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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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Thursday, November 29, 2018  
WELL WORK PERMIT  
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC  
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit approval for SWN A WTZ 205H  
47-103-03251-00-00

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

Operator's Well Number: SWN A WTZ 205H  
Farm Name: SWN PRODUCTION COMPAN  
U.S. WELL NUMBER: 47-103-03251-00-00  
Horizontal 6A New Drill  
Date Issued: 11/29/2018

# PERMIT CONDITIONS

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

## CONDITIONS

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

API Number: 4710303251

## PERMIT CONDITIONS

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

4710303251

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    103- Wetzel    12-Proct    681-Wileyville  
Operator ID    County    District    Quadrangle

2) Operator's Well Number: SWN A WTZ 205H    Well Pad Name: SWN A WTZ Pad

3) Farm Name/Surface Owner: SWN Production Company, LLC    Public Road Access: Macedonia Ridge

4) Elevation, current ground: 1337'    Elevation, proposed post-construction: 1342'

5) Well Type (a) Gas     Oil    Underground Storage

Other

(b) If Gas Shallow     Deep

Horizontal

6) Existing Pad: Yes or No No

*DMH  
9-12-18*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Target Formation- Marcellus, Up-Dip Well to the North, Target Top TVD- 7360', Target Base TVD- 7398', Anticipated Thickness- 38', Associated Pressure- 4798

8) Proposed Total Vertical Depth: 7382'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 25,888'

11) Proposed Horizontal Leg Length: 17993.75'

12) Approximate Fresh Water Strata Depths: 300'

13) Method to Determine Fresh Water Depths: The base of fresh water at the alternate minimum depth of 300'.

14) Approximate Saltwater Depths: 1364' Salinity Profile Analysis

15) Approximate Coal Seam Depths: 1229'

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:

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WW-6B  
(04/15)

API NO. 47- 103 -  
OPERATOR WELL NO. SWN A WTZ 205H  
Well Pad Name: SWN A WTZ Pad  
**4710-03251**

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	H-40	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	H-40	48#	400'	400'	392 sx/CTS
Coal							
Intermediate	9 5/8"	New	J-55	36#	2774'	2774'	1080 sx/CTS
Production	5 1/2"	New	HCP-110	20#	25888'	25888'	load 535sx/Tot 4244sx/inside 93sx/CTS
Tubing							
Liners							

*DMH  
4-12-18*

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	1.19/50% Excess
Fresh Water	13 3/8"	17.5"	0.380	2740	633	Class A	1.19/50% Excess
Coal							
Intermediate	9 5/8"	8 3/4"	0.317	4360	3250	Class A	1.19/50% Excess
Production	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/50% Excess
Tubing							
Liners							

**PACKERS**

Kind:				
Sizes:				
Depths Set:				

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WW-6B  
(10/14)

API NO. 47- 103 - \_\_\_\_\_  
OPERATOR WELL NO. SWN A WTZ 205H  
Well Pad Name: SWN A WTZ Pad  
**4710 03251**

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. The well is produced through surface facilities consisting of high pressure production unites, vertical separation units, water and oil storage tanks. Max press and anticipated max rate- 9000 lbs @ 100 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 12.77

22) Area to be disturbed for well pad only, less access road (acres): 6.61

23) Describe centralizer placement for each casing string:

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

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

See Attachment \*\*\*

25) Proposed borehole conditioning procedures:

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

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\*Note: Attach additional sheets as needed.

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## Schlumberger Cement Additives

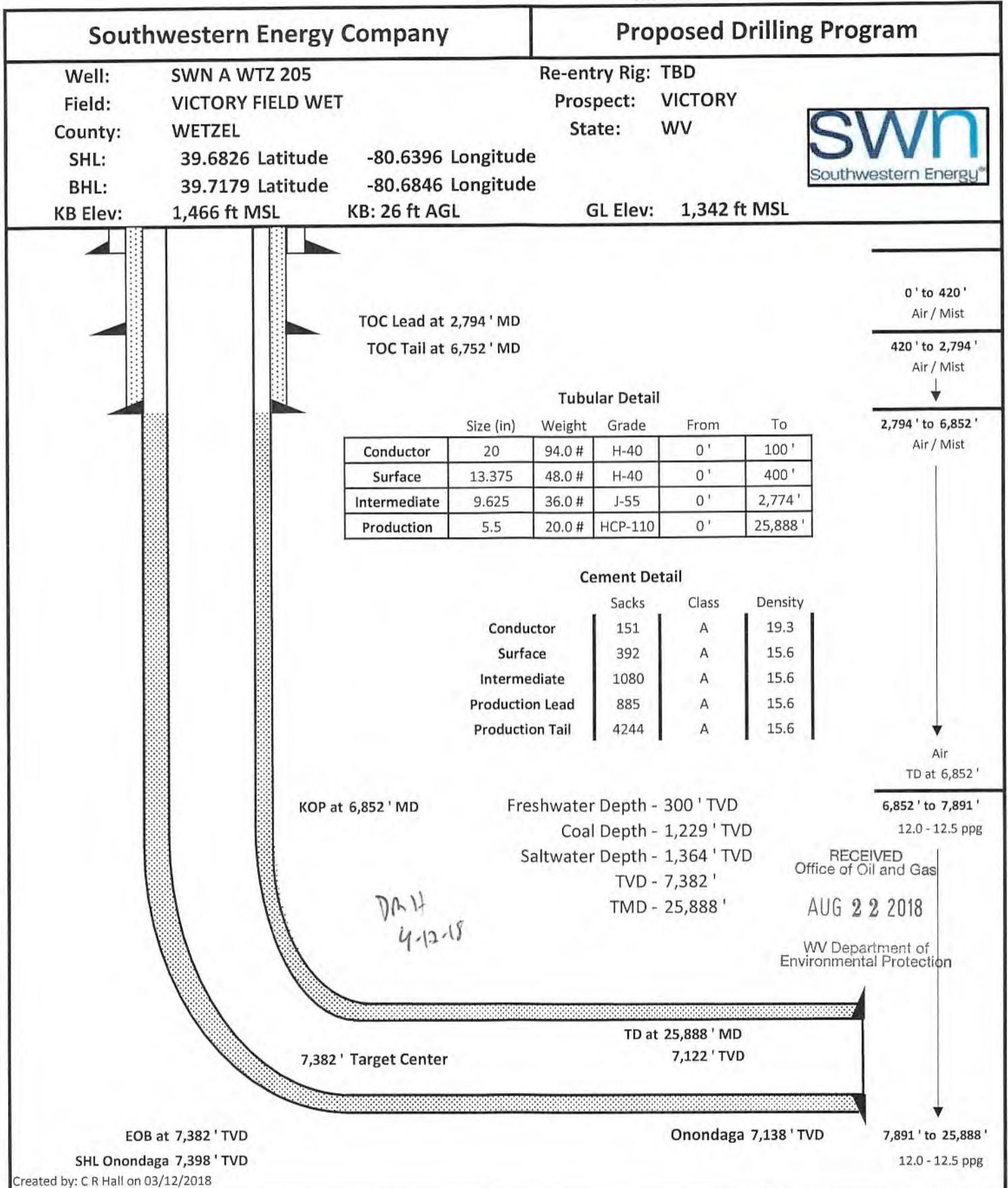
	Product Name	Product Use	Chemical Name	CAS Number
Intermediate Surface	S001	accelerator	calcium chloride up to 3%	10043-52-4
	S001	accelerator	calcium chloride	10043-52-4
Kick Off Plug	D080	dispersant	sodium polynaphthalene sulfonate	9008-63-3
	D801	retarder	aromatic polymer derivative	proprietary
	D047	antifoam	polypropylene glycol	25322-69-4
Production-Lead	D167	fluid loss	aliphatic amide polymer	proprietary
	D154	extender	non-crystalline silica	7631-86-9
	D400	gas migration	boric acid	10043-35-3
	D046	antifoam	polypropylene glycol	25322-69-4
			fullers earth (attapulgate)	8031-18-3
	D201	retarder	chrystalline silica	14808-60-7
			metal oxide	proprietary
	D202	dispersant	sulphonated synthetic polymer	proprietary
formaldehyde (impurity)			proprietary	
Production-Tail	D046	antifoam	polypropylene glycol	25322-69-4
			fullers earth (attapulgate)	8031-18-3
	D167	fluid loss	aliphatic amide polymer	proprietary
			sodium polynaphthalene sulfonate	9008-63-3
	D065	dispersant	sodium sulfate	7757-82-6
			chrystalline silica	14808-60-7
D201	retarder	metal oxide	proprietary	
		chrystalline silica	14808-60-7	

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4710703251

Form WW-9

Operator's Well No. SWN A WTZ 205H

SWN Production Co., LLC

Proposed Revegetation Treatment: Acres Disturbed 12.77 Prevegetation pH \_\_\_\_\_

Lime as determined by pH test min. 2 Tons/acre or to correct to pH 6.61

Fertilizer type 10-20-20

Fertilizer amount 600 lbs/acre

Mulch Hay/Straw 2.5 Tons/acre

Seed Mixtures

**Temporary**

**Permanent**

Seed Type lbs/acre

Seed Type lbs/acre

Attachment 3B

**Attach:**

Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

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

Title: Oil and Gas Inspector

Date: 4-12-18

Field Reviewed?  Yes  No

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WW-9  
(2/15)

API Number 47 - 103

47 103 03251

Operator's Well No. SWN A WTZ 205H

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 South Quadrangle Wileyville

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 34-155-22403, 34-059-24067, 34-119-28776, 34-167-23862, 34-155-23795, 34-121-23995, 34-155-21693 )
- Reuse (at API Number at next anticipated well, API# will be included with the WR-34/DDMR &/or permit addendum. )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain flow back fluids will be put in steel tanks and reused or taken to a permitted disposal facility )

Will closed loop system be used? If so, describe: Yes

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

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

Additives to be used in drilling medium? Attachment 3A

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

Arden Landfill 10072, Apex Sanitary Landfill 06-08438, Brooke Co SWF-1013, Valley 100280

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 Regulatory Analyst

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Subscribed and sworn before me this 20 day of July, 2018

*Elizabeth Blankenship*

Notary Public

My commission expires 6/23/24



## Attachment 3C

### CLOSED LOOP SYSTEM

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

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

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

### AIR DRILLING INTERVALS

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

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

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

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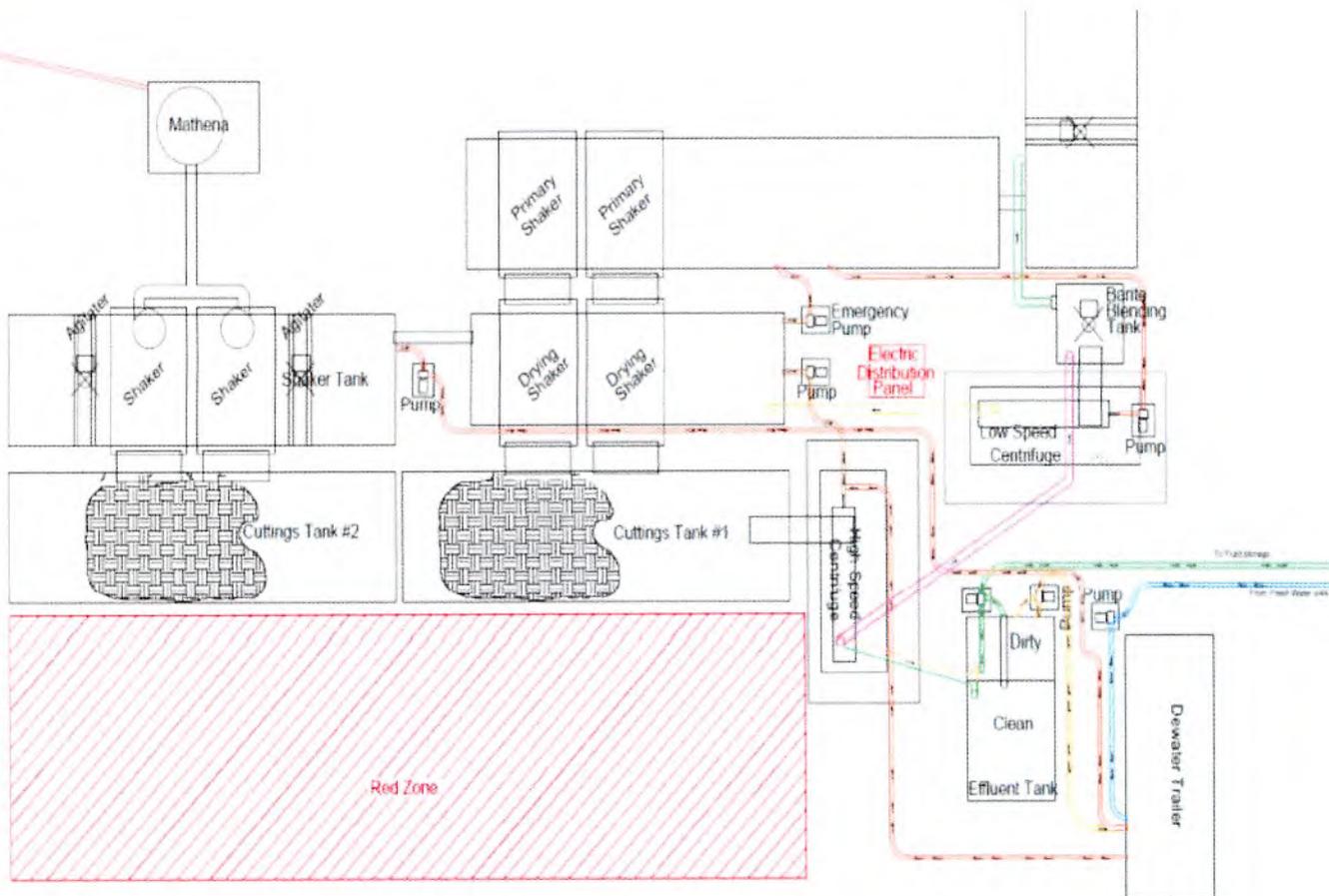
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# Solids Control Layout



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EXAMPLE SCHEMATIC FOR CLOSED LOOP SOLIDS CONTROL SYSTEM

# Attachment 3A

## Drilling Mediums

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

Air

Freshwater (if needed based on conditions)

### Intermediate/Coal (if present):

Air

Brine (In Gas Storage areas)

Organophilic Bentonite

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### Production Hole:

Air

Synthetic Oil (Base Fluid for mud system)

Barite

Calcium Chloride

Lime

Organophilic Bentonite

Primary and Secondary Emulsifiers

Gilsonite

Calcium Carbonate

Friction Reducers



# WVD Seeding Specification

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

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%	All legumes are innoculated at 5x normal rate
White Clover	5%	
Birdsfoot Trefoil	5%	
Rough Bluegrass	5%	
Apply @ 100lbs per acre April 16th- Oct. 14th		Apply @ 200lbs per acre Oct. 15th- April 15th PLUS 50lbs per acre of Winter Wheat

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	

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.

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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# Directions



Turn right onto Doolin Run Rd

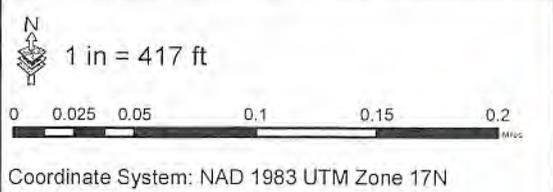
Turn left onto Doolin Run Rd/Ne  
Newdale

Continue straight onto Proctor C

Sharp left

Turn right

4710 03251



- P Pond
- S Spring
- ⦿ Water Well
- 1500' Buffer

AUG 22 2018

WV Department of Environmental Protection

**Water Purveyor Map**  
**Well Pad: SWN A**  
**County: WTZ**

**SWN**  $\frac{R^2}{A} \rightarrow V^+$   
 Southwestern Energy®

Date: 4/24/2018 | Author: willish

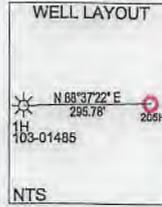


www.jhacmpanies.com  
68011 Vineyard Road  
St. Clairsville, Ohio 43950  
740-695-6100

(2,000' SCALE) LATITUDE: 39°45'00" BOTTOM HOLE | 5048'  
(2,000' SCALE) LATITUDE: 39°42'30" SURFACE HOLE | 4097'

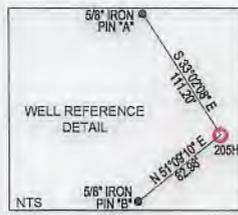
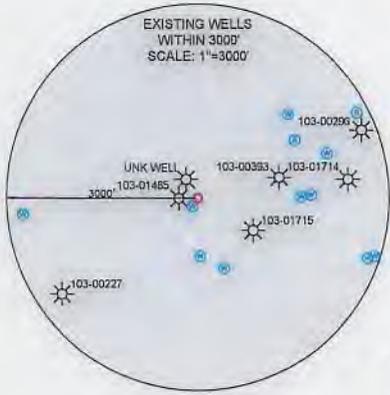
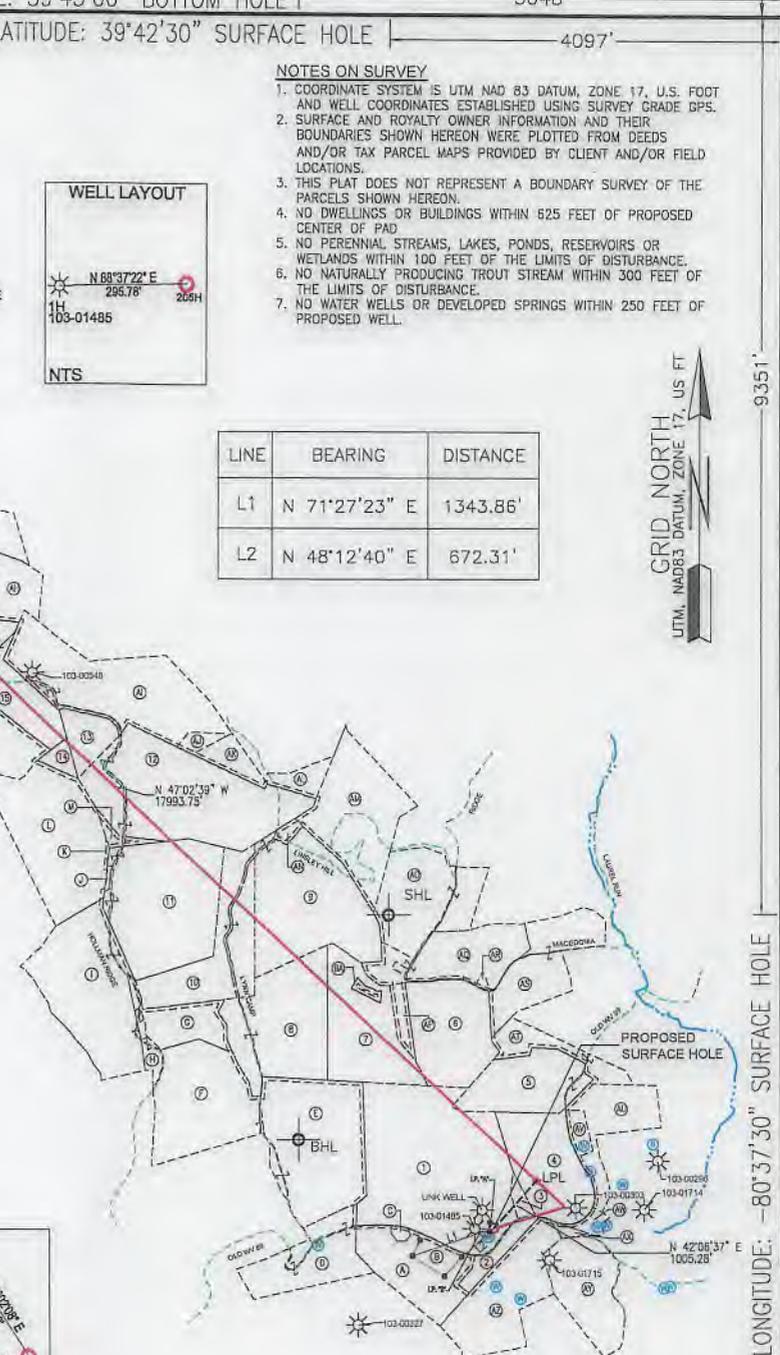
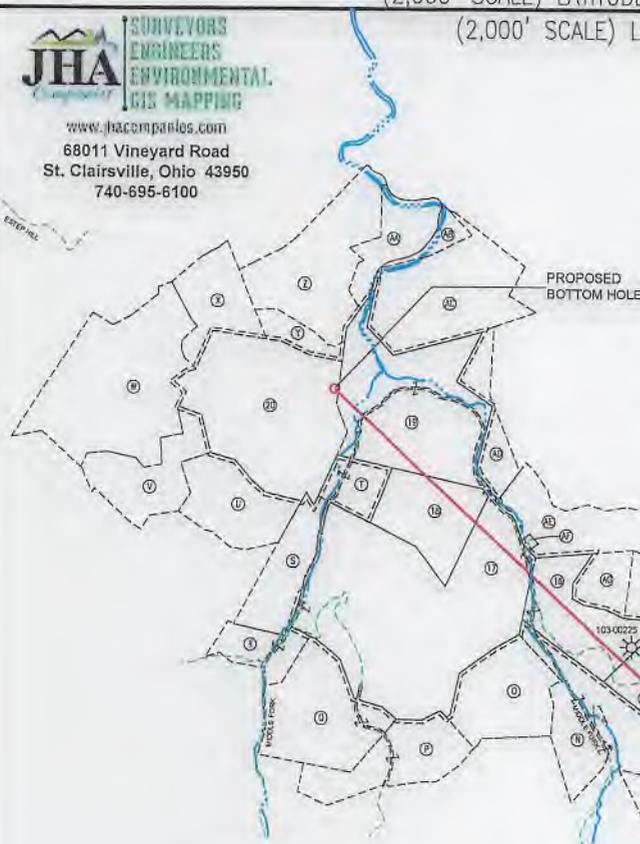
**NOTES ON SURVEY**

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.

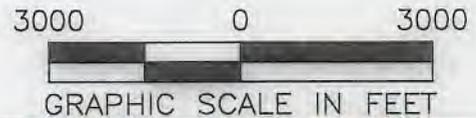


LINE	BEARING	DISTANCE
L1	N 71°27'23" E	1343.86'
L2	N 48°12'40" E	672.31'

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



<b>SURFACE HOLE LOCATION (SHL):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4392596.27 EASTING: 530906.19
<b>LANDING POINT (LPL):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4392826.91 EASTING: 531107.77
<b>BOTTOM HOLE LOCATION (BHL):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4396495.47 EASTING: 527033.26



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. 2041

<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>	<p>MINIMUM DEGREE OF ACCURACY: 1/200</p> <p>PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)</p>	<p>COMPANY: SWN Production Company, LLC</p> <p>OPERATOR'S WELL #: SWN A WTZ 205H</p> <p>API WELL #: 47 103 03251 #6A</p>
	<p>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"/></p> <p>WATERSHED: UPPER OHIO SOUTH ELEVATION: 1,342.0'</p> <p>DISTRICT: PROCTOR COUNTY: WETZEL QUADRANGLE: WILEYVILLE, WV</p> <p>SURFACE OWNER: SWN PRODUCTION COMPANY, LLC ACREAGE: ±128.24</p> <p>OIL &amp; GAS ROYALTY OWNER: RODNEY CALVERT, ET AL ACREAGE: ±128.24</p> <p>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"/></p> <p>CONVERT <input type="checkbox"/> PLUG &amp; ABANDON <input type="checkbox"/> CLEAN OUT &amp; REPLUG <input type="checkbox"/> OTHER CHANGE <input type="checkbox"/> (SPECIFY)</p> <p>TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,382' TVD 25,888.1' TMD</p>	<p>WELL OPERATOR: SWN PRODUCTION COMPANY, LLC</p> <p>DESIGNATED AGENT: BRITTANY WOODY</p> <p>ADDRESS: P.O. BOX 1300</p> <p>CITY: JANE LEW STATE: WV ZIP CODE: 26378</p>
<p>LEGEND:</p> <ul style="list-style-type: none"> <li>○ PROPOSED SURFACE HOLE / BOTTOM HOLE</li> <li>⊙ EXISTING / PRODUCING WELLHEAD</li> <li>LPL ⊙ LANDING POINT LOCATION</li> <li>⊙ EXISTING WATER WELL</li> <li>⊙ EXISTING SPRING</li> <li>— SURVEYED BOUNDARY</li> <li>— DRILLING UNIT</li> <li>— LEASE BOUNDARY</li> <li>— PROPOSED PATH</li> </ul>	<p>REVISIONS:</p> <p>REVISED DESIGNATED AGENT</p> <p>DATE: 08-16-2018</p> <p>DRAWN BY: D. REED</p> <p>SCALE: 1" = 3000'</p> <p>DRAWING NO: 2016-519</p> <p>WELL LOCATION PLAT</p>	

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	SWN PRODUCTION COMPANY, LLC (S) RODNEY CALVERT, ET AL (R)	12-10-29
TRACT	SURFACE OWNER	TAX PARCEL
2	RODNEY A. CALVERT	12-10-29.5
3	JACOB BICKERSTAFF & ANNA BICKERSTAFF, HUSBAND AND WIFE	12-10-29.2
4	NORMA F. YOHO	01-07-40
5	CORY DURIG & DAVID DURIG	01-07-2
6	DARREN YOHO; KEVIN YOHO; BRADLEY YOHO; JEFFERY YOHO; DEBORAH YOHO	12-10-18
7	DARREN YOHO; KEVIN YOHO; BRADLEY YOHO; JEFFERY YOHO; DEBORAH YOHO	12-10-16
8	SWN PRODUCTION COMPANY, LLC	12-10-15
9	SWN PRODUCTION COMPANY, LLC	12-10-11
10	SWN PRODUCTION COMPANY, LLC	12-10-10
11	MILLTREE PROPERTIES, LLC	12-10-9
12	MILLTREE PROPERTIES, LLC	12-10-3
13	RICHARD W. MASTNEY & MARK MASSARI	12-5-20
14	RICHARD W. MASTNEY & MARK MASSARI	12-5-29
15	JAMES L. RITCHEA & HAZEL JORETTA RITCHEA	12-4-39
16	CLAUDIA MECKEL-JONAS ETAL	12-4-27
17	CHRISTOPHER P. BITHELL	12-4-26
18	CHRISTOPHER P. BITHELL	12-4-17
19	NANCY RABER, ETAL	12-4-6
20	TAMI M. BLATT; MICHAEL J. BLATT; KEVIN L. BLATT, TRUSTEE	12-4-5

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	RODNEY A. CALVERT	12-10-29.3
B	RODNEY A. CALVERT	12-10-29.4
C	RODNEY CALVERT ETAL	12-10-29.1
D	HAESSLY LAND & TIMBER, LLC, AN OHIO LIMITED LIABILITY COMPANY	12-10-33
E	SWN PRODUCTION COMPANY, LLC	12-10-28
F	ROBERT C. RITCHEA & JAMES L. RITCHEA	12-10-22
G	SWN PRODUCTION COMPANY, LLC	12-10-14
H	COURTNEY E. RICHMOND & RHEA K. RICHMOND, HIS WIFE	12-10-21
I	COURTNEY E. RICHMOND & RHEA K. RICHMOND, HIS WIFE	12-10-13
J	ANDREW D. & ANDREA M. SHULLUGA, CO-TRUSTEES OF THE ANDREW D. SHULLUGA AND ANDREA M. SHULLUGA REVOCABLE TRUST UNDER DATE OF JANUARY 8/2103	12-10-9.1
K	MILLTREE PROPERTIES, LLC	12-10-1.1
L	ANDREW D. & ANDREA M. SHULLUGA, CO-TRUSTEES OF THE ANDREW D. SHULLUGA AND ANDREA M. SHULLUGA REVOCABLE TRUST UNDER DATE OF JANUARY 8/2103	12-10-1
M	MILLTREE PROPERTIES, LLC	12-10-2
N	MARK MASSARI	12-4-38
O	CHRISTOPHER P. BITHELL	12-4-37
P	WILLIAM WAGNER AND BARBARA WAGNER, LIFE TENANTS AND TO THE SURVIVOR OF THEM, AND ROBERTA BROOKS AND HEATHER BRINK (REMAINDERMEN)	12-4-36
Q	CHRISTOPHER P. BITHELL	12-4-35
R	JOHN H. MORGAN & SUE M. MORGAN, TRUSTEES, U/T/A, DATED JUNE 10, 1992 F/B/O THE MORGAN FAMILY	12-4-34
S	SHIBEN ESTATES	12-4-25
T	NANCY RABER ETAL	12-4-16
U	ANTHONY C. BLATT & REBECCA F. BLATT	12-4-15
V	ANTHONY C. BLATT & REBECCA F. BLATT	12-4-14
W	TAMI M. BLATT; MICHAEL J. BLATT; KEVIN L. BLATT, TRUSTEE	12-4-4
X	KIMBERLY C. HOFFMAN	12-4-40
Y	ZACHARY M. BLAIR	09-21-20
Z	ZACHARY M. BLAIR	09-21-19
AA	XXXXX	09-21-15
AB	ZACHARY M. BLAIR	09-21-13
AC	MASON DIXON FARMS	09-21-12
AD	NANCY RABER ETAL	12-4-7
AE	JOHN STULGA	12-4-19
AF	SCHOOL	12-4-18
AG	CLAUDIA MECKEL-JONAS ETAL	12-4-28
AH	HENRY J. SUNDA; HERBERT SVERT, ETAL	12-4-29
AI	MILLTREE PROPERTIES, LLC	12-5-21
AJ	MILLTREE PROPERTIES, LLC	12-5-25
AK	MILLTREE PROPERTIES, LLC	12-5-26
AL	SWN PRODUCTION COMPANY, LLC, ETAL	12-10-5
AM	SWN PRODUCTION COMPANY, LLC	12-10-6
AN	FREDA TAYLOR, CALVIN TAYLOR, CHARLOTTE MARS, NILA ISABELLA, OPHIA GUNTER, AND LEWIS SHERWOOD TAYLOR	12-10-4
AO	BRADLEY SCOTT YOHO	12-10-12
AP	DEBORAH D. SHOWALTER ETAL	12-10-17
AQ	BRADLEY SCOTT YOHO	12-10-19
AR	RYAN ALLEN YOHO	12-10-19.2
AS	LYLE YOHO ETAL	01-4-37
AT	CORY DURIG & DAVID DURIG	01-7-1
AU	SUSAN ANNETT SMITH	01-7-3
AV	SUSAN ANNETT SMITH	01-7-3.1
AW	JOHN J. YEAGER, ETAL	01-7-9.2
AX	ERIC L. YEATER & AMANDA J. YEATER, HUSBAND AND WIFE	12-10-34
AY	HAESSLY LAND AND TIMBER, LLC, AN OHIO LIMITED LIABILITY COMPANY	12-15-11
AZ	GARY G. YOCUME AND LAVERNE YOCUM (LIFE ESTATE), AND CHRIS B. YOCUM (REMAINDERMAN)	12-15-9
BA	JEFFREY J. YOHO	12-10-16.1

REVISIONS:

COMPANY:

**SWN**  
Production Company, LLC

**SWN** <sup>R<sub>2</sub>-V<sup>+</sup></sup><sub>A</sub>  
Production Company™

OPERATOR'S

SWN A

DATE: 03-22-2018

WELL #:

WTZ 205H

DRAWN BY: D. REED

DISTRICT:  
PROCTOR

COUNTY:  
WETZEL

STATE:  
WV

SCALE: N/A  
DRAWING NO: 2016-519  
WELL LOCATION PLAT

EXHIBIT "A"

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SWN A WTZ 205H

Wetzel County, West Virginia

Tax Parcel	Lessor	Lessee	Royalty	BK/PG
12-10-29	Isaac L. Carney and Mary Carney, his wife	Hope Natural Gas Company	12.50%	18A/25
	Hope Natural Gas Company	G. F. Eagan and John Robinson, a partnership, trading and doing business as Eagan and Robinson		39A/249
	Geo. F. Eagan	Blanche Eagon		14/268
	John H. Robinson	Elva Robinson and Mary Ellen Davis		15/455
		Elva Robinson and Mary Ellen Davis		43A/440
	John H. Robinson, Blanche Eagon, as Executrix of the Estate of George F. Eagon, deceased, Blanche Eagon, in her own right, Mildred M. Lartigue, and Carl L. Eagon (sometimes called "Principals"), by Paul J. Shiben and Joseph V. DeMarco, Jr., their Attorneys in Fact, and Elva Robinson, Executrix of the Estate of the said John H. Robinson, now deceased, Elva Robinson and Mary Ellen Davis	Andrew L. Henry, Charles E. Reed, and Harry R. Cronin, Jr.		44A/92
	Katherine A. Henry and Harry R. Cronin,	Charles E. Reed and Kathryn C. Reed, husband and wife		51A/241
	Kathryn C. Reed, a widow and unmarrie	Carl Perkins		55A/54
	Carl D. Perkins and Dorothy Louise Perk	Perkins Oil and Gas, Inc., a West Virginia Corporation		84A/9
	Perkins Oil & Gas Inc., a West Virginia c	Stone Energy Corporation, a Delaware corporation		126A/958
	Stone Energy Corporation	Chesapeake Appalachia, LLC,, and Statoil USA Onshore Properties, Inc.		158A/554
	Chesapeake Appalachia, L.L.C.,	SWN Production Company, LLC		167A/9

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SWN A WTZ 205H

Wetzel County, West Virginia

Tax Parcel	Lessor	Lessee	Royalty	BK/PG
12-10-29.5	Isaac L. Carney and Mary Carney, his wife	Hope Natural Gas Company	12.50%	18A/25
	Hope Natural Gas Company	G. F. Eagan and John Robinson, a partnership, trading and doing business as Eagan and Robinson		39A/249
	Geo. F. Eagan	Blanche Eagon		14/268
	John H. Robinson	Elva Robinson and Mary Ellen Davis		15/455
		Elva Robinson and Mary Ellen Davis		43A/440
	John H. Robinson, Blanche Eagon, as Executrix of the Estate of George F. Eagon, deceased, Blanche Eagon, in her own right, Mildred M. Lartigue, and Carl L. Eagon (sometimes called "Principals"), by Paul J. Shiben and Joseph V. DeMarco, Jr., their Attorneys in Fact, and Elva Robinson, Executrix of the Estate of the said John H. Robinson, now deceased, Elva Robinson and Mary Ellen Davis			
	Elva Robinson and Mary Ellen Davis	Andrew L. Henry, Charles E. Reed, and Harry R. Cronin, Jr.		44A/92
	Katherine A. Henry and Harry R. Cronin, Charles E. Reed and Kathryn C. Reed, husband and wife			51A/241
	Kathryn C. Reed, a widow and unmarrie Carl Perkins			55A/54
	Carl D. Perkins and Dorothy Louise Perk Perkins Oil and Gas, Inc., a West Virginia Corporation			84A/9
	Perkins Oil & Gas Inc., a West Virginia Corporation	Stone Energy Corporation, a Delaware corporation		126A/958
	Stone Energy Corporation	Chesapeake Appalachia, LLC,, and Statoil USA Onshore Properties, Inc.		158A/554
	Chesapeake Appalachia, L.L.C.,	SWN Production Company, LLC		167A/9
12-10-29.2	Isaac L. Carney and Mary Carney, his wife	Hope Natural Gas Company	12.50%	18A/25

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SWN A WTZ 205H

Wetzel County, West Virginia

Tax Parcel	Lessor	Lessee	Royalty	BK/PG
	Hope Natural Gas Company	G. F. Eagan and John Robinson, a partnership, trading and doing business as Eagan and Robinson		39A/249
	Geo. F. Eagan	Blanche Eagon		14/268
	John H. Robinson	Elva Robinson and Mary Ellen Davis		15/455
		Elva Robinson and Mary Ellen Davis		43A/440
	John H. Robinson, Blanche Eagon, as Executrix of the Estate of George F. Eagon, deceased, Blanche Eagon, in her own right, Mildred M. Lartigue, and Carl L. Eagon (sometimes called "Principals"), by Paul J. Shiben and Joseph V. DeMarco, Jr., their Attorneys in Fact, and Elva Robinson, Executrix of the Estate of the said John H. Robinson, now deceased, Elva Robinson and Mary Ellen Davis	Andrew L. Henry, Charles E. Reed, and Harry R. Cronin, Jr.		44A/92
	Elva Robinson and Mary Ellen Davis	Katherine A. Henry and Harry R. Cronin, Charles E. Reed and Kathryn C. Reed, husband and wife		51A/241
	Kathryn C. Reed, a widow and unmarrie Carl Perkins			55A/54
	Carl D. Perkins and Dorothy Louise Perk Perkins Oil and Gas, Inc., a West Virginia Corporation			84A/9
	Perkins Oil & Gas Inc., a West Virginia Corporation	Stone Energy Corporation, a Delaware corporation		126A/958
	Stone Energy Corporation	Chesapeake Appalachia, LLC,, and Statoil USA Onshore Properties, Inc.		158A/554
	Chesapeake Appalachia, L.L.C.,	SWN Production Company, LLC		167A/9
1-7-40	Norma Yoho, widow	Columbia Natural Resources, LLC	12.50%	84A/709
	Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540

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SWN A WTZ 205H

Wetzel County, West Virginia

Tax Parcel	Lessor	Lessee	Royalty	BK/PG
1-7-2	Kermit W. Mason and Reva L. Mason, his wife, and Paul J. Shiben and Elenore L. Shiben, his wife The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	46A/128 263/164 84A/129 402/446 157A/540
12-10-18	T. J. Yoho and Etheel Yoho, his wife The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	48A/481 263/164 84A/129 402/446 157A/540
12-10-18	George N. Yp\oho, widower; T. J. Yoho and Etheel Yoho, his wife; Tracy Yoho, widow, Agatha Barbuto and Joseph Barbuto, her husband; Maxine Horton and Maxine Horton, as Attorney-In-Fact for William Horton; and Sherald Yocum and Eula Yocum, his wife The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	45A/329 263/164 84A/129 402/446 157A/540
12-10-16	J. Yoho and Etheel Yoho, his wife The Manufacturers Light and Heat Company	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation	12.50%	48A/481 263/164

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SWN A WTZ 205H

Wetzel County, West Virginia

Tax Parcel	Lessor	Lessee	Royalty	BK/PG
	Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		84A/129
	Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-10-15	Iva Gray and Bud Gray, her husband, Jerald Yocum and Mildred Yocum, his wife, Alta Pyles, widow, Ocia Williams and Hobert Williams, her husband, Ica Harlan and Elmer Harlan, her husband, Arlie Young and V. A. Young, her husband, Lelah McIntire and Troy McIntire, her husband	The Manufacturers Light and Heat Company	12.50%	44A/1
	The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		263/164
	Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		84A/129
	Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-10-11	Curtis E. Taylor and Ruth Taylor, his wife; Zona Taylor, widow; Rosetta Jackson and Alonzo Jackson, her husband; C. A. Thomas, single; Wilma Anderson and Chalres L. Anderson, her husband; Darrell H. Taylor and Pearl Taylor, his wife; Oran V. Baker, Willa D. Baker, Glenn T. Baker and Helen Baker	The Manufacturers Light and Heat Company	12.50%	46A/327
	The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		263/164
	Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		84A/129
	Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-10-10	Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C.	15.00%	99A/498

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SWN A WTZ 205H

Wetzel County, West Virginia

Tax Parcel	Lessor	Lessee	Royalty	BK/PG
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		167A/9
12-10-9	Ray C. Herman, single and Dail A. Herman, single	The Manufacturers Light and Heat Company	12.50%	45A/314
	The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		263/164
	Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		84A/129
	Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-10-3	Bula Burton, a widow	Chesapeake Appalachia, L.L.C.	12.50%	92A/647
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-10-3	Rose Mary Herman, a widow	Chesapeake Appalachia, L.L.C.	12.50%	92A/638
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-10-3	Ruby Sylvester, a widow	Chesapeake Appalachia, L.L.C.	12.50%	92A/641
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-10-3	Virginia M. Amos, a widow	Chesapeake Appalachia, L.L.C.	12.50%	92A/644
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-10-3	Charles George Hunter, a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	92A/632
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-10-3	Faye Young, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	92A/635
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-10-3	Francis R. Goddard	Chesapeake Appalachia, L.L.C.	12.50%	101A/209
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-10-3	Wayne L. Goddard, a/k/a Wayne Goddard	Chesapeake Appalachia, L.L.C.	12.50%	101A/212
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-10-3	Ronald L. Goddard, a/k/a Ronald Goddard	Chesapeake Appalachia, L.L.C.	12.50%	101A/188
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-10-3	Faye L. Sturgis	Chesapeake Appalachia, L.L.C.	12.50%	100A/990
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540

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SWN A WTZ 205H

Wetzel County, West Virginia

Tax Parcel	Lessor	Lessee	Royalty	BK/PG
12-10-3	Charles H. Baker Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/987 157A/540
12-10-3	Feryn L. Jones Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/984 157A/540
12-10-3	Franklin B. Baker, III, a single man Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	101A/643 157A/540
12-10-3	Sharla Chapman, a married woman dealing in her sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	102A/32 157A/540
12-10-3	Ray C. Herman, Jr., a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	102A/1 157A/540
12-5-20	Otis Simmons, widower; Harold S. Simmons and Roxie Simmons, his wife; Roxie Newman and Archie Newman, her husband The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	12.50%	45A/224 263/164 84A/129 402/446 157A/540
12-5-29	Otis Simmons and Pearl Simmons, his wife; Harold S. Simmons and Roxie Simmons, his wife; Roxie Newman and Archie Newman, her husband The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	12.50%	39A/498 263/164 84A/129 402/446

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SWN A WTZ 205H

Wetzel County, West Virginia

Tax Parcel	Lessor	Lessee	Royalty	BK/PG
	Chesapeake Appalachia, L.L.C., by Sublessor, Columbia Natural Resources, LLC	SWN Production Company, LLC		188A/278
12-4-39	Cedric Judy Schaeffer, widow	The Manufacturers Light and Heat Company	12.50%	46A/411
	The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		263/164
	Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		84A/129
	Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-4-27	Larry Carmichael, a married man dealing in his sole and spearate property	SWN Production Company, LLC	17.00%	172A/612
	Dr. Astrid Viktoria Meckel, a married woman dealing in her sole and separate property	SWN Production Company, LLC	18.00%	203A/743
	Robert Benedikt Meckel, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	203A/741
	Dr. Claudia Renate Meckel-Jonas	SWN Production Company, LLC	18.00%	203A/746
	John J. Mensore, Individually, John J. Mensore, Trustee under the John J. Mensore Revocable Trust dated July 12, 2011, Tulane B. Mensore and Esta Marie McCall	Stone Energy Corporation, a Delaware corporation	18.75%	151A/540
	Stone Energy Corporation, a Delaware corporation	EQT Production Company		183A/305
	EQT Production Company	SWN Production Company, LLC		212A/704
12-4-26	Vivian Dillon, a married woman dealing in her sole and separate property	Columbia Natural Resources, LLC	12.50%	84A/401
	Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540

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EXHIBIT "A"

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

SWN A WTZ 205H

Wetzel County, West Virginia

Tax Parcel	Lessor	Lessee	Royalty	BK/PG
12-4-17	Ambrose Blatt, single, and Foster Blatt, single, Mary Blatt, single, Nellie Becker, widow	The Manufacturers Light and Heat Company	12.50%	45A/260
	The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		263/164
	Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		84A/129
	Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
12-4-6	F. B. Sivert and Regena Sivert, his wife	The Manufacturers Light and Heat Company	12.50%	45A/370
	The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		263/164
	Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		84A/129
	Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		176A/747
	Columbia Gas Transmission, LLC, et al	SWN Production Company, LLC		188A/278
	Tara Pass, f/k/a Tara Roebuck and James H. Pass, her husband	Chesapeake Appalachia, L.L.C.	12.50%	107A/875
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
	Ernest G. Roebuck, Jr., a single man	Chesapeake Appalachia, L.L.C.	12.50%	108A/583
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
	Pamela J. Roebuck, a/k/a Pamela Roebuck and Ernest G. Roebuck, her husband	Chesapeake Appalachia, L.L.C.	12.50%	109A/112
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
	Ronald A. Michaelis and Suzanne Michaelis, his wife	Chesapeake Appalachia, L.L.C.	12.50%	110A/467
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
	Gary R. Michaelis, a/k/a Gary Robert Michaelis and Karen A. Michaelis, his wife	Chesapeake Appalachia, L.L.C.	12.50%	114A/288
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540

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EXHIBIT "A"

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

SWN A WTZ 205H

Wetzel County, West Virginia

Tax Parcel	Lessor	Lessee	Royalty	BK/PG
	Eric Michaelis, a single man Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	110A/388 157A/540
	Stephen Michaelis, a single man Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	119A/51 157A/540
12-4-5	Edward V. Blatt and Christina C. Blatt, his wife; Cora A. Scheibelhood, widow; Theresa Estep and Joseph Estep, her husband	The Manufacturers Light and Heat Company	12.50%	45A/370
	The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		263/164
	Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		84A/129
	Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		176A/747
	Columbia Gas Transmission, LLC, et al	SWN Production Company, LLC		188A/278

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March 14, 2018

47 10 3 03251

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

**RE:** SWN's proposed New Well: SWN A WTZ 205H in Wetzel County, West Virginia, Drilling under Blake Fork Road, Middle Fork Road, Hollman Ridge Road, Lynn Camp Road, and Old WV 89.

Dear Ms. Adkins:

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 Blake Fork Road, Middle Fork Road, Hollman Ridge Road, Lynn Camp Road, and Old WV 89.. 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,



Caleb Weaver  
Senior Landman  
SWN Production Company, LLC

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

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

Date of Notice Certification: 8/21/18

API No. 47- 103 -  
Operator's Well No. SWN A WTZ 205H  
Well Pad Name: SWN A WTZ Pad

**Notice has been given:**

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>530906.19</u>
County:	<u>103- Wetzel</u>		Northing:	<u>4392596.27</u>
District:	<u>Proctor</u>	Public Road Access:	<u>Macedonia Ridge</u>	
Quadrangle:	<u>Wileyville</u>	Generally used farm name:	<u>SWN A</u>	
Watershed:	<u>Upper Ohio South</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.

<p>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:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><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</p> <p style="padding-left: 100px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p style="text-align: center;"><b>OOG OFFICE USE ONLY</b></p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p style="text-align: center;"><b>RECORDED</b> Office of Oil and Gas</p> <p style="text-align: center;"><b>AUG 22 2018</b></p> <p style="text-align: center;">WV Department of Environmental Protection</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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**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.

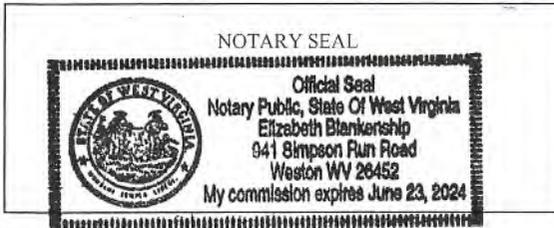
4710 \* 03251

**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>P.O. Box 1300</u>
By:	<u>Brittany Woody</u>		<u>Jane Lew, WV 26378</u>
Its:	<u>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 26 day of July 2018.

*Elizabeth Blankenship* Notary Public

My Commission Expires 6/23/24

**Oil and Gas Privacy Notice:**

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

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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: 8/21/18 Date Permit Application Filed: 8/21/18

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: SWN Production Company, LLC  
Address: PO Box 672625  
Houston, TX 77267

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: CNX Gas Company, LLC  
Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317

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

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

OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

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\*Please attach additional forms if necessary

OWNERNAME	ADDRESS	CITY/STATE/ZIP	WATERSOURCES
YEATER TERRY W & DORIS	HC 60 BOX 257	NEW MARTINSVILLE, WV 26155	1
YOHO NORMA F	828 GREENLAWN AVE NW	WARREN, OH 44483	2
YOCUM GARY G & LAVERNE F	HC 60 BOX 252	NEW MARTINSVILLE, WV 26155	4
BICKERSTAFF JACOB & ANNA	14383 PROCTOR CREEK RD	NEW MARTINSVILLE, WV 26155	1
CALVERT RODNEY A	13998 PROCTOR CREEK RD	NEW MARTINSVILLE, WV 26155	7

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WW-6A  
(8-13)

AUG 22 2018

API NO. 47- 103 -  
OPERATOR WELL NO. SWN A WTZ 205H  
Well Pad Name: SWN A WTZ PadWV Department of  
Environmental Protection**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

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.**

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WV Department of  
Environmental Protection

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

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

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

### **Comment Requirements**

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

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

### **Permit Denial or Condition**

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

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

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

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

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WW-6A  
(8-13)

API NO. 47- 103 -  
OPERATOR WELL NO. SWN A WTZ 205H  
Well Pad Name: SWN A WTZ Pad  
**47 103 03251**

**Notice is hereby given by:**

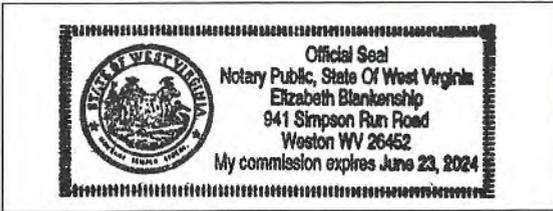
Well Operator: SWN Production Co., LLC  
Telephone: 304-884-1610  
Email: Brittany\_Woody@swn.com

*Brittany  
Woody*

Address: P.O. Box 1300  
Jane Lew, WV 26378  
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 [deprivacyofficer@wv.gov](mailto:deprivacyofficer@wv.gov).

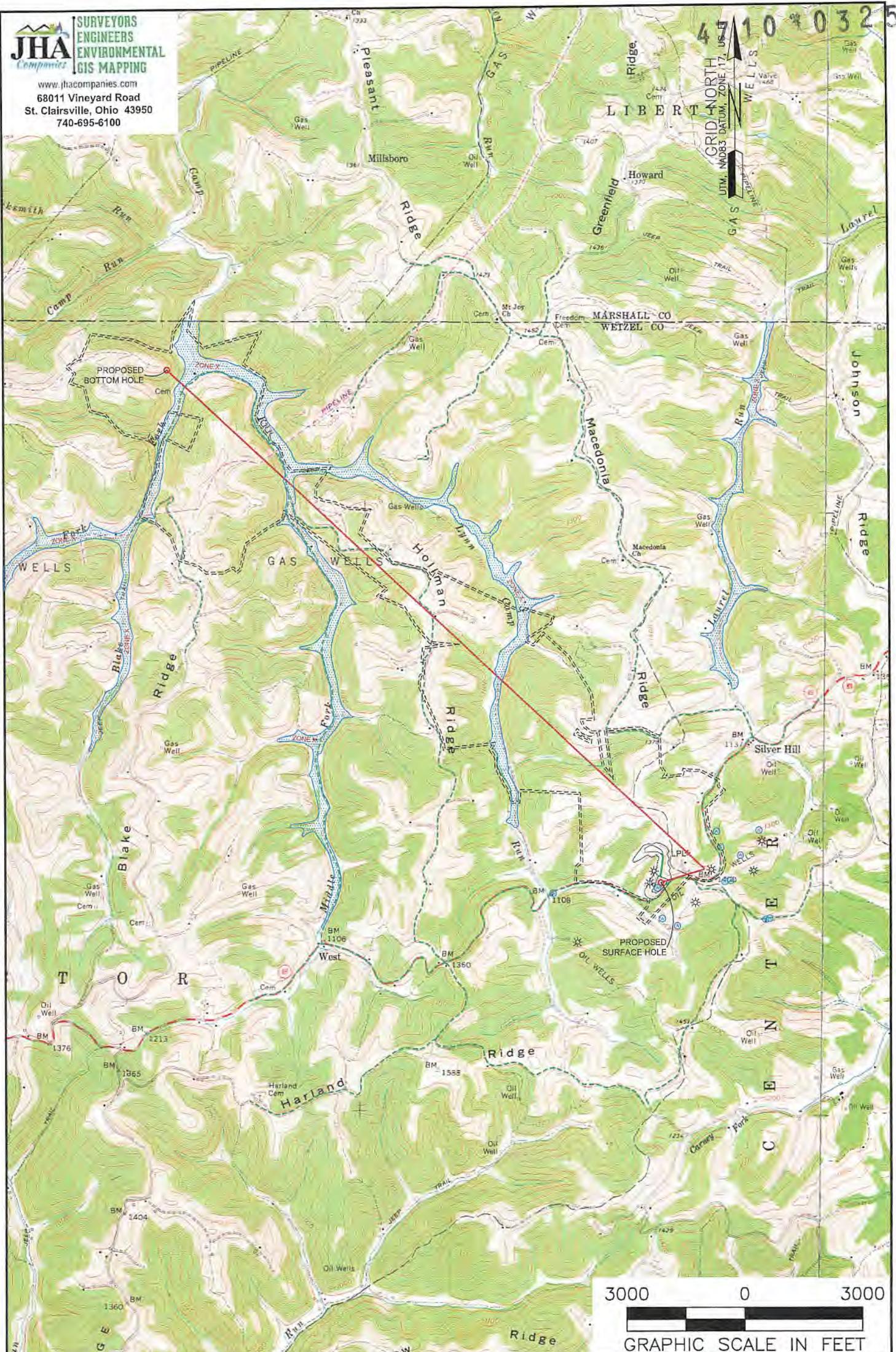


Subscribed and sworn before me this 26 day of July, 2018.  
Elizabeth Blankenship Notary Public  
My Commission Expires 6/23/24

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WV Department of  
Environmental Protection

**JHA**  
SURVEYORS  
ENGINEERS  
ENVIRONMENTAL  
GIS MAPPING

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



**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.

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WV Department of  
Environmental Protection

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

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: SWN A WTZ	WELL # 205H	SERIAL # XXXX
ADDRESS: P.O. BOX 1300 JANE LEW, WV 26378	COUNTY - CODE WETZEL - 103	DISTRICT; PROCTOR	
SURFACE OWNER: SWN PRODUCTION COMPANY, LLC	USGS 7 1/2 QUADRANGLE MAP NAME WILEYVILLE, WV		

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

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

Date of Notice: 10/18/2017 Date of Planned Entry: 10/25/2017

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

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

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Notice is hereby provided to:

SURFACE OWNER(s)  
 Name: Troy Sidenstricker and Lisa Sidenstricker  
 Address: 14303 Proctor Circle Road  
New Martinsville, WV 26155  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

COAL OWNER OR LESSEE  
 Name: CNX Gas Company, LLC  
 Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317

MINERAL OWNER(s)  
 Name: Ruth Ann Calvert  
 Address: 12666 Shorline Hwy. Apt #3  
Pine Grove, WV 26419  
 \*please attach additional forms if necessary

Notice is hereby given:

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

State: <u>WV</u>	Approx. Latitude & Longitude: <u>39.684757, -80.640554</u>
County: <u>Wetzel</u>	Public Road Access: <u>Rt. 89</u>
District: <u>Proctor</u>	Watershed: <u>Fish Creek</u>
Quadrangle: <u>Wileyville</u>	Generally used farm name: <u>SWN A WTZ Pad</u>

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

Notice is hereby given by:

Well Operator: SWN PRODUCTION COMPANY, LLC  
 Telephone: 304-884-1610  
 Email: dee\_southall@swn.com or brittany\_woody@swn.com

Address: PO BOX 1300  
JANE LEW, WV 26378  
 Facsimile: \_\_\_\_\_

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 Environmental Protection

Oil and Gas Privacy Notice:

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

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**Notice is hereby provided to:**

SURFACE OWNER(s)

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

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

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

COAL OWNER OR LESSEE

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

\_\_\_\_\_

MINERAL OWNER(s)

Name: Carla E Rabel  
Address: 810 Wetzel Tyler Ridge Road  
New Martinsville, WV 26155

\*please attach additional forms if necessary

**Notice is hereby given:**

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District: <u>Proctor</u>	Watershed: <u>Fish Creek</u>
Quadrangle: <u>Wileyville</u>	Generally used farm name: <u>SWN A WTZ Pad</u>

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**Notice is hereby given by:**

Well Operator: SWN PRODUCTION COMPANY, LLC

Telephone: 304-884-1610

Email: dee\_southall@swn.com or brittany\_woody@swn.com

Address: PO BOX 1300  
JANE LEW, WV 26376

Facsimile: \_\_\_\_\_

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STATE OF WEST VIRGINIA **47 10303251**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF ENTRY FOR PLAT SURVEY

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**Notice is hereby provided to:**

SURFACE OWNER(s)

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

COAL OWNER OR LESSEE

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

MINERAL OWNER(s)

Name: Connie Jean Rowland  
Address: 535 Briarcliff Court  
New Martinsville, WV 26155  
\*please attach additional forms if necessary

**Notice is hereby given:**

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Quadrangle: <u>Wileyville</u>	Generally used farm name: <u>SWN A WTZ Pad</u>

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**Notice is hereby given by:**

Well Operator: SWN PRODUCTION COMPANY, LLC  
Telephone: 304-884-1610  
Email: dee\_southall@swn.com or brittany\_woody@swn.com

Address: PO BOX 1300  
JANE LEW, WV 26378  
Facsimile: \_\_\_\_\_

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

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**Notice is hereby provided to:**

SURFACE OWNER(s)

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

COAL OWNER OR LESSEE

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

MINERAL OWNER(s)

Name: Cathy Williams  
Address: 426 Hook Street  
Bridgeville, PA 15017  
\*please attach additional forms if necessary

**Notice is hereby given:**

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Office of Oil and Gas

**Notice is hereby given by:**

Well Operator: SWN PRODUCTION COMPANY, LLC  
Telephone: 304-864-1610  
Email: dee\_southall@swn.com or brittany\_woody@swn.com

Address: PO BOX 1300  
JANE LEW, WV 26378  
Facsimile: \_\_\_\_\_

AUG 22 2018

WV Department of Environmental Protection

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47 10 \* 03251

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SURFACE OWNER(s)

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

COAL OWNER OR LESSEE

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

MINERAL OWNER(s)

Name: Nancy G Metheny  
Address: 3948 N. Park Ave  
Warren, OH 44481  
\*please attach additional forms if necessary

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**Notice is hereby given by:**

Well Operator: SWN PRODUCTION COMPANY, LLC

Telephone: 304-884-1610

Email: dee\_southall@swn.com or brilliany\_woody@swn.com

Address: PO BOX 1300  
JANE LEW, WV 26378

Facsimile: \_\_\_\_\_

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**Notice is hereby provided to:**

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

COAL OWNER OR LESSEE  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

MINERAL OWNER(S)  
Name: Vicki Forrester  
Address: HC 74 Box 66  
Alma, WV 26320  
\*please attach additional forms if necessary

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District: <u>Proctor</u>	Watershed: <u>Fish Creek</u>
Quadrangle: <u>Wileyville</u>	Generally used farm name: <u>SWN A Wtz Pad</u>

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

**Notice is hereby given by:**

Well Operator: SWN PRODUCTION COMPANY, LLC  
Telephone: 304-884-1610  
Email: dee\_southall@swn.com or brittany\_woody@swn.com

Address: PO BOX 1300  
JANE LEW, WV 26378  
Facsimile: \_\_\_\_\_

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Office of Oil and Gas

**AUG 22 2018**

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).

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

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:** 04/17/2018      **Date Permit Application Filed:** 4/17/18

**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: CNX Gas Company, LLC  
Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317

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>530,906.19</u>
County:	<u>Wetzel</u>		Northing:	<u>4,392,596.27</u>
District:	<u>Proctor</u>	Public Road Access:	<u>Macedonia Ridge</u>	
Quadrangle:	<u>Wileyville, WV</u>	Generally used farm name:	<u>SWN A WTZ</u>	
Watershed:	<u>Upper Ohio South</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.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

Well Operator: SWN Production Company, LLC  
Address: PO Box 1300, 179 Innovation Drive  
Jane Lew, WV 26378  
Telephone: 832-540-1136  
Email: Steve\_Teel@swn.com  
Facsimile: 304-884-1691

Authorized Representative: Steve Teel  
Address: PO Box 1300, 179 Innovation Drive  
Jane Lew, WV 26378  
Telephone: 832-540-1136  
Email: Steve\_Teel@swn.com  
Facsimile: 304-884-1691

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**AUG 22 2018**

**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 of your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

WV Department of  
Environmental Protection

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

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:** 03/12/2018      **Date Permit Application Filed:** 8/21/18

**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: SWN Production Company, LLC  
Address: PO Box 672625  
Houston, TX 77267

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>530,906.19</u>
County:	<u>Wetzel</u>		Northing:	<u>4,392,596.27</u>
District:	<u>Proctor</u>	Public Road Access:	<u>Macedonia Ridge</u>	
Quadrangle:	<u>Wileyville, WV</u>	Generally used farm name:	<u>SWN A WTZ</u>	
Watershed:	<u>Upper Ohio South</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.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

Well Operator: SWN Production Company, LLC  
Address: PO Box 1300, 179 Innovation Drive  
Jane Lew, WV 26378  
Telephone: 832-540-1136  
Email: Steve\_Teel@swn.com  
Facsimile: 304-884-1691

Authorized Representative: Steve Teel  
Address: PO Box 1300, 179 Innovation Drive  
Jane Lew, WV 26378  
Telephone: 832-540-1136  
Email: Steve\_Teel@swn.com  
Facsimile: 304-884-1691

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**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 PLANNED OPERATION**

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

**Date of Notice:** 03/12/2018      **Date Permit Application Filed:** 3/12/18

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

- CERTIFIED MAIL                                       HAND
- RETURN RECEIPT REQUESTED                                      DELIVERY

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

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

(at the address listed in the records of the sheriff at the time of notice):

Name: <u>SWN Production Company, LLC</u>	Name: _____
Address: <u>PO box 672625</u>	Address: _____
<u>Houston, TX 77267</u>	_____

**Notice is hereby given:**

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

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>530,906.19</u>
County: <u>Wetzel</u>		Northing: <u>4,392,596.27</u>
District: <u>Proctor</u>	Public Road Access: <u>Macedonia Ridge</u>	
Quadrangle: <u>Wileyville, WV</u>	Generally used farm name: <u>SWN A WTZ</u>	
Watershed: <u>Upper Ohio South</u>		

**This Notice Shall Include:**

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

Well Operator: <u>SWN Production Company, LLC</u>	Address: <u>PO Box 1300, 179 Innovation Drive</u>
Telephone: <u>832-540-1138</u>	<u>Jane Lew, WV 26378</u>
Email: <u>Steve_Teel@SWN.com</u>	Facsimile: <u>304-884-1691</u>

**Oil and Gas Privacy Notice:**

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

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4710 03251

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

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

Thomas J. Smith, P. E.  
Secretary of Transportation/  
Commissioner of Highways

March 26, 2018

Jill M. Newman  
Deputy Commissioner

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 SWN A WTZ Pad, Wetzel County  
SWN A WTZ 205H

Dear Mr. Martin,

The West Virginia Division of Highways has issued Permit #06-2018-0223 for the subject site to Southwestern Energy for access to the State Road for the well site located off of Wetzel County Route 89 SLS.

The operator has signed an 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 January 3, 2012.

Very Truly Yours,

A handwritten signature in blue ink that reads "Gary K. Clayton".

Gary K. Clayton, P.E.  
Regional Maintenance Engineer  
Central Office Oil & Gas Coordinator

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

**FRAC ADDITIVES**

47103251

Product Name	Product Use	Chemical Name	OS Number
EC6734A (Champion Technologies)	Biocide	Hydrogen Peroxide	7722-84-1
		Acetic Acid	64-19-7
		Peroxyacetic Acid	79-21-0
GYPTRON T-390 (Champion Technologies)	Scale Inhibitor	Methanol	67-56-1
		Nonylphenol Ethoxylate	Proprietary
Bactron K-139 (Champion Technologies)	Biocide	Glutaraldehyde	111-30-8
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
		Ethanol	64-17-5
Bactron K-219 (Champion Technologies)	Biocide	Methanol	67-56-1
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
EC6486A (Nalco Champion)	Scale Inhibitor	Amine Triphosphate	Proprietary
		Ethylene Glycol	107-21-1
WFRA-2000 (U.S. Well Services)	Anionic Friction Reducer	Hydrotreated light distillate (petroleum)	64742-47-8
		Propenoic acid, polymer with propenamide	9003-06 9
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
OPTI-FLEX (U.S. Well Services)	Viscosifying Agent	Distillates, petroleum, hydrotreated light	64742-47-8
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
HCL (SWN Well Services)	Hydrocholic Acid	Hydrochloric Acid	7647-01-0
		Water	7732-18-5
FLOJET DRP 1130X (SWN Well Services)	Friction Reducer	Proprietary	Proprietary
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
FR-76 (Halliburton)	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8
		Inorganic Salt	Proprietary
HAI-150E (Halliburton)	Corrosion Inhibitor	No hazardous substance	N/A
FDP-S1176-15 (Halliburton)	Friction Reducer	Polyacrylate	Proprietary
		Hydrotreated light petroleum distillate	64742-47-8
LP-65 MC (Halliburton)	Scale Inhibitor	Organic phosphonate	Proprietary
		Ammonium Chloride	12125-02-9
CarboNRT	Tracer	Ceramic Proppant	66402-68-4

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AUG 22 2018  
WV Department of  
Environmental Protection

**NOTES:**

1. THIS PLAN IS FOR GRADING, STORMWATER SYSTEMS, AND EROSION AND SEDIMENT CONTROL PURPOSES ONLY.
2. PROPERTY INFORMATION SHOWN HEREON IS FROM GIS DATA PROVIDED BY SOUTHWESTERN ENERGY PRODUCTION COMPANY AND HAS NOT BEEN FIELD VERIFIED.
3. THE CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SET FULLY DEPICTS ALL WORK ASSOCIATED WITH THIS PROJECT.
4. SOIL TYPE BOUNDARY, AND CHARACTERISTICS SHOWN HEREON WERE ACQUIRED FROM NRCS WEB SOIL SURVEY.
5. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL ENGINEERING REPORT, DATED MARCH 21, 2017, PROVIDED BY GTA ENERGY, LLC FOR FULL SOIL STABILIZATION TECHNIQUES TO BE IMPLEMENTED IN CONSTRUCTION OF CUT AND FILL SLOPES.
6. THE TOPOGRAPHIC SURVEY USED FOR THIS BASE MAPPING INSIDE THE LOD WAS PERFORMED BY JHA COMPANIES FROM JANUARY 03, 2017 TO JUNE 28, 2018. TOPOGRAPHIC MAPPING OUTSIDE OF THE LOD IS FROM LIDAR DATA FROM WV GIS TECHNICAL CENTER.
7. NO TOPSOIL REMOVAL BETWEEN LIMIT OF CONSTRUCTION AND LIMIT OF DISTURBANCE VEGETATIVE BUFFER TO REMAIN.
8. FILL WILL BE COMPACTED TO 95% OF STANDARD PROCTOR DENSITY (ASTM-598). FILL LIFT THICKNESS WILL BE NO GREATER THAN 12", NOTHING FROZEN OR TOO WET WILL BE PLACED IN FILL AREAS. PARTICLE SIZE OF THE FILL WILL BE NO GREATER THAN 6" AND FREE OF OBJECTIONABLE MATERIAL.

# EROSION AND SEDIMENT CONTROL PLAN FOR SWN PAD A

**PROCTOR DISTRICT, WETZEL COUNTY, WEST VIRGINIA**  
**WILEYVILLE 7.5 MINUTE QUAD MAPS**



**PROJECT NARRATIVE**  
PROPOSED CONSTRUCTION TO BE PERFORMED IN ACCORDANCE WITH THIS DRAWING SET (43 PAGE SHEET SET, DATED 2018-07-17 & REVISIONS DATED 2018-08-03) AND THE GEOTECHNICAL ENGINEERING REPORT (GTA ENERGY, LLC REPORT), WHICH ARE COMPLEMENTARY AND HAVE THE SAME FORCE / EFFECT IN DEFINING THE REQUIREMENTS FOR THE PROJECT. IN THE EVENT OF DISCREPANCIES, IT IS REQUIRED TO IMMEDIATELY CONTACT THE ENGINEER (AGENT) FOR INTERPRETATION.

**PROJECT CONTACTS**  
**OPERATOR:**  
SOUTHWESTERN ENERGY, LLC  
179 INNOVATION DRIVE  
JANE LEW, WV 26378  
PHONE: (304) 884-1618  
WWW.SWN.COM

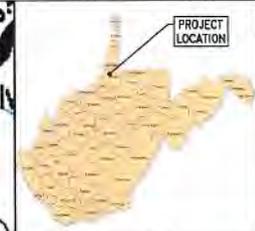
**PROJECT COORDINATOR:**  
KALAB TAYLOR  
SOUTHWESTERN ENERGY, LLC  
OPERATIONS ANALYST  
179 INNOVATION DRIVE  
JANE LEW, WV 26378  
PHONE: (304) 884-1696  
EMAIL: KALAB\_TAYLOR@SWN.COM

**ENGINEER**  
JHA COMPANIES  
68011 VINEYARD ROAD  
ST. CLAIRSVILLE, OH 43950  
PHONE: (740) 695-6100  
FAX: (740) 449-2343

**PROJECT MANAGER:**  
JOHN DUBOWSKI

**ENVIRONMENTAL:**  
WETLANDS OR SURFACE WATER INFORMATION WAS DELINEATED BY AJAY ENVIRONMENTAL CONSULTING, LLC DATED FEBRUARY 16, 2018 AND JULY 16, 2018.

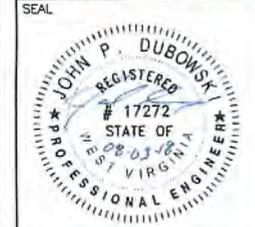
**TOPOGRAPHIC INFORMATION:**  
GROUND SURVEY DATED JANUARY 28, 2018  
DATUM: HORZ. NAD 83 WEST VIRGINIA NORTH  
VERT. NAVD 88



NO.	DATE	REVISION PER DEF COMMENTS	DESCRIPTION
1	08/03/18	REVISED PER DEF COMMENTS	

2 WORKING DAYS BEFORE YOU DAY CALL TOLL FREE 800-245-4848 Miss Utility of West Virginia

PREPARED FOR:  
**swn**  
Southwestern Energy®



**JHA Companies** | SURVEYORS ENGINEERS ENVIRONMENTAL GIS MAPPING  
www.jhacompanies.com  
68011 VINEYARD ROAD  
ST. CLAIRSVILLE, OH 43950  
(740) 695-6100  
PA \* OH \* NY \* WV

**CONSTRUCTION PLANS FOR SWN PAD A**  
LOCATED IN PROCTOR DISTRICT, WETZEL COUNTY, WEST VIRGINIA

FILE: COVER SHEET  
PLAN STATUS: FINAL SHEET NO.: C.001

ENGINEER'S ESTIMATE OF QUANTITIES		
DESCRIPTION	ESTIMATED QUANTITY	UNIT
18" COMPOST FILTER SOCK	135	LF
24" COMPOST FILTER SOCK	4,475	LF
ROCK CONSTRUCTION ENTRANCE R-3 AGGREGATE	144	CY
CLASS 4 GEOTEXTILE (APRON UNDERLAYMENT)	434	SY
SITE RESOIL AREA	7.4	AC
PROPOSED STORM CATCHBASINS	5	EA
18" HDPE STORM PIPE (CDC 1 AND 2)	142.5	LF
4" HDPE STORM PIPE (CDC 2)	85	LF
OUTLET PROTECTION	7	EA
4" PERF. PVC SCH 40 PIPE (PAD UNDERDRAIN)	1,715	LF
4" SOLID PVC SCH 40 PIPE (CATCH BASIN OUTLET)	407	LF
WELL PAD PERIMETER BERM	1,745	LF
4" GATE VALVES	5	EA
4" PERF. PVC SDR 35 PIPE (FILL SLOPE BENCH DRAIN)	8,615	LF
6" SOLID PVC SDR 35 PIPE (BENCH DRAIN COLLECTOR)	590	LF
ASTHO #57 (BENCH DRAIN BEDDING)	1,440	TONS
PAD HEAVY DUTY #467 STONE (6")	1,070	CY
PAD HEAVY DUTY #1 STONE (14")	2,490	CY
PAD STANDARD #467 STONE (4")	2,770	CY
PAD STANDARD #1 STONE (12")	8,295	CY
ACCESS ROAD #467 STONE (4")	290	CY
ACCESS ROAD #1 STONE (12")	955	CY
PAD CLASS 2 GEOTEXTILE	15,840	SY
ACCESS ROAD CLASS 2 GEOTEXTILE	1,300	SY
EARTHWORK VOLUMES CUT	57,525	CY
EARTHWORK VOLUMES FILL	55,065	CY
WELL CELLARS	1	EA
GEGRID (MIRAGRID 5XT OR EQUIVALENT)	3440	SY
CLEARING AND GRUBBING	1.5	AC

APPROVED WVDEP OOG

7/20 8/6/2018

**COORDINATES:**  
**PAD 1 SITE ENTRANCE (NAD 83)**  
LAT: 39.682481  
LONG: -80.638975

**CENTER OF PAD 1 (NAD 83)**  
LAT: 39.682509  
LONG: -80.639728

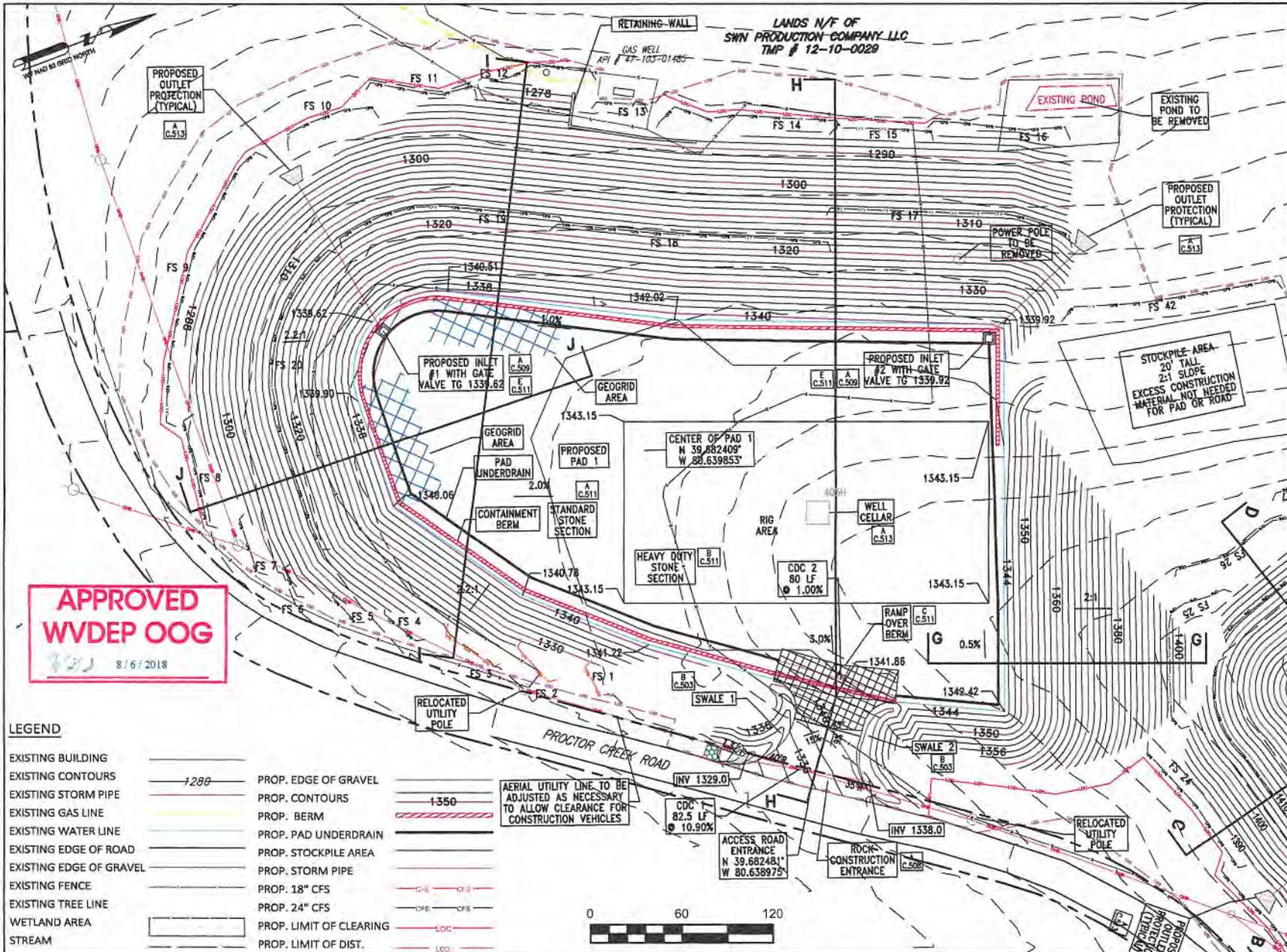
**STAGING PAD SITE ENTRANCE (NAD 83)**  
LAT: 39.683182  
LONG: -80.637249

**CENTER OF STAGING PAD (NAD 83)**  
LAT: 39.683770  
LONG: -80.638525

LANDS N/F OF  
SWN PRODUCTION COMPANY, LLC  
TMP # 12-10-0029

BICKERSTAFF, JACOB AND ANNA  
TMP # 12-10-0029.0002  
LIMIT OF DISTURBANCE = 13.16 ACRES

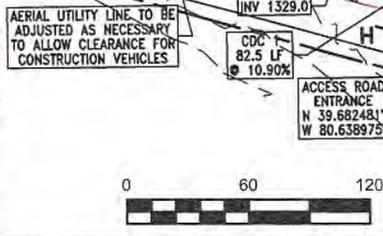
DWG. NO	DRAWING DESCRIPTION
C.001	COVER SHEET
C.002 - C.003	EVACUATION ROUTE / PREVAILING WINDS
C.101 - C.102	EXISTING CONDITIONS
C.201 - C.202	GRADING AND EROSION CONTROL PLANS
C.301 - C.302	RECLAMATION PLANS
C.401 - C.411	SLOPE STABILIZATION DETAILS & PROFILES
C.501 - C.523	DETAILS



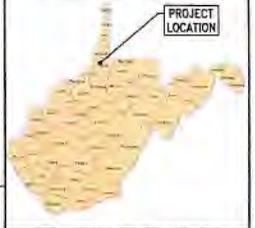
**APPROVED**  
**WVDEP OOG**  
8/6/2018

**LEGEND**

EXISTING BUILDING		PROP. EDGE OF GRAVEL	
EXISTING CONTOURS		PROP. CONTOURS	
EXISTING STORM PIPE		PROP. BERM	
EXISTING GAS LINE		PROP. PAD UNDERDRAIN	
EXISTING WATER LINE		PROP. STOCKPILE AREA	
EXISTING EDGE OF ROAD		PROP. STORM PIPE	
EXISTING EDGE OF GRAVEL		PROP. 18" CFS	
EXISTING FENCE		PROP. 24" CFS	
EXISTING TREE LINE		PROP. LIMIT OF CLEARING	
WETLAND AREA		PROP. LIMIT OF DIST.	
STREAM			



LANDS N/F OF  
SWN PRODUCTION COMPANY LLC  
TMP # 12-10-0028



LOCATION MAP NOT TO SCALE

NO.	DATE	DESCRIPTION
1	08/03/18	REVISED PER DEP COMMENTS

2 WORKING DAYS BEFORE YOU DAY CALL TOLL FREE 800-245-4848 Miss Utility of West Virginia

PREPARED FOR:  
**SWN**  
Southwestern Energy®



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PROJECT #	2017-520	DRAWN	CLW
DATE	08/03/2018	DESIGN	CLW
SCALE	AS NOTED	ORDERED	JPD

CONSTRUCTION PLANS FOR SWN PAD A  
LOCATED IN PROCTOR DISTRICT, WETZEL COUNTY, WEST VIRGINIA

TITLE: GRADING AND EROSION CONTROL PLAN

PLAN STATUS: FINAL

SHEET NO. C.201

THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESS WRITTEN PERMISSION OF ANY COMPANY.