECLAMATION PLAN	
11	GENERAL NOTES	
12-14	DETAILS	

**NOTES**

- PORTIONS OF THE ORIGINAL AS-BUILT SURVEY OF THIS SITE PROVIDED BY POORD, HENCKECK & ASSOCIATES, INC (BBA) TO CHESAPEAKE APPALACHIA, LLC. IN SEPTEMBER 2012 HAVE BEEN INCORPORATED INTO THESE PLANS. THE BBA AS-BUILT SURVEY WAS PROVIDED TO THRASHER BY SWN PRODUCTION COMPANY, LLC IN MAY 2017 AND INCLUDED CONTOURS, ROAD EDGES, WELL HEAD LOCATIONS, EROSION AND SEDIMENT CONTROLS, ETC.
- EXISTING ROAD EDGES, WELL PAD EDGE, GAS PRODUCTION EQUIPMENT, ABOVE GROUND PIPING, STORM WATER FEATURES, ETC. WERE VERIFIED AND AS-BUILT BY THRASHER MAY 2017.
- THE COORDINATE SYSTEM USED FOR THIS PROJECT IS UTM WITH NAD83 DATUM, ZONE 17, US FOOT, CENTRAL MERIDIAN 816W.



**ONE CALL UTILITY SYSTEM CONTACT INFO**



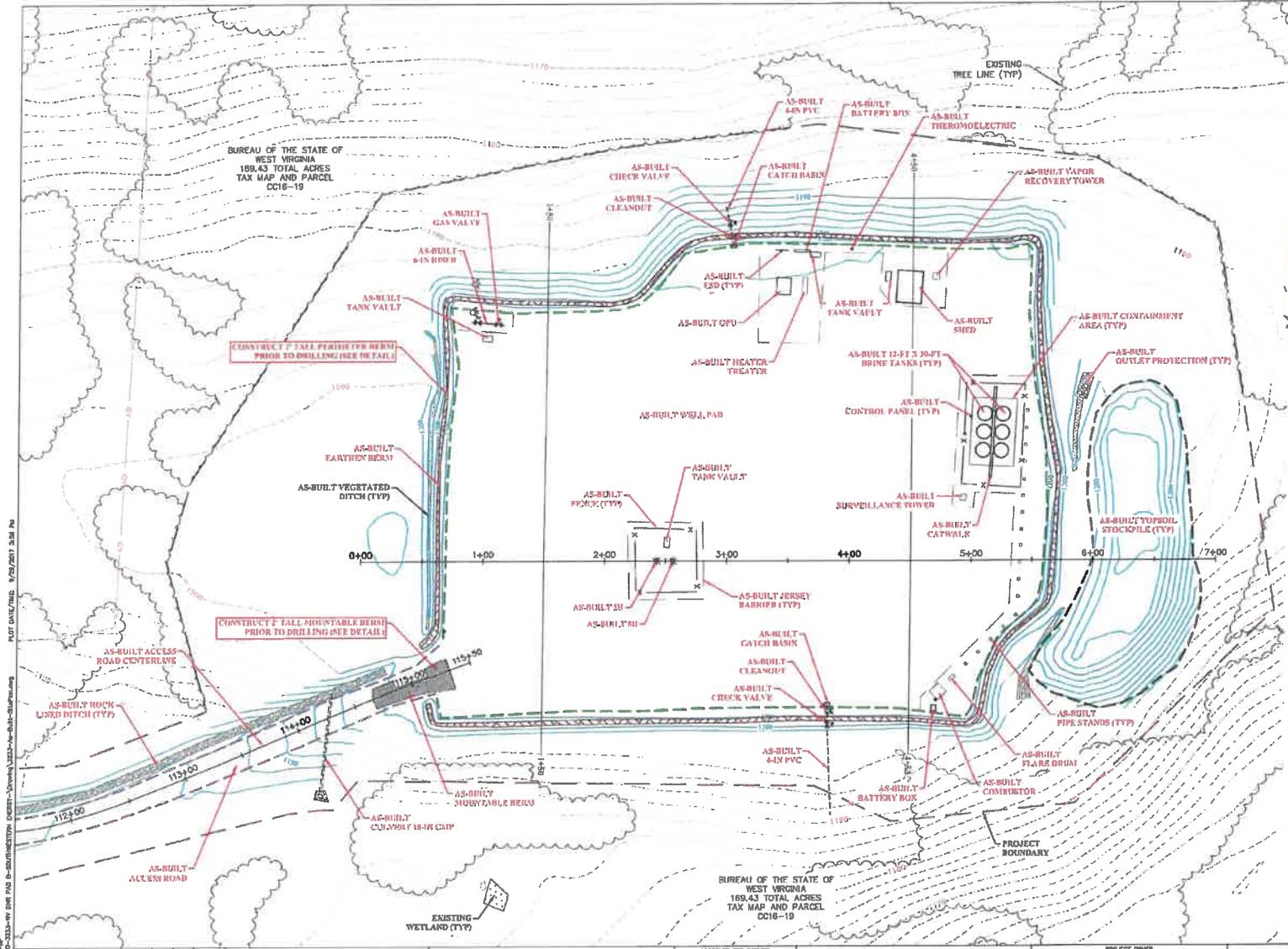
CONTRACTOR SHALL NOTIFY THE ONE-CALL SYSTEM OF THE INTENDED EXCAVATION OR DISABLING NOT LESS THAN FORTY-EIGHT (48) HOURS, EXCLUDING SATURDAYS, SUNDAYS AND LEGAL FEDERAL OR STATE HOLIDAYS, NOR MORE THAN TEN (10) WORK DAYS PRIOR TO THE BEGINNING OF SUCH WORK.

REVISION NUMBER	REVISED SHEETS	BY	DATE	DESCRIPTION
1	1 & 8	DM	08/29/17	CORRECTED 3H & 8H AP# NUMBERS

**THRASHER**  
THE THRASHER GROUP, INC.  
600 WHITE OAKS BOULEVARD - BRIDGEPORT, WV 26330  
PHONE (304) 624-4108 • FAX (304) 624-7831

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CAD FILE: R:\488-1133-000\008\_012\_B-2017\WESTVIRGINIA\DWG\1133-Cover.dwg  
 PLOT DATE/TIME: 07/17/2017 4:02 PM  
 USER: JEFF L. CRAMER



**PLAN LEGEND**

- PRE-CONSTRUCTION CONTOURS
- AS-BUILT 1% CONTOURS
- AS-BUILT PROJECT BOUNDARY
- AS-BUILT TOPSOIL STOCKPILE EDGE
- AS-BUILT SURROUNDING AREA OF INTEREST
- AS-BUILT OVERPAD UTILITY LINE AND POLE
- AS-BUILT ROAD EDGE
- AS-BUILT TOPSOIL STOCKPILE EDGE
- AS-BUILT PAD EDGE
- AS-BUILT FENCE
- AS-BUILT ROCK LINED DITCH
- AS-BUILT CULVERT
- AS-BUILT CONTAMINATED AREA
- AS-BUILT PRODUCTION EQUIPMENT
- AS-BUILT TEXT
- AS-BUILT
- AS-BUILT

**WV DNR BRK PAD "B" WELLS**

WELL NAME	API NUMBER	CELLAR DIAMETER	CELLAR DEPTH	CELLAR MATERIAL
AS-BUILT 3N	47-009-00134	8-FT	8-FT	CMP**
AS-BUILT 3H	47-009-00122	8-FT	8-FT	CMP**

**NOTES:**  
\*\* CMP = CORRUGATED METAL PIPE

- WELL PAD NOTES**
- PRIOR TO DRILLING A 2-FT TALL (MINIMUM) EARTHEN BERM SHALL BE CONSTRUCTED AROUND ENTIRE PERIMETER OF WELL PAD.
  - PRIOR TO DRILLING A 2-FT TALL (MINIMUM) MOUNTABLE BERM SHALL BE CONSTRUCTED AND SHALL BE THE FULL WIDTH OF THE ACCESS ROAD AT THE WELL PAD ENTRANCE.
  - PERIMETER AND MOUNTABLE BERMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS AND NOTES CONTAINED WITHIN THESE PLANS.
  - PERIMETER AND MOUNTABLE BERMS SHALL BE INSTALLED AND STABILIZED PRIOR TO INITIATING DRILLING OPERATIONS.
  - PERIMETER AND MOUNTABLE BERMS SHALL REMAIN IN-PLACE AND BE MAINTAINED AT ALL TIMES DURING OPERATIONS ON THE WELL PAD.

**WV DEP OOG  
ACCEPTED AS-BUILT**

*NJL* 10 / 10 / 2017

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NO.	REV.	DATE	DESCRIPTION
1	01	04/17/17	CORRECTED 3H & 3H API NUMBERS

**SWN**  
Production Company

APPROVED FOR PERIOD	DATE
BY: _____	DATE: _____
APPROVED FOR CONSTRUCTION	DATE: _____
BY: _____	DATE: _____
PROJECT No: 101-030-8233	

**THRASHER**  
THE THRASHER GROUP, INC.  
600 WHITE OAKS BOULEVARD, BODDERTON, WV 26030  
PHONE (304) 624-4105 FAX (304) 624-7831

PROJECT OWNER  
**SWN PRODUCTION COMPANY, LLC**  
PROJECT NAME  
**STATE OF WV DNR BRK PAD "B"**  
PROJECT LOCATION  
**BROOKE COUNTY, WV**

SHEET TITLE  
**AS-BUILT WELL PAD PLAN**

SHEET No.  
**8**