



west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Tuesday, July 28, 2020
WELL WORK PERMIT
Horizontal 6A / New Drill

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

Re: Permit approval for CONSTANCE TAYLOR WTZ 401H
47-103-03360-00-00

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: CONSTANCE TAYLOR WTZ 4
Farm Name: CONSTANCE A. TAYLOR
U.S. WELL NUMBER: 47-103-03360-00-00
Horizontal 6A New Drill
Date Issued: 7/28/2020

PERMIT CONDITIONS

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

CONDITIONS

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

API Number: _____

PERMIT CONDITIONS

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

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 7-Proctor 681-Wileyville
Operator ID County District Quadrangle

2) Operator's Well Number: Constance Taylor Wtz 401H Well Pad Name: Constance Taylor Wtz

3) Farm Name/Surface Owner: Constance A. Taylor Public Road Access: Brock Ridge Road

4) Elevation, current ground: 1430' Elevation, proposed post-construction: 1430'

5) Well Type (a) Gas Oil Underground Storage
Other _____
(b) If Gas Shallow Deep
Horizontal

6) Existing Pad: Yes or No Yes *DMA 6/22/20*

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- 7394', Target Base TVD- 7440', Anticipated Thickness- 46', Associated Pressure- 4836

8) Proposed Total Vertical Depth: 7425'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 22236'

11) Proposed Horizontal Leg Length: 14031.55'

12) Approximate Fresh Water Strata Depths: 365' RECEIVED
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13) Method to Determine Fresh Water Depths: Logs on Pad JUN 24 2020

14) Approximate Saltwater Depths: 1467' Salinity Profile Analysis WV Department of
Environmental Protection

15) Approximate Coal Seam Depths: 1382'

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

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

(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

18) CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	J-55	94#	126'	126'	CTS
Fresh Water	13 3/8"	New	J-55	54.4#	470'	470'	362 sx/CTS
Coal	See	Interm	Casing				
Intermediate	9 5/8"	New	J-55	36#	2900'	2900'	826 sx/CTS
Production	5 1/2"	New	P-110 HP	20#	22336'	22336'	<small>Tall 3787sw 100' inside intermediate</small>
Tubing							
Liners							

DMH 6/22/20

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	See	Interm	Casing				
Intermediate	9 5/8"	12 1/4"	0.395	3950	1768	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							

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PACKERS

Kind:				
Sizes:				
Depths Set:				

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.)

*DmH
5-18-20*

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

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

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 18.72

22) Area to be disturbed for well pad only, less access road (acres): 8.99

23) Describe centralizer placement for each casing string:

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

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

See Attachment ***

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25) Proposed borehole conditioning procedures:

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

*Note: Attach additional sheets as needed.

CEMENT ADDITIVES						
INTERVAL	SCHLUMBERGER PRODUCT NAME	BJ PRODUCT NAME	NEXTIER PRODUCT NAME	PRODUCT USE	CHEMICAL NAME	CAS-Number
SURFACE (FRESHWATER) <i>up to 30%</i>	 	INTEGRA SEAL	CJ600	LOST CIRC MATERIAL	CELLOPHANE FLAKES	9005-81-6
	S001	A-7P	CJ110	ACCELERATOR	CALCIUM CHLORIDE	10043-52-4
COAL PROTECTION <i>up to 30%</i>	 	INTEGRA SEAL	CJ600	LOST CIRC MATERIAL	CELLOPHANE FLAKES	9005-81-6
	S001	A-7P	CJ110	ACCELERATOR	CALCIUM CHLORIDE	10043-52-4
INTERMEDIATE	D020	BENTONITE	CJ020	EXTENDER	BENTONITE	1302-78-9
	D047	FP 28L	 	LIQUID ANTIFOAM AGENT	POLYPROPYLENE GLYCOL	25322-69-4
	 	INTEGRA SEAL	CJ600	LOST CIRC MATERIAL	CELLOPHANE FLAKES	9005-81-6
	CemNet	 	 	LOST CIRC MATERIAL	COATED FIBERGLASS FIBERS	PROPRIETARY
	SUGAR	SUGAR	CJ795	CMT RETARDER	SUCROSE	57-50-1
	S001	A-7P	CJ110	ACCELERATOR	CALCIUM CHLORIDE	10043-52-4
PRODUCTION	 	 	CJ111	ACCELERATOR	SODIUM CHLORIDE	7440-23-5
	 	SS-11W	CJ880	SURFACTANT	NONIONIC SURFACTANT	6540-99-4
	D047	FP 28L	 	LIQUID ANTIFOAM AGENT	POLYPROPYLENE GLYCOL	25322-69-4
	 	 	CJX157011	SOLID ANTIFOAM AGENT	FULLERS EARTH(ATTAPULGITE)	8031-18-3
	 	 	CJ540	HP FLUID LOSS ADDITIVE	ALIPHATIC AMIDE POLYMER	PROPRIETARY
	D255	 	 	MED TEMP FLUID LOSS ADDITIVE	POLYACRILIC POLYMER	PROPRIETARY
	 	 	CJ213	RETARDER	CHRYSTALLINE SILICA	14808-60-7
	 	FL-66	CJ501	LOW TEMP FLUID LOSS ADD	POWDERED POLYSACCHARIDE	PROPRIETARY
	 	BENTONITE	CJ020	EXTENDER	BENTONITE	1302-78-9
	D208	ASA-301	 	VISCOSIFIER/ANTI- SETTLING AGENT	REFINED POLYMER/ CHRYSTALLINE SILICA	PROPRIETARY
D198	R-3		CEMENT RETARDER	LIGNIN	8068-51-6	
SUGAR	SUGAR	CJ795	CEMENT RETARDER	SUCROSE	57-50-1	

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Southwestern Energy Company

Proposed Drilling Program

Well: CONSTANCE TAYLOR WTZ 401 Re-entry Rig: TBD
 Field: VICTORY FIELD WET Prospect: Marcellus Shale
 County: WETZEL State: WV
 SHL: 39.6545 Latitude -80.6793 Longitude
 BHL: 39.6762 Latitude -80.7241 Longitude
 KB Elev: 1,452 ft MSL KB: 21.8 ft AGL GL Elev: 1,430 ft MSL



PROD TOC Lead @ 2,950' MD
 PROD TOC Tail @ 7,114' MD

TUBULAR DETAIL

Casing String	Casing Size (in)	Weight (Min)	Grade (Min)	Planned Interval	
				From	To
Conductor	20	94.0 #	J-55	0'	126'
Surface	13.375	54.4 #	J-55	0'	470'
Int/Coal	9.625	36.0 #	J-55	0'	2,900'
Production	5.5	20.0 #	P-110 HP	0'	22,319'

CEMENT DETAIL

	Sacks	Class	Density
Conductor:	151	A	19.3
Surface:	362	A	15.6
Intermediate:	826	A	15.6
Production:	3803	A	15.6



KOP at 7,114' MD

Freshwater Depth - 365' TVD
 Coal Depth - 1,382' TVD
 Saltwater Depth - 1,467' TVD
 TVD - 7,425'
 TMD - 22,319'

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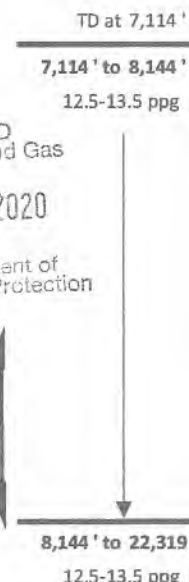
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*DMH
 5-18-20*

7,425' Target Center

TD at 22,319' MD
 7,053' TVD



EOB at 8,144' MD

EOB at 7,425' TVD

SHL Onondaga 7,440' TVD

Onondaga 7,068' TVD

8,144' to 22,319'
 12.5-13.5 ppg

Southwestern Energy Company

Proposed Drilling Program

Well: **CONSTANCE TAYLOR WTZ 401** Re-entry Rig: **TBD**
 Field: **VICTORY FIELD WET** Prospect: **Marcellus Shale**
 County: **WETZEL** State: **WV**
 SHL: **39.6545** Latitude **-80.6793** Longitude
 BHL: **39.6762** Latitude **-80.7241** Longitude
 KB Elev: **1,456 ft MSL** KB: **26 ft AGL** GL Elev: **1,430 ft MSL**



PROD TOC Lead @ **2,950' MD**
 PROD TOC Tail @ **7,115' MD**

TUBULAR DETAIL

Casing String	Casing Size (in)	Weight (Min)	Grade (Min)	Planned Interval	
				From	To
Conductor	20	94.0 #	J-55	0'	126'
Surface	13.375	54.4 #	J-55	0'	470'
Int/Coal	9.625	36.0 #	J-55	0'	2,900'
Production	5.5	20.0 #	P-110 HP	0'	22,236'

CEMENT DETAIL

	Sacks	Class	Density
Conductor:	151	A	19.3
Surface:	362	A	15.6
Intermediate:	826	A	15.6
Production:	3787	A	15.6

126' to 490'
Air/Mist

490' to 2,920'
Air/Mist

2,920' to 7,115'
Air/Mist

TD at 7,115'

7,115' to 8,157'
12.5-13.5 ppg

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DMDH 6/22/20

TD at 22,236' MD
7,053' TVD

KOP at 7,115' MD

Freshwater Depth - 365' TVD
 Coal Depth - 1,382' TVD
 Saltwater Depth - 1,467' TVD
 TVD - 7,425'
 TMD - 22,236'

7,425' Target Center

EOB at 8,157' MD
7,425' TVD

8,157' to 22,236'
12.5-13.5 ppg

Constance Taylor WTZ 401H AOR

API	Operator	Status	Latitude	Longitude	Vertical TD	Producing Formation	Producing Zones Not Perforated
47-103-03149	SWN PRODUCTION COMPANY, LLC	ACTIVE	39.654652	-80.679254	7416	MARCELLUS	Burket, Tully
47-103-03150	SWN PRODUCTION COMPANY, LLC	ACTIVE	39.654526	-80.679223	7432	MARCELLUS	Burket, Tully

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WW-9
(4/16)

API Number 47 - 103 - _____
Operator's Well No. Constance Taylor WTZ 401H

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

*DmH
5-18-26*

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

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

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

Additives to be used in drilling medium? Attachment 3B

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

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

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

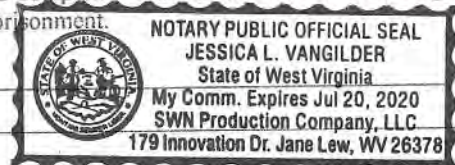
Apex Sanitary Landfill 06-08438, Brooke Co SWF-1013,

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

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

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

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



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Subscribed and sworn before me this 15th day of May, 20 20

Jessica L. VanGilder Notary Public

My commission expires 7-20-20

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SWN Production Co., LLC

Proposed Revegetation Treatment: Acres Disturbed 18.72 Prevegetation pH _____

Lime as determined by pH test min.2 Tons/acre or to correct to pH 8.99

Fertilizer type 10-20-20

Fertilizer amount 600/500 lbs/acre

Mulch Hay/Straw Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type lbs/acre

Seed Type lbs/acre

Attachment 3C

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: _____

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Title: Oil & Gas Inspector

Date: 5-18-20

Field Reviewed? Yes No

Attachment 3A

CLOSED LOOP SYSTEM

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

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

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

AIR DRILLING INTERVALS

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

LIQUIDS DRILLING (FRESHWATER, BRINE, SOBM)

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

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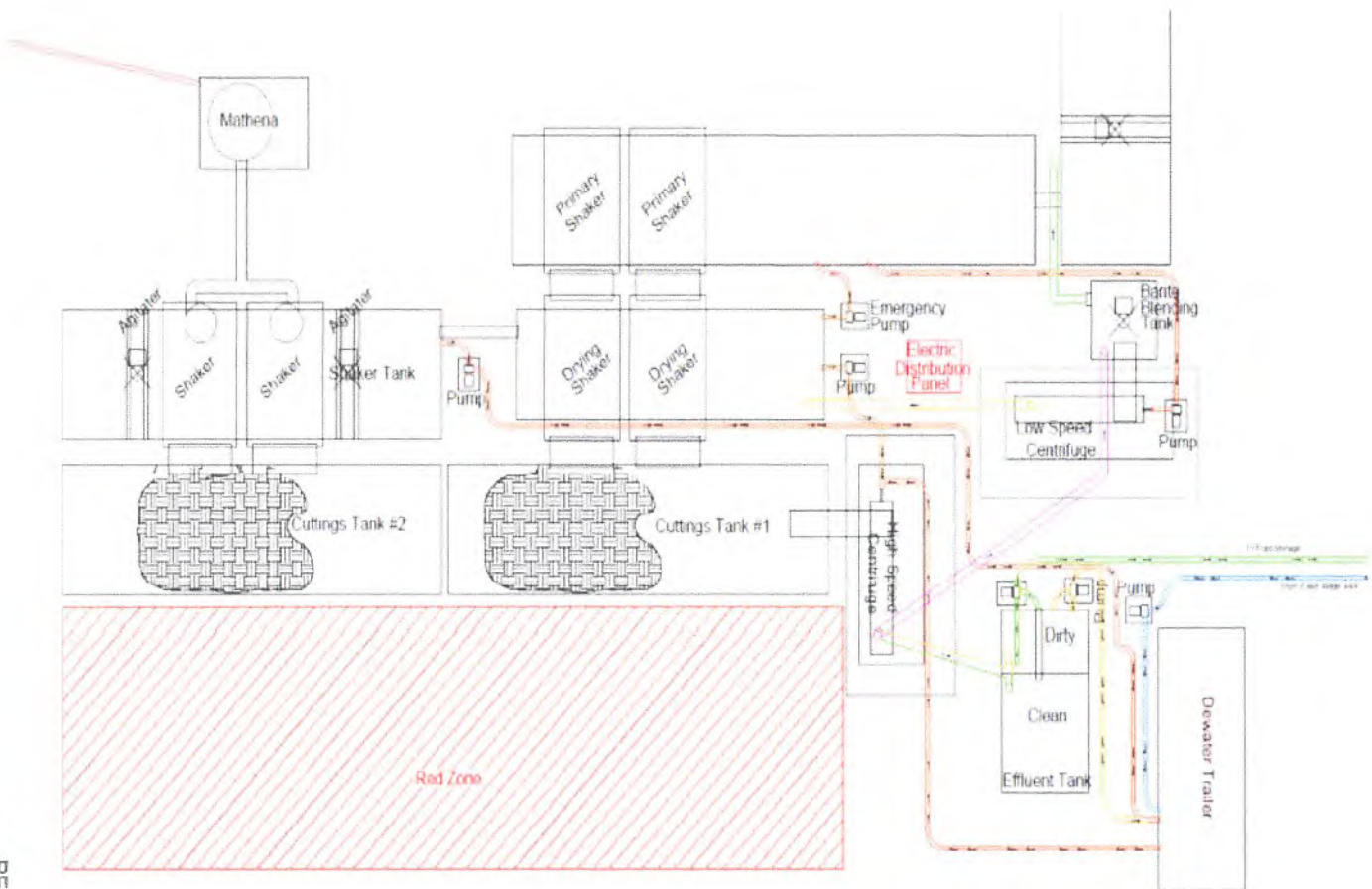
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Solids Control Layout



EXAMPLE SCHEMATIC FOR CLOSED LOOP SOLIDS CONTROL SYSTEM



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Attachment 3B
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

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

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WVD Seeding Specification

R² → V⁺
A

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

NON-ORGANIC PROPERTIES

Seed Mixture: ROW Mix	SWN Supplied
Orchardgrass	40%
Timothy	15%
Annual Ryegrass	15%
Brown Top Millet	5%
Red Top	5%
Medium Red Clover	5%
White Clover	5%
Birdsfoot Trefoil	5%
Rough Bluegrass	5%

All legumes are inoculated at 5x normal rate

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Apply @ 100lbs per acre
April 16th- Oct. 14th

Apply @ 200lbs per acre
Oct. 15th- April 15th PLUS
50lbs per acre of Winter Wheat

SOIL AMENDMENTS

10-20-20 Fertilizer	*Apply @ 500lbs per Acre
Pelletized Lime	Apply @ 2 Tons per Acre

*unless otherwise dictated by soil test results

Seeding Calculation Information:

1452' of 30' ROW/LOD is One Acre
871' of 50' ROW/LOD is One Acre
622' of 70' ROW/LOD is One Acre

Synopsis:

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

Special Considerations:

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

ORGANIC PROPERTIES

Seed Mixture: SWN Production Organic Mix	SWN Supplied
Organic Timothy	50%
Organic Red or White Clover	50%
OR	
Organic Perennial Ryegrass	50%
Organic Red or White Clover	50%

Apply @ 100lbs per acre
April 16th- Oct. 14th

Apply @ 200lbs per acre
Oct. 15th- April 15th

Organic Fertilizer @ 200lbs per Acre

Pelletized Lime @ 2 Tons per Acre

WETLANDS (delineated as jurisdictional wetlands)

Seed Mixture: Wetland Mix	SWN Supplied
VA Wild Ryegrass	20%
Annual Ryegrass	20%
Fowl Bluegrass	20%
Cosmos 'Sensation'	10%
Redtop	5%
Golden Tickseed	5%
Maryland Senna	5%
Showy Tickseed	5%
Fox Sedge	2.5%
Soft Rush	2.5%
Woolgrass	2.5%
Swamp Verbena	2.5%

Apply @ 25lbs per acre
April 16th- Oct. 14th

Apply @ 50lbs per acre
Oct. 15th- April 15th

NO FERTILIZER OR LIME INSIDE WETLAND LIMITS

MARCELLUS WELL DRILLING PROCEDURES AND WELL SITE SAFETY PLAN



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

API NO. 47-XXX-XXXXX
WELL NAME: Constance Taylor WTZ 401H
Wileyville QUAD
Proctor DISTRICT
WETZEL COUNTY, WEST VIRGINIA

Submitted by:

Name: Brittany Woody

Brittany Woody

Date: 4/28/2020

Title: Senior Regulatory Analyst

SWN Production Co., LLC

RECEIVED
Office of Oil and Gas

JUN 24 2020

WV Department of
Environmental Protection

Approved by:

Name: *[Signature]*

Date: 5-18-20

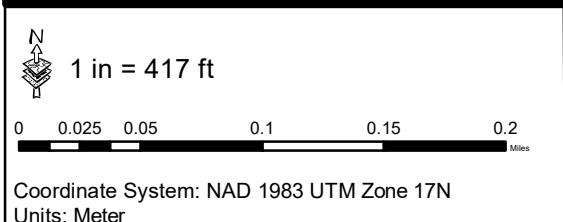
Title: *Oil + Gas Inspector*

Approved by:

Name: _____

Date: _____

Title: _____



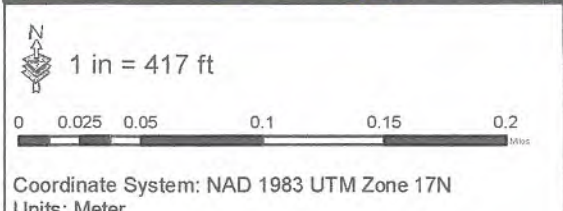
Spring	Parcel
Water Well	1500' Buffer
Pond	

Coordinates: 39.654637, -80.679255

Water Purveyor Map
Well Pad: Constance Taylor
County: WTZ

Date: 4/27/2020	Author: willisb
-----------------	-----------------

4710303360



- S Spring
 - W Water Well
 - P Pond
 - Parcel
 - 1500' Buffer
- Coordinates: 39.654637, -80.679255**

Water Purveyor Map
Well Pad: Constance Taylor
County: WTZ

SWN *R² → V⁺*
 Southwestern Energy[®]

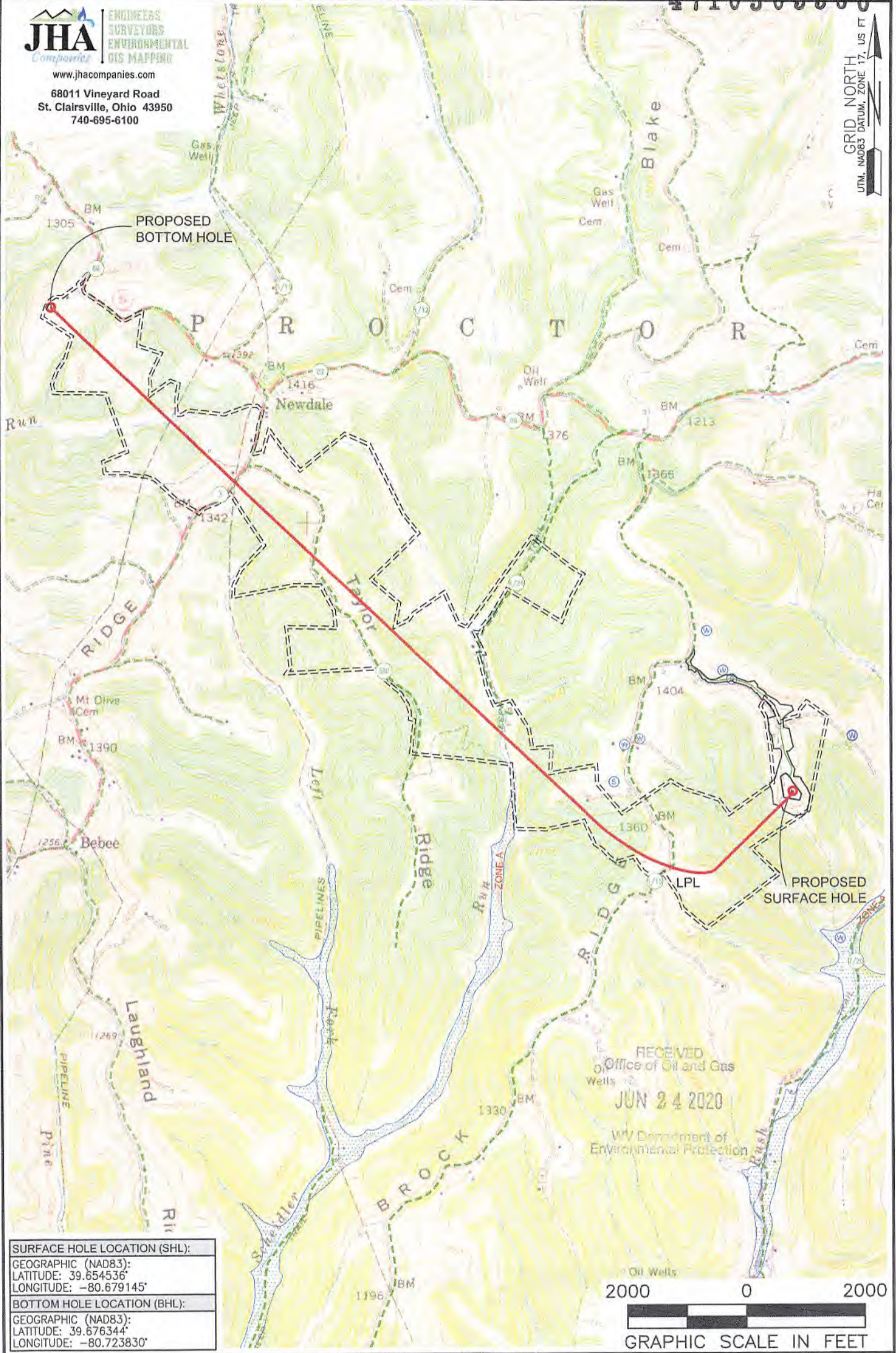
Date: 4/27/2020 | Author: willisb

4710303360

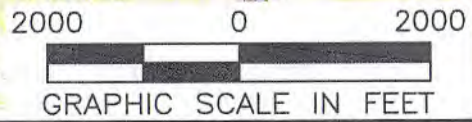


68011 Vineyard Road
St. Clairsville, Ohio 43950
740-695-6100

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



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 39.654536°
LONGITUDE: -80.679145°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 39.676344°
LONGITUDE: -80.723830°



NOTES ON SURVEY

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

LEGEND:

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

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: CONSTANCE TAYLOR WTZ	WELL # 401H	SERIAL # XXXX
ADDRESS: 1300 FORT PIERPONT DRVE, SUITE 201, MORGANTOWN, WV 26508	COUNTY: WETZEL	CODE: 103	DISTRICT: PROCTOR
SURFACE OWNER: CONSTANCE A. TAYLOR	USGS 7 1/2 QUADRANGLE MAP NAME: WILEYVILLE, WV		

LATITUDE: 39°40'00" SURFACE HOLE (2000' SCALE) | 3523'

LATITUDE: 39°42'30" BOTTOM HOLE (2000' SCALE) | 4360'

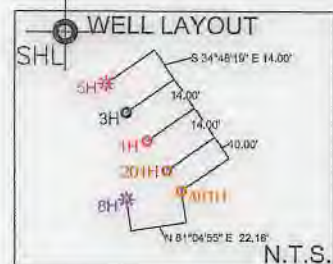
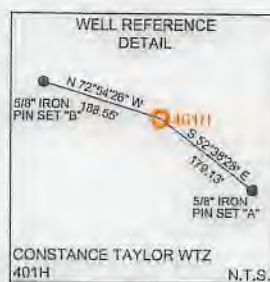


www.jhacompanies.com

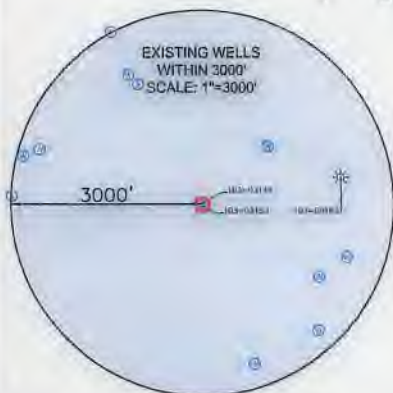
68011 Vineyard Road
St. Clairsville, Ohio 43950
740-695-6100

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.

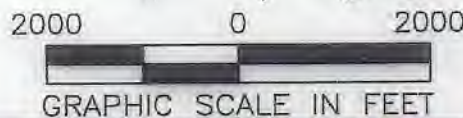


LINE	BEARING	DISTANCE
L1	N31°05'43"E	958.36'
L2	N60°57'32"E	1,365.42'



SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4389464.46 EASTING: 527525.60
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4389066.91 EASTING: 526911.16
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4391872.07 EASTING: 523684.69

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



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 *[Signature]*

COMPANY: **SWN** Production Company, LLC

<p>(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS</p> <p>WVDEP OFFICE OF OIL & 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>CONSTANCE TAYLOR WTZ</p> <p>OPERATOR'S WELL #: 401H</p> <p>API WELL #: 47 103 03360</p> <p>STATE COUNTY PERMIT</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: 1430.1'</p> <p>DISTRICT: PROCTOR COUNTY: WETZEL QUADRANGLE: WILEYVILLE, WV</p> <p>SURFACE OWNER: CONSTANCE A. TAYLOR ACREAGE: ±43.5</p> <p>OIL & GAS ROYALTY OWNER: CONSTANCE A. TAYLOR ACREAGE: ±43.5</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 & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input type="checkbox"/> (SPECIFY)</p> <p>TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,425' TVD 22,236' TMD</p>	<p>WELL OPERATOR: SWN PRODUCTION COMPANY, LLC</p> <p>ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201</p> <p>CITY: MORGANTOWN STATE: WV ZIP CODE: 26508</p> <p>DESIGNATED AGENT: BRITTANY WOODY</p> <p>ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201</p> <p>CITY: MORGANTOWN STATE: WV ZIP CODE: 26508</p>

LEGEND:

PROPOSED SURFACE HOLE / BOTTOM HOLE	NATURAL WATERWAY
EXISTING / PRODUCING WELLHEAD	SURVEYED BOUNDARY
LPL LANDING POINT LOCATION	LEASE BOUNDARY
EXISTING WATER WELL	PROPOSED PATH
EXISTING SPRING	PUBLIC ROAD

REVISIONS:

NO.	DATE	DESCRIPTION
1	06-15-2020	DATE: 06-15-2020
2		API NO: 47-103-XXXX
3		DRAWN BY: R. GRIMES
4		SCALE: 1" = 2000'
5		DRAWING NO: 2020-557
6		WELL LOCATION PLAT

WELL BORE TABLE FOR SURFACE/ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	CONSTANCE A. TAYLOR (S)/(R)	12-18-05.0
TRACT	SURFACE OWNER	TAX PARCEL
2	TYLER C. BLAKE	12-18-11.0
3	TYLER C. BLAKE	12-18-10.0
4	WANDA HUGGINS	12-18-01.0
5	BUSTER TERRY BLAKE	12-14-30.0
6	MICHAEL DAVID MCABEE	12-14-29.0
7	HARRY E. & MICHAEL MCABEE	12-14-28.0
8	HARRY E. & MICHAEL MCABEE	12-14-19.0
9	HARRY E. MCABEE, DAVID MICHAEL, & GARY SPEECE JR.	12-14-18.0
10	KEVIN R. & JAMES L. MOLYNEAUX	12-13-49.0
11	MARY C. & ROBERT JOHN OLSON	12-14-17.0
12	MARY C. & ROBERT JOHN OLSON	12-13-42.0
13	MARY C. & ROBERT JOHN OLSON	12-13-41.0
14	MARY C. & ROBERT JOHN OLSON	12-13-27.0
15	DWAYNE FRED GODDARD	12-13-16.4
16	CAROL MARTIN	12-13-15.4
17	JEREMY S. GODDARD	12-13-15.3
18	WAYNE EDWARD & MARY ANN GODDARD	12-13-15.0

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	ERICK D. & PHYLLIS BECKER	12-18-07.0
B	BENJAMIN SHANOWER	12-18-07.1
C	BENJAMIN SHANOWER	12-18-06.0
D	TIMOTHY N. WELLS	12-18-12.0
E	TIMOTHY N. WELLS	12-18-18.0
F	R.W. & VIOLA STRICKLINE	12-18-23.0
G	TYLER C. BLAKE	12-18-17.0
H	DAVID R. CALDERWOOD	12-18-09.0
I	COASTAL FOREST RESOURCE CO.	12-18-08.0
J	HARRY E. & MICHAEL MCABEE	12-17-26.0
K	BUSTER & BARBARA A. BLAKE	12-17-13.0
L	BUSTER & BARBARA A. BLAKE	12-14-36.0
M	CATHERINE MCDOWELL	12-13-69.0
N	KEVIN R. & JAMES L. MOLYNEAUX	12-13-67.0
O	RANDY T. JEFFERS	12-13-66.0
P	BRENT A. BLAKE	12-13-48.0
Q	MARY C. & ROBERT JOHN BLAKE	12-13-41.2
R	ROBERT L. & RHONDA E. BLAKE	12-13-41.1
S	ROBERT L. & RHONDA E. BLAKE	12-13-41.4
T	JAMES K. GODDARD	12-13-39.2
U	CONNIE S. BURROUGH	12-13-38.0
V	CONNIE S. BURROUGH	12-13-37.0
W	TODD E. GODDARD	12-13-26.0
X	TODD E. GODDARD	12-13-15.5
Y	TODD E. GODDARD	12-13-15.7
Z	ROBERT A. & JACQUELINE GODDARD	12-13-15.1
AA	CLYDE V. & LISA K. STILLION	12-13-09.0
AB	JOSEPH HOHMAN	12-13-71.0
AC	DWAYNE FREDERICK GODDARD	12-13-16.0
AD	SWN PRODUCTION COMPANY, LLC	12-13-16.3
AE	UNKNOWN OWNER	12-13-29.0
AF	JAMES S. TAYLOR	12-13-28.0
AG	JAMES S. TAYLOR	12-13-31.0
AH	KOREY L. & VICKI S. KANN	12-14-10.0
AI	BUSTER BLAKE	12-14-12.1
AJ	GARY E. SPEECE JR.	12-14-20.0
AK	JAMES H. FOGG	12-14-21.2
AL	KIP MARTIN & SANDRA K. BLAKE	12-14-31.0
AM	KIP MARTIN & SANDRA K. BLAKE	12-18-04.1
AN	DAVID F. & ROSANNE POSTLETHWAIT	12-18-03.0
AO	WANDA JARRELL	12-18-02.0
AP	BRENT PAUL BLAKE, ETAL; L/E PAUL J. BLAKE	12-14-32.3
AQ	CONSTANCE A. TAYLOR	12-14-33.0

REVISIONS:

COMPANY:

SWN
Production Company, LLC

SWN ^R/_A ^V/₊
Production Company™

OPERATOR'S CONSTANCE TAYLOR WTZ
WELL #: 47-103-03360-401H

DATE: 06-15-2020
API NO: 47-103-XXXXX
DRAWN BY: R. GRIMES
SCALE: N/A
DRAWING NO: 2020-557
WELL LOCATION PLAT

DISTRICT: PROCTOR COUNTY: WETZEL STATE: WW

WW-6A1
(5/13)

Operator's Well No. Taylor WIZ 401H

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

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

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

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
-------------------------	-----------------------	-----------------------	---------	-----------

See Exhibit "A"

* At least 7 minerals owners in tract and at least 75% of the royalty owners have consented to the lawful use or development of the oil or natural gas mineral property on the tract. The interests of the remaining co-tenants will be secured pursuant to the Co-tenancy Modernization and Majority Protection Act.

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

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

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

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

Well Operator: SWN Production Company, LLC.
 By: Brandi Williams
 Its: Staff Landman

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, LLC, Operator
 Constance Taylor Wtz 401H
 Wetzel County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	Book/Page	Interest Not Leased by SWN Production Company, LLC
1	12-18-5	Tammy Kemnetz, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	130A/706	0.00%
		Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540		
		Debra Keesee, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	132A/456	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540		
		Joan Sauro, A/K/A Joany Sauro, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	153A/480	
Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540				
		Leonard Dunham, A/K/A Leonard Sidney Dunham, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	17.00%	130A/951	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540		
		Harold H. Blake And Donna M. Blake, H/W	Haddad And Brooks, Inc.	12.50%	79A/452	
		Haddad And Brooks, Inc.	Chesapeake Appalachia, LLC	104A/230		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540		
2	12-18-11	Kenneth Eugene VanDyne and Vicky A. VanDyne, as JTWROS	SWN Production Company, LLC	17.00%	239A/336	0.00%
		Terry Lee VanDyne and Sandy VanDyne, his wife	SWN Production Company, LLC	17.00%	239A/332	
		Kenneth Vandyne, Aka Kenneth Eugene Vandyne And Vicky A. Vandyne, Aka Vicky Ann Vandyne, husband and wife	Antero Resources Corporation	18.00%	173A/679	
		Antero Resources Corporation	SWN Production Company, LLC	240A/51		
		West Virginia Department of Transportation	SWN Production Company, LLC	20.00%	SEE ATTACHED	
3	12-18-10	Jolene Henderson, a married woman dealing in her sole and separate property	TH Exploration, LLC	18.000%	210A/193	0.00%
		TH Exploration, LLC	SWN Production Company, LLC	240A/485		
4	12-18-1	Elizabeth P. Orner, A Widow	Chesapeake Appalachia, LLC	17.00%	154A/463	0.00%
		Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540		
		Piney Holdings Inc., A Florida Corporation	SWN Production Company	20.00%	197A/210	
5	12-14-30	Blake Donna M A/K/A Donna Mae Blake A Widow	Chesapeake Appalachia LLC	17.00%	125A/653	0.00%
		Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540		
		Blake Violet A Widow	Chesapeake Appalachia LLC	18.00%	126A/954	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540		
		Blake Buster Terry And Barbara A Blake his wife	Chesapeake Appalachia LLC	18.00%	131A/139	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540		
		Paul J. Blake, A/K/A Paul Blake, A Widower (Life Estate Interest), Brent Paul Blake, A/K/A Brent P. Blake, a single man, Bruce Scott Blake, A/K/A Bruce S. Blake, a married man dealing in his sole and separate property And Kip Martin Blake, A/K/A Kip M. Blake, a married man dealing in his sole and separate property (Remainder Interest)	Chesapeake Appalachia LLC	18.00%	139A/243	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540		
		Blake Donna M A/K/A Donna Mae Blake A Widow	Chesapeake Appalachia LLC	17.00%	125A/648	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540		
Blake Violet Widow	Chesapeake Appalachia LLC	18.00%	126A/950			
Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540				
Blake Buster Terry And Barbara A Blake	Chesapeake Appalachia LLC	18.00%	131A/134			
Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540				
		Paul J. Blake, A/K/A Paul Blake, A Widower (Life Estate Interest), Brent Paul Blake, A/K/A Brent P. Blake, a single man, Bruce Scott Blake, A/K/A Bruce S. Blake, a married man dealing in his sole and separate property And Kip Martin Blake, A/K/A Kip M. Blake, a married man dealing in his sole and separate property (Remainder Interest)	Chesapeake Appalachia LLC	18.00%	138A/943	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540		

RECEIVED
 Office of Oil and Gas
 JUN 24 2020
 WV Department of
 Environmental Protection

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC, Operator
 Constance Taylor WTZ 401H
 Wetzel County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	Book/Page	Interest Not Leased by SWN Production Company, LLC	
6	12-14-29	David Hugh Skinner, Sr. Family Trust, By Wesbanco Bank, Inc., Acting As Trustee	Chesapeake Appalachia, L.L.C.	17.00%	140A/839	0.00%	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		BRC Appalachian Minerals I LLC	BRC Working Interest Company LLC	16.00%	103A/320		
		BRC Working Interest Company LLC	Chesapeake Appalachia, LLC		103A/470		
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc.		120A/109		
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		158A/801		
7	12-14-28	Furbee David a single man	Chesapeake Appalachia LLC	12.50%	98A/784	0.00%	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		Marga Furbee A Widow	Chesapeake Appalachia LLC	12.50%	100A/88		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		Hall Laura & Robert H Hall her husband	Chesapeake Appalachia LLC	12.50%	99A/456		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		Kutis Deborah A/K/A Deborah Kutis Miller A Married Woman	Chesapeake Appalachia LLC	12.50%	99A/654		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		Brooks Joann a single woman	Chesapeake Appalachia LLC	12.50%	99A/657		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		White Susan a single woman	Chesapeake Appalachia LLC	12.50%	100A/107		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		Mckinney Jeffrey S And Tamara M his wife	Chesapeake Appalachia LLC	12.50%	100A/210		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		Mckinney Sharon A a single woman	Chesapeake Appalachia LLC	12.50%	100A/207		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		Love Karen L a single woman	Chesapeake Appalachia LLC	12.50%	100A/493		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		Slaten Mark Alan	Chesapeake Appalachia LLC	12.50%	100A/566		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
Slaten Steven W a single man	Chesapeake Appalachia LLC	12.50%	100A/630				
Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
Wojcik Barbara A And David S her husband	Chesapeake Appalachia LLC	12.50%	101A/321				
Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
Machleit Donna Lee a single woman	Chesapeake Appalachia LLC	12.50%	101A/57				
Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
8	12-14-19	Marga Furbee, A Widow	Chesapeake Appalachia, L.L.C.	12.50%	99A/19	0.00%	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		David Furbee, a single man	Chesapeake Appalachia, L.L.C.	12.50%	99A/73		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		Laura Hall And Robert H. Hall, her husband	Chesapeake Appalachia, L.L.C.	12.50%	99A/453		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		Sharon A. Mckinney, a single woman	Chesapeake Appalachia, L.L.C.	12.50%	100A/253		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		Jeffrey S. Mckinney And Tamara M. Mckinney, his wife	Chesapeake Appalachia, L.L.C.	12.50%	100A/256		
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540		
		Germany Properties, LTD.	SWN Production Company, LLC	18.00%	205A/192		
		John D. Gourley	SWN Production Company, LLC	18.00%	203A/18		
		Steven W. Slaten, a single man	Chesapeake Appalachia, L.L.C.	12.50%	100A/579		
Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
Mark Alan Slaten, a single man	Chesapeake Appalachia, L.L.C.	12.50%	100A/582				
Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
Karen L. Love, a single woman	Chesapeake Appalachia, L.L.C.	12.50%	100A/623				
Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
Barbara A. Wojcik And David S. Wojcik, her husband	Chesapeake Appalachia, L.L.C.	12.50%	101A/63				
Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				

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Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC, Operator
 Constance Taylor WTZ 401H
 Wetzel County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	Book/Page	Interest Not Leased by SWN Production Company, LLC
		Donna Lee Machleit, a single woman Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	101A/66 157A/540	
		Joann Brooks, A/K/A Ioanne Brooks, a single woman Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	103A/565 157A/540	
		Susan White, a single woman Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	103A/623 157A/540	
		Deborah Kutis Miller, A/K/A Deborah Kutis, a married woman dealing in her sole and separate property Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	104A/653 157A/540	
9	12-14-18	Faith Ieleen Blake, A Widow Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	17.00%	113A/497 157A/540	0.00%
		Kenneth Franklin Blake, a married man dealing in his sole and separate property Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	17.00%	114A/430 157A/540	
		Ruth E. Blake, A Widow Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	17.00%	113A/501 157A/540	
		Opal M. Blake, A Widow Antero Resources Appalachia Corporation	Antero Resources Appalachia Corporation SWN Production Company, LLC	20.00%	155A/134 168A/332	
10	12-13-49	Marga Furbree, A Widow Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	98A/193 157A/540	0.00%
		David Furbree, a single man Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	98A/196 157A/540	
		Susan White, a single woman Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	99A/76 157A/540	
		Joann Brooks, a single woman Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	98A/735 157A/540	
		Deborah Kutis, a married woman dealing in her sole and separate property Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	98A/738 157A/540	
		Laura Hall And Robert H. Hall, her husband Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	99A/459 157A/540	
		Karen L. Love, a single woman Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/614 157A/540	
		Mark Alan Slaten, a single man Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/702 157A/540	
		Steven W. Slaten, a single man Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/713 157A/540	
		Barbara A. Wojcik And David S. Wojcik, her husband Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	102A/498 157A/540	
		Donna Lee Machleit, a single woman Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	102A/495 157A/540	
		Jeffrey S. McKinney, A/K/A Jeffrey McKinney And Tamara M. McKinney, his wife Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/879 157A/540	
		Sharon A. McKinney, A/K/A Sharon McKinney Ertle, a single woman Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/840 157A/540	
		Recon Resources, LLC, D/B/A Recon Royalties	SWN Production Company, LLC	18.00%	182A/875	
11	12-14-17	* Royalty Owner	n/a	n/a	n/a	13.3333%
		Karen Bansa, a single woman	SWN Production Company, LLC	17.00%	203A/172	
		Zoanne Hulsey, a single woman	SWN Production Company, LLC	17.00%	204A/607	
		Nancy Closson, a single woman	SWN Production Company, LLC	17.00%	204A/648	
		James P. Exter, a married man dealing in his sole and separate property	SWN Production Company, LLC	17.00%	204A/617	

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Tract #	Tax Parcel	Lessor	Lessee	Royalty	Book/Page	Interest Not Leased by SWN Production Company, LLC
		Barbara Green, A Married Woman, Dealing In Her Sole And Separate Property	SWN Production Company, LLC	17.00%	204A/652	
		Jerrilyn Wilson, A Married Woman, Dealing In Her Sole And Separate Property	SWN Production Company, LLC	17.00%	205A/829	
		William Charles Schnepfle Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	15.00%	187A/855 231A/22 240A/54	
12	12-13-42	Nancy Holmstrom And Gerald Holmstrom, Wife and husband Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	172A/133 231A/22 240A/54	0.0000%
		Joan Lawrence, a single woman Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	172A/135 231A/22 240A/54	
		Charles V. Manker Revocable Living Trust, By Charles V. Manker, Trustee Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	201A/887 231A/22 240A/54	
		Rohn Jean Martin, F/K/A Rohn Jean Blair Bowers, F/K/A Rohn Jean Blair, F/K/A Rohn Jean Bowers, A Widow Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	172A/149 231A/22 240A/54	
		Dale Ann Badowski, A Widow Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	172A/127 231A/22 240A/54	
		Gregory Cooper, Aka Gregory T. Cooper, a married man dealing in his sole and separate property Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	172A/131 231A/22 240A/54	
		Gerald Cooper, Aka Gerald H. Cooper, a single man Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	172A/129 231A/22 240A/54	
		Robert N. Lohr and Martha Lohr, his wife	SWN Production Company, LLC	16.00%	239A/340	
		Melissa Painter, married dealing in her sole and separate property	SWN Production Company, LLC	18.00%	239A/349	
		Elizabeth Hartle, married dealing in her sole and separate property	SWN Production Company, LLC	18.00%	239A/357	
		Bruce E. Bailey, married dealing in his sole and separate property	SWN Production Company, LLC	18.00%	239A/353	
13	12-13-41	Melissa Painter, a married woman dealing in her sole and separate property	SWN Production Company, LLC	18.00%	201A/47	0.00%
		Elizabeth Hartle, a married woman dealing in her sole and separate property	SWN Production Company, LLC	18.00%	203A/197	
		Bruce E. Bailey, Jr., a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	204A/637	
		Joan V. Lawrence, a single woman TH Exploration, LLC	TH Exploration, LLC SWN Production Company, LLC	18.00%	200A/439 240A/485	
		Charles V. Manks, acting as Trustee for the Charles V. Manker Revocable Living Trust, an Ohio Trust TH Exploration, LLC	TH Exploration, LLC SWN Production Company, LLC	18.00%	211A/856 240A/485	
		Dale Ann Badowski, Widow TH Exploration, LLC	TH Exploration, LLC SWN Production Company, LLC	18.00%	200A/441 240A/485	
		Gregory T. Cooper, a married man dealing in his sole and separate property TH Exploration, LLC	TH Exploration, LLC SWN Production Company, LLC	18.00%	200A/427 240A/485	

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Tract #	Tax Parcel	Lessor	Lessee	Royalty	Book/Page	Interest Not Leased by SWN Production Company, LLC
		Nancy S. Holmstrom and Gerald M. Holmstrom, wife and husband TH Exploration, LLC	TH Exploration, LLC SWN Production Company, LLC	18.00%	238A/806 240A/485	
		Rohn Jean Martin f/k/a Rohn Jean Blair f/k/a Rohn Jean Blair Bowers f/k/a Rohn J. Bowers, widow TH Exploration, LLC	TH Exploration, LLC SWN Production Company, LLC	18.00%	238A/808 240A/485	
		Gerald H. Cooper, a single man TH Exploration, LLC	TH Exploration, LLC SWN Production Company, LLC	18.00%	238A/812 240A/485	
		Robert Neil Lohr, widower TH Exploration, LLC	TH Exploration, LLC SWN Production Company, LLC	18.00%	238A/810 240A/485	
14	12-13-27	Robert N. Lohr and Martha Lohr, his wife	SWN Production Company, LLC	16.00%	239A/340	0.0000%
		Nancy Holmstrom And Gerald M. Holmstrom Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	209A/657 231A/22 240A/54	
		Joan Lawrence Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	209A/872 231A/22 240A/54	
		Charles V. Manker Revocable Living Trust, By Charles V. Manker, Trustee Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	201A/884 231A/22 240A/54	
		Rohn Jean Martin, A Widow Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	171A/119 231A/22 240A/54	
		Dale Ann Badowski, A Widow Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	171A/112 231A/22 240A/54	
		Gregory T. Cooper, a married man dealing in his sole and separate property Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	171A/490 231A/22 240A/54	
		Gerald H. Cooper, A Married Man Dealinh In His Sole And Separate Property Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	171A/488 231A/22 240A/54	
		Melissa Painter, F/K/A Melissa Jan Bailey, And Shaun Painter, Wife And Husband Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	195A/729 231A/22 240A/54	
		Elizabeth A. Hartle And Matthew R. Hartle, Wife And Husband Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	197A/370 231A/22 240A/54	
		Bruce Edward Bailey, Jr., A/K/A Bruce Bailey Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	18.00%	197A/784 231A/22 240A/54	
15	12-13-16.4	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC	12.50%	157A/646	0.00%
16	12-13-15.4	Bounty Minerals, LLC	SWN Production Company, LLC	20.00%	239A/485	0.00%
17	12-13-15.3	Jeremy S. Goddard And Erin P. Goddard, husband and wife Antero Resources Corporation EQT	Antero Resources Corporation EQT SWN Production Company, LLC	20.00%	177A/498 231A/22 240A/54	0.00%
18	12-13-15	Mary Ann Goddard, dealing in her sole and separate property	SWN Production Company, LLC	18.00%	239A/676	0.00%

* At least 7 minerals owners in tract and at least 75% of the royalty owners have consented to the lawful use or development of the oil or natural gas mineral property on the tract. The interests of the remaining co-tenants will be secured pursuant to the Co-tenancy Modernization and Majority Protection Act.

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Tract No. _____
 Sale _____
 DOH Lease No. OG0028-0605

**THE STATE OF WEST VIRGINIA OIL AND GAS LEASE
 NO SURFACE USE
 (3 YEAR PAID-UP LEASE)**

This Oil and Gas Lease (this "Lease") is effective as of the 19th day of May 2020 (the "Effective Date"), by and between the WEST VIRGINIA Department of Transportation, Division of Highways, whose address is 1900 Kanawha Blvd., East, Building 5, Room 820, Charleston, WV 25305-0430, party of the first part, hereinafter designated as LESSOR, and SWN Production Company, LLC, a Texas Limited Liability Company whose address is 10000 Energy Drive, Spring, TX 77389-4954 party of the second part, hereinafter designated as LESSEE.

UNDER AND PURSUANT TO THE PROVISIONS OF THE CONSTITUTION AND LAWS OF THE STATE OF WEST VIRGINIA RELATING TO LEASING PUBLIC LANDS BELONGING TO THE STATE OF WEST VIRGINIA, WITNESSETH:

1. Grant of Lease. In consideration of the bonus of five thousand Dollars (\$5,000.00) per acre paid at closing to Lessor, the royalties to be paid, and the covenants, obligations, stipulations and conditions to be observed and performed as herein set forth, Lessor does hereby demise, lease and let unto the Lessee the following described tracts of land for the sole purpose and with the exclusive right of exploring, drilling, completing, operating for, producing, collecting, and transporting for sale and/or processing all oil, condensate (i.e., the light hydrocarbon liquid fraction that condenses from the produced gas stream at atmospheric or surface pipeline pressure and temperature and is separated at or near the well head by the well operator - See W. Va. Code of State Rules § 35-8-11.1.a), and natural gas produced and/or acquired from within or underlying the Leased Premises (the "Granted Minerals"), situated in Proctor District, Wetzel County, West Virginia, and being more particularly described as follows:

1.39 acres, more or less, situated in Proctor District, Wetzel County WV, said lands being acquired by Lessor through various deeds, acts of the State of Virginia or the State of West Virginia, or by historic legislation throughout time identified and being all oil and gas interest of Lessor owned in or under the lands and rights of way for County Road 1/15, Brock Ridge Road, as further identified on Exhibit A attached hereto, herein referred to as the "Premises," whether actually more or less.

Said description being contained in Deed Book 182 Page 376.

Containing 1.39 acres, more or less (the "Leased Premises"). Lessor represents and warrants to Lessee that the West Virginia Department of Transportation, Division of Highways is the proper agency or instrumentality of the State of West Virginia to enter into this Lease for the purpose of leasing the Granted Minerals and Leased Premises to Lessee on the terms set forth herein, and that the Director of the West Virginia Department of Transportation, Division of Highways is vested with the full legal authority and is duly authorized to execute this Lease on behalf of the Lessor and the State of West Virginia.

2. Limitations on the Grant of Lease.

a. **Surface Activities Prohibited.** This Lease does not include,

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and specifically prohibits and excludes the right to enter upon or conduct exploration for, drilling, and production and marketing activities of any kind associated with the Granted Minerals, or any other activities by Lessee, its representatives, employees, contractors, agents, and affiliates, on the surface of the lands covered herein, if any, including, but not limited to the construction of any pits and/or pipelines or gathering lines on the Leased Premises.

b. **No Storage.** Lessee may not use the Leased Premises, or any part thereof, for gas, oil, hydrocarbons, or brine storage purposes.

c. **Use of Surface or Subsurface Water.** Lessee shall not use the surface waters or the groundwaters located within the Leased Premises.

d. **Reserved Rights of Lessor.** Lessor reserves all rights not granted in this Lease, and specifically excepts herefrom all minerals other than the Granted Minerals including, by way of example and not limitation, geothermal energy, salt, brine, coal and coalbed methane.

3. **Facilities Development.** All development and production activities and facilities shall be constructed on adjoining and/or other lands, but not the Leased Premises.

4. **Term.** This Lease shall remain in force for a term of Three (3) years from the date hereof ("Primary Term"), and as long thereafter as Granted Minerals are produced from the Leased Premises or on acreage pooled therewith, or drilling operations are continued as hereinafter provided. If, at the expiration of the Primary Term of this Lease, Granted Minerals are not being produced on the Leased Premises or on acreage pooled therewith, but Lessee is then engaged in drilling or re-working operations thereon, then this Lease shall continue in force for so long as operations are being continuously prosecuted on the Leased Premises or on acreage pooled therewith ("Operations"). Operations shall be considered to be continuously prosecuted if not more than one hundred twenty (120) consecutive days shall elapse between the completion or abandonment of one well and the beginning of operations for the drilling of a subsequent well. If after discovery of Granted Minerals on the Leased Premises or on acreage pooled therewith, the production thereof should cease from any cause after the Primary Term, this Lease shall not terminate if Lessee commences additional drilling or re-working operations within one hundred twenty (120) days from date of cessation of production or from date of completion of a dry hole. If Granted Minerals shall be discovered and produced as a result of such operations at or after the expiration of the Primary Term of this Lease, this Lease shall continue in force so long as Granted Minerals are produced from the Leased Premises or on acreage pooled therewith.

5. **Unitization.** Lessee may voluntarily pool, consolidate, or unitize portions of the Leased Premises as to hydrocarbon bearing geologic formations in order to constitute a unit for the purpose of exploring for and producing Granted Minerals. Said unit may not exceed Six Hundred Forty (640) acres and shall be comprised of lands contiguous to the Leased Premises and/or in the vicinity of the Leased Premises; provided that said unit may be altered, amended, reformed, re-pooled or changed in any way, with the prior written consent of Lessor, to include lands contiguous to the Leased Premises and/or in the vicinity of the Leased Premises and to include no more than a total of One Thousand, Two Hundred and Eighty (1,280) acres (more or less), as permitted by the West Virginia Department of Environmental Protection.

a. **Lessor's Consent.** Lessor's written consent to alter, reform or re-pool the unit shall not be unreasonably withheld.

b. **Declaration of Pooling.** Lessee shall provide Lessor with a copy of

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any Declaration of Pooling and Unitization or similar document that includes any portion of the Leased Premises, including any amendments thereto, within thirty (30) days after approval of any such declaration or amendment by the West Virginia Department of Environmental Protection.

6. **Pugh Clause - Horizontal and Vertical.** As to any acreage of the Leased Premises which is not included within any properly constituted and publicly recorded production unit at the expiration of the Primary Term, as extended hereunder, this Lease shall automatically terminate, and be of no further force or effect. Further, and to the extent Lessee has established production in paying quantities beyond the expiration of the Primary Term on the Leased Premises, or lands pooled therewith, the Lease shall terminate, on a production unit-by-production unit basis, as to all depths, horizons and zones lying at least One Hundred feet (100') below the deepest producing horizon on the Leased Premises or any lands pooled therewith determined by reference to the deepest producing horizon in each respective production unit. Thereafter, this Lease shall continue in full force and effect for all depths, horizons and zones lying above the depth of One Hundred feet (100') below the deepest producing formation of a particular production unit as to all acreage located within that particular production unit. Upon the drilling and completion of a well within a production unit containing at least a portion of the Leased Premises, Lessee shall file a declaration of pooling and unitization within a reasonable time in the records of the Office of the Clerk of the County Commission of the county in which the applicable Granted Minerals are situated.

7. **Royalty.**

a. **Delivery and Payment.** Lessee shall deliver or cause to be delivered to the Lessor, or its successors, nominees, agents, or assigns, at no cost to Lessor, a royalty equal to **Twenty Percent (20%) or One-Fifth of Eight Eighths (1/5 of 8/8ths)** of the Gross Proceeds realized by Lessee, and any Affiliate of Lessee, from the sale of the Granted Minerals, produced and sold from the Leased Premises.

i. **Gross Proceeds.** Gross Proceeds means the total monies and other consideration received by or accruing to Lessee, and any Affiliate of Lessee, for the sale, transfer, and/or any other disposition of the Granted Minerals as defined in paragraph 1 of this Lease, and/or any other marketable by-products, including condensate, produced from the Leased Premises. Gross Proceeds shall be calculated based on the total gross volume of the Granted Minerals produced and sold, as measured and reported in accordance with paragraph 10 of this Lease, exclusive of any and all production and post-production costs and severance taxes or other taxes of any nature.

ii. **Affiliate of Lessee.** Affiliate of Lessee means any person, corporation, firm, or other entity in which Lessee, or any parent company, subsidiary or affiliate of Lessee, owns an interest of Five Percent (5%) or more, whether by stock ownership or otherwise, or over which Lessee, or any parent company or affiliate of Lessee exercises any degree of control, directly or indirectly, by ownership, interlocking directorate, or in any other manner; and any corporation, firm or other entity which owns any interest in Lessee, whether by stock ownership or otherwise, or which exercises any degree of control, directly or indirectly, over Lessee, by stock ownership, interlocking directorate, or in any other manner.

b. **Due Dates of Royalty.** Lessee shall pay Lessor all royalties

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that may become due under this Lease within one hundred twenty (120) days after the first day of the month following the month during which any well commences production into a pipeline for sale of such production. Thereafter, all royalties shall be paid to Lessor on or before the last day of the third month following the month of production or within Ninety (90) days after the first day of the month following, whichever is longer.

c. **Interest Payable on Past Due Royalty or Other Payments.** Any royalties due and payable under this Lease that are not paid to Lessor on or before the Due Date as set forth in this Lease shall accrue interest at the Prime Interest Rate from the Due Date until paid-in-full.

d. **Prime Interest Rate.** For the purpose of the immediately preceding section c of this paragraph 7, the Prime Interest Rate shall be the highest prime interest rate published in the Money Rates section of the eastern edition of the Wall Street Journal (WSJ) on the date such interest shall begin to accrue or, if the WSJ is not published on the date such interest shall begin to accrue, the Prime Interest Rate shall be the highest prime interest rate published in the WSJ on the nearest-preceding date on which the WSJ is published. In the event prime interest rates as published in the WSJ are not available, due to either the nonexistence of the WSJ or the WSJ's failure to publish any prime interest rates, then the Prime Interest Rate as provided herein shall be the highest prime interest rate published by a National Bank selected by Lessor, in any case not to exceed the maximum rate permitted by law.

e. **Termination for Non-Payment of Royalty.** If any royalty is not paid on or before the applicable Due Date as set forth in this Lease, Lessor will provide Lessee written notice of nonpayment of royalty in accordance with paragraph 32 of this Lease. If Lessee fails to pay to Lessor all royalties and interest actually due and owing to Lessor within Thirty (30) days after Lessee's receipt of such notice, Lessor may terminate this Lease upon consideration of its own interests and will not be required to consider the effect of such termination on Lessee.

f. **Production, Transportation, & Post-Production Costs.** Neither Lessee, nor any Affiliate of Lessee, may reduce Lessor's royalty for any market enhancement or post-production expense, including, by way of example and not limitation, pipelines, surface facilities, telemetry, gathering, dehydration, transportation, fractionation, compression, manufacturing, processing, treating, or marketing of the Granted Minerals, as measured and reported in accordance with paragraph 10 of this Lease, or any severance or other taxes of any nature paid on the production thereof.

8. **Method of Payment.** All rents, royalties, bonuses, or other payments accruing and/or owing from Lessee to Lessor under this Lease shall be made or tendered in the following manner:

- a. By certified or cashier check delivered in accordance with paragraph 32 of this Lease, or
- b. By direct deposit or wire transfer to the credit of Lessor as provided in writing by Lessor to Lessee in writing by a separate instrument delivered contemporaneously with this Lease.

9. **Information, Lessor's Right to Audit, Metering Production.** Upon written notice and request, Lessee, and any Affiliate of Lessee, shall furnish to Lessor,

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within ten (10) business days after receipt of said notice copies of title opinions covering the Leased Premises; copies of filings made by Lessee with the Department of Environmental Protection related to the Leased Premises; copies of daily drilling reports, gauge tickets, sales receipts, division orders, or amounts of gross production; copies of all gas contracts or any other agreements pursuant to which Lessee will sell, use, transfer, process, or dispose of the Granted Minerals produced from the Leased Premises; and any contracts, agreements, books, records and other information related to the sale, transfer, and/or any other disposition of any Granted Minerals as measured and reported in accordance with paragraph 10 of this Lease ; Provided, however, that any and all documentation that is subject to a confidentiality clause or similar provision that limits distribution of the subject documentation to third parties shall be made available to Lessor, or Lessor's duly designated agent or representative, without redaction, for personal inspection during regular business hours at a site to be designated by Lessee within the State of West Virginia, pursuant to a valid non-disclosure agreement.. Lessor shall, on an annual basis, have the right to audit the all of the aforementioned documents, books, accounts, contracts, records, and data of Lessee, and any Affiliate of Lessee, pertaining to the development, production, sale, transfer, and/or other disposition of the Granted Minerals as measured and reported in accordance with paragraph 10 of this Lease. Lessee shall meter gas deriving from the Leased Premises at the wellhead in accordance with West Virginia law.

10. Quarterly Royalty Statement, Annual Report. Lessee shall furnish to Lessor the following information no less frequently than once per calendar quarter, either on the check stub of a royalty payment or on an attachment to or enclosure with a royalty payment:

- a. The lease, property, or well names and the well identification numbers on which royalties are being paid;
- b. The month and year during which the sales occurred for which payment is being made;
- c. The total production from the well or wells of the volume of oil expressed as the number of barrels, the amount of natural gas expressed in thousand cubic feet (MCF), the volume of condensate expressed as the number of barrels, and any other Granted Minerals;
- d. The total monies and other consideration received by or accruing to Lessee, and any Affiliate of Lessee, per barrel of oil, per barrel of condensate, and per MCF of natural gas; and
- e. The name, address, and telephone number of a contact person where the Lessor may obtain information about royalty payments made by the Lessee, and any Affiliate of Lessee, hereunder.

Further, beginning on the first anniversary of the Effective Date of this Lease, and each succeeding anniversary date, unless otherwise requested by Lessor, Lessee shall provide to Lessor a detailed report stating the total production volumes and all monies and other consideration received by or accruing to Lessee, and any Affiliate of Lessee, in the same manner as set forth in subsections c, d, and e of this paragraph.

11. Shut-In Royalty. If a well has been completed capable of production in paying quantities and has been temporarily shut-in for lack of a market, Lessee shall pay Lessor annually, on or before Ninety (90) days of such shut-in event, the sum of One Hundred (\$100.00) Dollars per acre for the first year, and Two Hundred Fifty Dollars (\$250.00) per acre for the year thereafter on the ensuing anniversary. In no event may Lessee maintain this Lease by payment of shut-in royalty beyond a continuous two-year period, and this Lease shall terminate automatically on the first day following the second anniversary date of initial shut-in. Additionally, in no event may Lessee maintain this Lease by payment of shut-in royalty beyond a cumulative three-year period during which all production of Granted Minerals was shut-in, and

this Lease shall terminate automatically on the first day following the date that all production of Granted Minerals has been shut-in for a cumulative period of Thirty-Six (36) months.

12. Notice of Intent to Drill and Complete. Lessee shall supply Lessor prior written notice of Lessee's intention to drill at least fourteen (14) calendar days prior to the spudding in of a well associated with producing the Granted Minerals. Lessee shall also supply Lessor with a copy of Lessor's completion report of such well or wells within thirty calendar (30) days of completion.

13. Diligence, Duty to Drill Offset Wells. Lessee shall conduct its drilling operations hereunder utilizing best industry practices in existence at the time of such drilling, and shall otherwise conduct its operations in a good and workmanlike manner as a reasonably prudent operator would under the same or similar circumstances until all drilling and producing operations are completed, or until such time as the final well is plugged and abandoned. Additionally, if Granted Minerals are discovered on or in the Leased Premises, Lessee shall further develop and produce the Leased Premises as a reasonable and prudent operator would, and shall exercise all due diligence in drilling additional well(s) as may be necessary to fully develop the Leased Premises. Lessee shall protect the Granted Minerals in and under the Leased Premises from drainage by wells on adjoining or nearby tracts or leases, including those held by Lessee or any Affiliate of Lessee. Neither the rentals, royalties, nor any other consideration set forth under this Lease shall relieve Lessee of its obligation to reasonably develop and produce the Leased Premises and to reasonably protect the Granted Minerals in and under the Leased Premises from drainage or other damage.

14. Waste Prohibited, Damage. Lessee shall not commit, or cause to be committed, waste, damage, or pollution to the Leased Premises. Lessee shall take all reasonable steps to prevent its operations from causing or contributing to soil erosion, or to the injury of terraces, grades, embankments, other soil, or structures on the Leased Premises. Lessee shall not pollute the surface or subterranean waters of the Leased Premises, any reservoirs, springs, streams, irrigation ditches, stock ponds, or other wells on the Leased Premises. Lessee shall not decrease the fertility of the soil, damaging any crops, grasses, timber, or pastures on the Leased Premises, and shall not harm or injure any animals, fish, or livestock on or in the Leased Premises, or damage any buildings, roads, structures, or other improvements on the Leased Premises. Lessee shall preserve the Leased Premises, and upon the termination of this Lease, promptly surrender and return the Leased Premises to the Lessor in the same condition, or substantially similar condition, as the Leased Premises were in prior to Lessee taking possession of the Leased Premises. Lessee shall compensate Lessor, its successors or assigns, for damages caused by Lessee to any being or thing which is the subject of this provision.

15. Well Plugging. Before abandoning any well associated with this Lease, Lessee shall securely plug and abandon such well or wells in accordance with the rules and regulations of the West Virginia Department of Environmental Protection and the laws of the State of West Virginia, and any other governmental agency having jurisdiction.

16. Record Management. The Lessee shall keep an accurate account of all drilling operations, including but not limited to the following: a log of each well drilled, duly sworn to by the contractor or driller; original gas sales contracts with amendments; gas balancing agreements and schedules; information concerning litigation, settlement agreements, or other agreements relating to sales and pricing of the Granted Minerals.

17. Ratification. No instrument executed by Lessor shall be effective to constitute a ratification, renewal, extension or amendment of this Lease unless such

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instrument is clearly titled to indicate its purpose and intent.

18. Compliance with Applicable Law. This Lease shall be subject to the Constitution and laws of the State of West Virginia and the rules and regulations of the West Virginia Division of Natural Resources and the West Virginia Department of Environmental Protection now or hereafter in force, all of which are made a part and condition of this Lease; provided, that no regulation made after the execution of this Lease affecting either the length of the term hereof, the rate of royalty, or payment hereunder, or the assignment hereof, shall operate to alter the terms and conditions of this Lease. Lessee agrees to comply in all material respects with the laws, rules and regulations of the State of West Virginia and the United States of America.

19. Insurance. A company licensed by the West Virginia Insurance Commission to do business in the state of West Virginia shall underwrite all policies required by this Lease. Lessee, and/or any person or entity acting on Lessee's behalf under this Lease, shall maintain with one or more such licensed insurance carriers at all times during which this Lease remains in force and effect sufficient workers compensation and employer's liability insurance, commercial general liability and umbrella liability insurance, business auto and umbrella liability insurance, and environmental liability insurance in the amount of at least Twenty-Five Million Dollars (\$25,000,000.00), combined single limit, identifying Lessor as an additional insured (except for workers compensation and employer's liability), and shall be primary coverage for Lessor. Said policy or policies, declaration pages and certificates of insurance thereof shall be delivered to Lessor upon commencement of the Lease, and upon each renewal of said insurance policy. The insurance policies required under this paragraph 19 shall name Lessor as an additional insured, except for workers compensation and employer's liability with regard to the Leased Premises, and shall reflect that the insurer has waived any right of subrogation against the Lessor.

20. Bonding. Within Thirty (30) days after the Effective Date of this Lease, Lessee shall post a surety bond in favor of Lessor in the amount of Two Hundred Thousand Dollars (\$200,000.00) to secure the payment of all sums due and the performance of all obligations arising under this Lease. Thereafter, Lessee shall provide to Lessor within sixty (60) days from the Effective Date of this Lease a true copy of this surety bond, which shall specifically identify the Parties to this Lease and all DOH Lease Numbers, as set forth on page 1 of this Lease, that are secured by said surety bond.

21. Assignment. The rights and estate of Lessee (or any permitted assignee or transferee of Lessee) hereunder may not be assigned or otherwise transferred, in whole or in part, without the prior written consent of Lessor, which consent shall not be unreasonably withheld. In the event Lessee proposes to assign or transfer this Lease, the Lessee shall give Lessor written notice of its intent to assign or transfer its interest in the Lease, which notice shall specify the type of assignment or transfer contemplated, the identity and contact information of the proposed assignee or transferee, and the timeframe of the proposed assignment or transfer ("Transfer Notice"). Upon delivery of a Transfer Notice to the Lessor, Lessor shall have Fifteen (15) days to either: (a) consent to the proposed assignment or transfer by delivering written its consent to Lessee; or (b) in its reasonable discretion, withhold its consent to the proposed assignment or transfer by delivering written notice to Lessee that it is withholding its consent and specifying the reasons therefor. In the event that Lessor fails to respond to a Transfer Notice within the fifteen-day period specified in the immediately preceding sentence, Lessor shall be deemed for all purposes under the law to have approved the assignment or transfer outlined in the Transfer Notice, and to have consented to such assignment or transfer in the same manner as if it would have delivered its written consent to Lessee.

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22. Default. The occurrence of any of the following shall be deemed a default of this Lease:

- a. Failure of Lessee to timely pay Lessor any amounts required under this Lease in accordance with paragraph 7.
- b. If any creditor of Lessee, its agents, and/or assigns, takes any action to execute on, garnish, or attach the Lessee's assets located on or accessing the Leased Premises. This provision shall not impair Lessee's ability to mortgage its interests in the Granted Minerals or the Leased Premises.
- c. Failure of Lessee to obtain any requisite "prior written consent" as set forth within this Lease.
- d. Failure of Lessee to maintain insurance in the type and amount as set forth within this Lease.
- e. Shut-in of Lease exceeding the periods set forth in paragraph 11 of this Lease.

23. Notice of Default or Breach. If Lessor considers that Lessee has failed to comply with its obligations under this Lease, whether express and implied, Lessor shall notify Lessee in writing, setting out in what respects Lessee has breached this Lease. Lessee shall then have Thirty (30) days after receipt of said notice to cure all alleged breaches asserted by Lessor or, if it is not practical to cure such alleged breaches within thirty (30) days, then Lessee shall have Thirty (30) days to commence curing the alleged breach and diligently and continuously pursue to completion such cure. If Lessee, having received such written notice of breach of Lease, shall thereafter fail or refuse to satisfy in the timeframes set forth in the immediately preceding sentence, or respond in a meaningful fashion to Lessor's notice, this Lease shall automatically cease and terminate. Upon such termination, Lessee agrees to (a) immediately and unconditionally surrender possession of the Leased Premises, or of the portion of the Leased Premises included in such notice of breach, and (b) plug and abandon any producing or non-producing well(s).

24. Remedies for Default or Breach. The Lessor shall be entitled to recover from the Lessee any and all royalties, charges, or claims of every kind and nature due and owing and/or arising out of this Lease, upon failure to comply with the provisions of this Lease and to take immediate possession of the Leased Premises. If Lessor institutes proceedings to clear title or take possession of the Leased Premises, Lessor shall be entitled to recover from Lessee its attorney fees and costs, investigation costs, any expert fees, and any other costs or expenses related to such proceedings.

25. Surrender of Lease. The Lessee may surrender this Lease or any part of this Lease if, and only if, Lessee is not then in default of any obligations under this Lease and upon payment of all liabilities then accrued and due. Such surrender must be evidenced by written notice delivered to Lessor Thirty (30) days prior to the effective date of surrender. Lessee shall deliver to Lessor a release or releases in recordable form approved by Lessor, and Lessee shall release the applicable portion of this Lease upon expiration. Lessee may not release any portion of this Lease included in a pool or unit as long as Operations are being conducted on such pool or unit. Any partial release must describe all depths and horizons in and under the Leased Premises so released.

26. No Warranty of Title.

- a. Lessor makes no representation of title or ownership, either express or implied, and further makes no warranty as to the actual or

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potential presence of Granted Minerals. Lessee represents it has performed all necessary due diligence regarding the title or ownership of the Granted Minerals and agrees to be bound by the quantum of acreage as set forth in the Legal Description above.

b. Lessee shall notify Lessor of any adverse claim to the Leased Premises affecting title to all or a portion of the rights to develop the Granted Minerals, and Lessor may, with the approval of the Attorney General, enter into an escrow arrangement for future rents and royalties accruing to such disputed portion of the Leased Premises under terms and conditions that the Attorney General feels proper to safeguard the rights and interest of the State of West Virginia.

c. If an adverse claimant files suit against the State of West Virginia or against Lessee claiming title to all or a portion of the Granted Minerals, or if the Lessee, after receiving notice of an adverse claim, institutes litigation in a court of competent jurisdiction to adjudicate the validity of the claim, the rents and royalties accruing to the litigated portion shall be placed in an escrow account until such time as the ownership of the disputed interest is determined by a court of competent jurisdiction.

d. If a court of competent jurisdiction determines that Lessor does not have title to all or part of the Granted Minerals in the Leased Premises, the rentals, royalties, and bonus thereafter accruing from any part as to which this Lease covers less than the full interest in such Granted Minerals, shall thereafter be paid only in the proportion which the interest therein, if any, covered by this Lease bears to the whole and undivided fee simple estate therein. Any sums of money paid pursuant to this Lease are not reimbursable to Lessee.

27. Indemnity. Unless caused by the negligence of Lessor, or any agent, servant, or employee of Lessor, Lessee shall defend, indemnify, protect and hold harmless Lessor and Lessor's heirs, successors, representatives, agents and/or assigns from and against any and all claims, demands, causes of action, liability, loss, damage or expense of any and every kind and nature, including without limitation costs, expenses, and attorneys' fees, for injury (including death), or damage to persons or property (including environmental damage to the surface, waterways, or subsurface estates of any person, firm, corporation, or other entity) arising out of, incidental to, or resulting from (i) the operations or activities of Lessee or Lessee's servants, agents, employees, guests, licensees, invitees or independent contractors on or in the Leased Premises; (ii) the exercise of any right granted under this Lease, and/or; (iii) any obligation imposed under this Lease. Any successor in interest of any rights of Lessee in this Lease shall likewise be obligated to defend and indemnify Lessor and Lessor's heirs, successors, representatives, agents and assigns in the same manner as the original Lessee.

28. Limitations on Drilling. From and after the Effective Date of this Lease, Lessee shall not commence construction of any new well pad that is intended to produce the Granted Minerals from the Leased Premises if such well pad would be located within Five Hundred feet (500') of any outside boundary of the tracts comprising the Leased Premises measured linearly from any point along said tract boundary to the midpoint of the secondary containment berm of a particular well pad. Lessor and Lessee agree that the limitation on pad construction and/or location set forth in this paragraph 28 is intended to reduce any long-term, substantial interference with the public's use of the surface of the Leased Premises as it exists on the date of the Lease. Further, if Lessor determines in its reasonable discretion after conducting a proper investigation that the drilling activities of Lessee related to the production of Granted Minerals from the Leased Premises have created a long-term, substantial interference with the public's use of the surface of the Leased Premises as aforesaid, then Lessor shall have the right to seek from Lessee additional measures or controls to mitigate such long-term, substantial impairment

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caused by Lessee's said drilling activities.

29. Force Majeure. If Lessee is prevented from complying with its obligations under this Lease, express or implied (except payment of money), due to scarcity of or inability to obtain or use equipment or material or by operations of Force Majeure, or any federal or state law, or any order, rule or regulation, then, while so prevented, Lessee's obligation to comply with such this Lease shall be temporarily suspended, and Lessee shall not be liable in damages; and this Lease shall be extended only so long as Lessee is prevented by any such cause from conducting Operations on or in the Leased Premises; *provided*, in no event shall Lessee's performance be suspended as a result of Force Majeure, federal or state law, or any rule or regulation for a period in excess of two (2) consecutive years. As used herein, the term "Force Majeure" shall mean acts of god such as flood, fire, adverse weather conditions, war, sabotage, rebellion, insurrection, riot, strike or labor disputes, or by other cause(s) not within Lessee's control, but shall specifically exclude scarcity, cost, or inability to obtain or use equipment, contracts, personnel, water, or other material(s).

30. Further Assurances. Each of the parties hereto shall, and shall cause its respective affiliates to, from time to time at the request of the other party, without any additional consideration, furnish the other party such further information or assurances, execute and deliver such additional documents, instruments and conveyances, and take such other actions and do such other things, as may be reasonably necessary in the opinion of counsel to the requesting party to carry out the provisions of this Lease. In the event that Lessor is not the proper agency or instrumentality of the State of West Virginia to enter into this Lease, as stated in paragraph 1 herein, Lessor shall cause all of the proper agencies or instrumentalities of the State of West Virginia, without any additional consideration, to join in this Lease, as Lessor, upon the same terms provided herein.

31. Governing Law. This Lease shall be governed by the laws of the State of West Virginia and any dispute arising out of this Lease shall be resolved in a West Virginia court of law having jurisdiction thereof.

32. Notices and Payments. All notices and payments which are permitted or required under this Lease shall be in writing and shall be deemed valid and received if delivered personally; by registered or certified mail, return receipt requested; or by special carrier (such as Federal Express or UPS), with signature required, to the Lessor and/or the Lessee to the following addresses, unless otherwise agreed by the parties in a signed writing:

a. To Lessor:
West Virginia Department of Transportation
Division of Highways
1900 Kanawha Blvd., East, Building 5, Room 820
Charleston WV 25305-0430

b. To Lessee:
SWN Production Company, LLC
10000 Energy Drive
Spring TX 77389-4954

33. Successors in Interest. The terms, conditions, covenants, provisions, considerations or requirements of this Lease shall extend to and be binding on the parties hereto, their heirs, successors, executors, administrators, and assigns, of whom shall be jointly and severally liable.

Entirety. Should any one or more of the provisions in this Lease be determined to be void or invalid, in whole or in part, the remainder

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of this Lease shall remain in full force and effect.

35. Counterparts. This Lease may be executed in any number of counterparts, and by different parties in separate counterparts, all of which shall be identical. Each such counterpart shall be deemed to be an original instrument, but all such counterparts together shall constitute but one instrument.

IN WITNESS WHEREOF, the parties hereunto subscribed their signatures on the day and year first above written.

Remainder of this page is intentionally blank.

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WEST VIRGINIA Department of Transportation,
Division of Highways

ATTEST:

By: Jimmy Wriston, P.E.
Jimmy Wriston, P.E.
Deputy Secretary of Transportation
Deputy Commissioner of Highways

ACKNOWLEDGEMENT FOR
WEST VIRGINIA Department of Transportation, Division of Highways

State of West Virginia,
County of Kanawha,

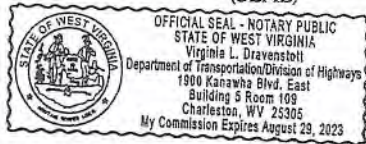
Personally, appeared before me, the undersigned Notary Public, within and for said County and State, appeared Jimmy Wriston, P.E., who acknowledged himself to be the Deputy Secretary and Deputy Commissioner of the West Virginia Department of Transportation, Division of Highways and that he/she as such Deputy Secretary and Deputy Commissioner of the West Virginia Department of Transportation, Division of Highways, being authorized to do so, executed foregoing instrument for the purpose therein contained by signing the name of the corporation by himself as the Deputy Secretary and Deputy Commissioner of the West Virginia Department of Transportation, Division of Highways.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

IN WITNESS WHEREOF, I have hereunto set my hand and Notary Seal on this 11th day of June, 2020.

My Commission Expires: August 29, 2023

(SEAL)



Virginia L. Dravenstall
Notary Public

APPROVED AS TO FORM THIS
10th DAY June 2020
ATTORNEY RIGHT OF WAY DIVISION
WEST VIRGINIA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
B. M. Miller

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SWN Production Company, LLC

[Handwritten Signature]

ATTEST:

By: Paul M. Bacho
Title: Land Manager

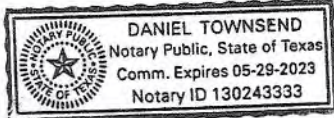
BTR SDW

CORPORATE ACKNOWLEDGMENT

STATE OF TEXAS,
COUNTY OF HARRIS,

On this, the 25th day of May, 2020, before me, the undersigned officer, personally appeared Paul M. Bacho, who acknowledged himself to be the Land Manager of SWN Production Company LLC, a Texas Limited Liability Company, and that he as such Land Manager, being authorized to do so, executed foregoing instrument for the purpose therein contained by signing the name of the corporation by himself as Land Manager

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



My Commission Expires: May 29, 2023

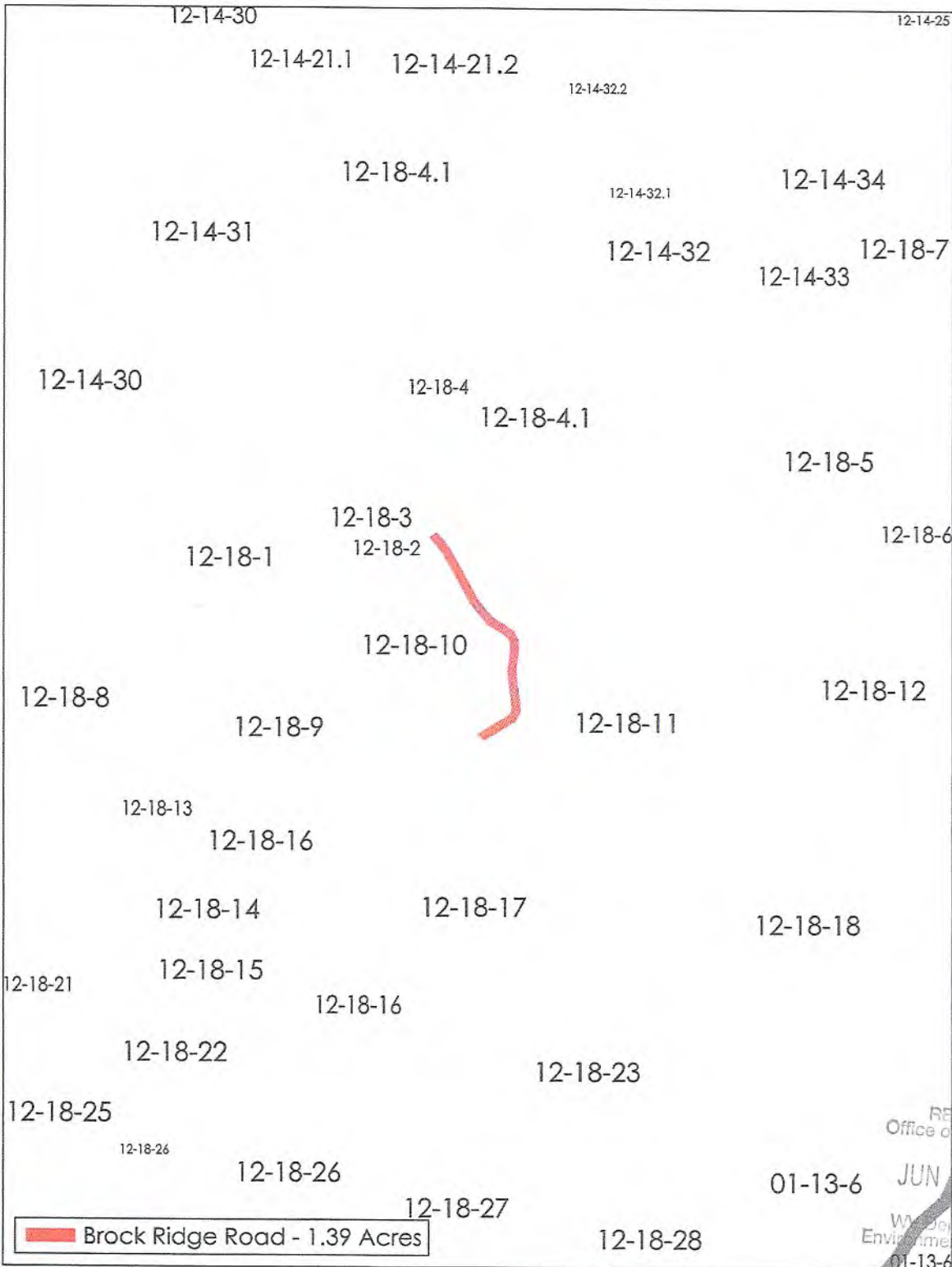
Signature/Notary Public: *[Handwritten Signature]*

Name/Notary Public (print): Daniel Townsend

Prepared by: SWN Production Company, LLC, 10000 Energy Drive, Spring TX 77389-4954

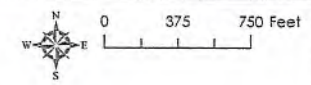
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EXHIBIT A



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01-13-6

This map is intended to be used as a guide only. It is not a warranty of accuracy. The user should verify the accuracy of the information shown on this map before using it for any purpose.



BROCK RIDGE ROAD
Proctor District
Weizel County, WV

Prepared By: **PENTERRA SERVICES**

4710303360



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

June 15, 2020

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

RE: SWN's proposed New Well: Constance Taylor WTZ 401H in Wetzel County, West Virginia, Drilling under Doolin Run Road, Taylor Ridge Road and Brock Ridge Road.

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 Proctor Creek Road, Doolin Run Road, Co. Rd. 1/24, Taylor Ridge Road and Brock Ridge Road. 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,

A handwritten signature in blue ink that reads "Brandi Williams".

Brandi Williams, CPL
Staff Landman
SWN Production Company, LLC

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A red logo consisting of the mathematical expression $\frac{R^2}{A} \rightarrow V^+$ in a stylized, handwritten font.

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

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

Date of Notice Certification: 4/24/20

API No. 47- 103 -
Operator's Well No. Constance Taylor Wtz 401H
Well Pad Name: Constance Taylor Wtz

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>527525.60</u>
County:	<u>103-Wetzel</u>		Northing:	<u>4389464.46</u>
District:	<u>Proctor</u>	Public Road Access:	<u>Brock Ridge Road</u>	
Quadrangle:	<u>Wileyville</u>	Generally used farm name:	<u>Constance Taylor Wtz</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.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: *PLEASE CHECK ALL THAT APPLY <input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED <input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED <input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH) <input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION <input checked="" type="checkbox"/> 5. PUBLIC NOTICE <input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		OOG OFFICE USE ONLY <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED
		RECEIVED Office of Oil and Gas JUN 24 2020 WV Department of Environmental Protection

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.

Certification of Notice is hereby given:

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

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



Subscribed and sworn before me this 1st day of May, 2020
Jessica L. Vangilder Notary Public
 My Commission Expires 7-20-20

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.

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 Office of Oil and Gas
 JUN 24 2020
 WV Department of
 Environmental Protection

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

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

Date of Notice: 6/24/20 Date Permit Application Filed: 6/24/20

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: Constance Taylor
Address: 807 Johnson Street
New Martinsville, WV 26155
Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: Consolidation Coal Company Attn: Casey Saunders
Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

COAL OPERATOR
Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: _____
Address: _____
Name: _____
Address: _____

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

SURFACE OWNER(s) (Impoundments or Pits)
Name: _____
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: _____
Address: _____

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Office of Oil and Gas
JUN 24 2020
WV Department of
Environmental Protection

*Please attach additional forms if necessary

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
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Application Notice WSSP Notice E&S Plan Notice Well Plat Notice is hereby provided to:

SURFACE OWNER(s)

Name: _____

Address: _____

Name: _____

Address: _____

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

Name: _____

Address: _____

Name: _____

Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: _____

Address: _____

COAL OWNER OR LESSEE

Name: Donna Blake

Address: 418 Gilbert Avenue

Follansbee, WV 26037

COAL OPERATOR

Name: _____

Address: _____

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

Name: _____

Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: _____

Address: _____

*Please attach additional forms if necessary

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Office of Oil and Gas
JUN 24 2020
WV Department of Environmental Protection

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DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
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Application Notice WSSP Notice E&S Plan Notice Well Plat Notice is hereby provided to:

SURFACE OWNER(s)
Name: _____
Address: _____

Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: Joany Sauro
Address: 232 Rainbow Dr
Livingston, TX 77399

COAL OPERATOR
Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: _____
Address: _____

Name: _____
Address: _____

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)
Name: _____
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: _____
Address: _____

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Office of Oil and Gas
JUN 24 2020
WV Department of
Environmental Protection

*Please attach additional forms if necessary

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
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SURFACE OWNER(s)

Name: _____
Address: _____

Name: _____
Address: _____

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

Name: _____
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: Charles Dunham III
Address: 1012 Shore Line Dr
La Grange, KY 40031

COAL OPERATOR

Name: _____
Address: _____

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

Name: _____
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: _____
Address: _____

*Please attach additional forms if necessary

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JUN 24 2020
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SURFACE OWNER(s)

Name: _____
Address: _____

Name: _____
Address: _____

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

Name: _____
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: Terry Dunham
Address: 404 University Ave
Elyria, OH 44305

COAL OPERATOR

Name: _____
Address: _____

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

Name: _____
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: _____
Address: _____

*Please attach additional forms if necessary

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JUN 24 2020
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Name: _____
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: _____
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)
Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: Janie Currier
Address: 819 Stanford Ave
Elyria, OH 44035

COAL OPERATOR
Name: _____
Address: _____

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: _____
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: _____
Address: _____

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WV Energy Dept of Environmental Protection

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STATE OF WEST VIRGINIA
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Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: _____
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)
Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: Leonard Dunham
Address: 419 Edgewood Ave
Moundsville, WV 26041

COAL OPERATOR
Name: _____
Address: _____

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: _____
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: _____
Address: _____

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WV Department of
Environmental Protection

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ATTACHMENT 13

BECKER ERICK D & PHYLLIS	1615 CENTERTON RD	PITTSBORO, NJ 08318	12 18000700000000	2
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RECEIVED
Office of Oil and Gas
JUN 24 2020
WV 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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/air-and-gas/pages/default.aspx.

JUN 24 2020

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

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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 57th St. SE
Charleston, WV 25304
(304) 926-0450

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

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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Environmental Protection

WW-6A
(8-13)

4710303360

API NO. 47- 103 -
OPERATOR WELL NO. Constance Taylor Wtz 401H
Well Pad Name: Constance Taylor Wtz

Notice is hereby given by:

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

Brittany Woody

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

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 1st day of May, 2020
Jessica L. VanMilder Notary Public
My Commission Expires 7-20-20

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Environmental Protection

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: 4/15/2020 **Date of Planned Entry:** 4/22/2020

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: Constance Taylor
Address: 807 Johnson Street
New Martinsville, WV 26155

Name: _____
Address: _____

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: Consolidation Coal Company Attn: Casey Saunders
Address: 1000 Consol Energy Dr
Canonsburg, PA 15317

MINERAL OWNER(s)

Name: Tammy Kennetz
Address: 3908 Riverview Drive
Wausau, WI 54403

*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>West Virginia</u>	Approx. Latitude & Longitude: <u>39.65465, -80.679341</u>
County: <u>Wetzel</u>	Public Road Access: <u>Brock Ridge Road</u>
District: <u>Proctor</u>	Watershed: <u>Little Fishing Creek</u>
Quadrangle: <u>Wileyville</u>	Generally used farm name: <u>Constance Taylor</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 57th 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.

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Office of Oil and Gas

JUN 24 2020

Notice is hereby given by:

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

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

WV Department of Environmental Protection

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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
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Notice is hereby provided to:

SURFACE OWNER(s)

Name: _____
Address: _____

Name: _____
Address: _____

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: Janie Currier
Address: 819 Stanford Ave
Elyria, OH 44035

MINERAL OWNER(s)

Name: Debra Keessee
Address: 4544 Columbia Street # 1211
Virginia Beach, VA 23462

*please attach additional forms if necessary

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District: <u>Proctor</u>	Watershed: <u>Little Fishing Creek</u>
Quadrangle: <u>Wileyville</u>	Generally used farm name: <u>Constance Taylor</u>

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Notice is hereby given by:

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

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

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JUN 24 2020
WV Department of
Environmental Protection

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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
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Delivery method pursuant to West Virginia Code § 22-6A-10a

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Notice is hereby provided to:

SURFACE OWNER(s)
Name: _____
Address: _____

Name: _____
Address: _____

Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: Terry Dunham
Address: 404 University Ave
Elyria, OH 44305

MINERAL OWNER(s)
Name: MM- Marcellus- HBP 1, LP
Address: PO Box 10886
Midland, TX 79702

*please attach additional forms if necessary

Notice is hereby given:

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

State: West Virginia
County: Wetzel
District: Proctor
Quadrangle: Wileyville

Approx. Latitude & Longitude: 39.65465, -80.679341
Public Road Access: Brock Ridge Road
Watershed: Little Fishing Creek
Generally used farm name: Constance Taylor

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 57th 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.

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Email: Brittany_Woody@swn.com

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

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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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Date of Notice: 4/15/20 **Date of Planned Entry:** 4/22/20

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

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Notice is hereby provided to:

SURFACE OWNER(S)

Name: _____
Address: _____

Name: _____
Address: _____

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: Donna Blake
Address: 418 Gilbert Avenue
Follansbee, WV 26037

MINERAL OWNER(S)

Name: Donna Blake
Address: 418 Gilbert Ave
Follansbee, WV 26037

*please attach additional forms if necessary

Notice is hereby given:

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District: <u>Proctor</u>	Watershed: <u>Little Fishing Creek</u>
Quadrangle: <u>Wileyville</u>	Generally used farm name: <u>Constance Taylor</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 57th 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.

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Email: Brittany_Woody@swn.com

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Notice is hereby provided to:

SURFACE OWNER(s)

Name: _____
Address: _____

Name: _____
Address: _____

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: Joany Sauro
Address: 232 Rainbow Dr
Livingstone, TX 77399

MINERAL OWNER(s)

Name: Joany Sauro, A/K/A Joan Sauro
Address: 232 Rainbow Dr
Livingstone, TX 77399

*please attach additional forms if necessary

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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.

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: 4/15/2020 **Date of Planned Entry:** 4/22/2020

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

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

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

Notice is hereby provided to:

SURFACE OWNER(s)

Name: _____
Address: _____

Name: _____
Address: _____

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: Charles Dunham III
Address: 1012 Shore Line Drive
La Grange, KY 40031

MINERAL OWNER(s)

Name: Robert Dunham, Jr.
Address: 331 Glen Dale Heights Rd
Glen Dale, WV 26038

*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>West Virginia</u>	Approx. Latitude & Longitude: <u>39.65465, -80.679341</u>
County: <u>Wetzel</u>	Public Road Access: <u>Brock Ridge Road</u>
District: <u>Proctor</u>	Watershed: <u>Little Fishing Creek</u>
Quadrangle: <u>Wileyville</u>	Generally used farm name: <u>Constance Taylor</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 57th 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.

Notice is hereby given by:

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

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

RECEIVED
Office of Oil and Gas

JUN 24 2020

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.

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: 4/15/2020 **Date of Planned Entry:** 4/22/2020

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

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

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

Notice is hereby provided to:

SURFACE OWNER(s)

Name: _____
Address: _____

Name: _____
Address: _____

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: Leonard Dunham
Address: 419 Edgewood Ave
Moundsville, WV 26041

MINERAL OWNER(s)

Name: _____
Address: _____

*please attach additional forms if necessary

Notice is hereby given:

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

State: <u>West Virginia</u>	Approx. Latitude & Longitude: <u>39.65465, -80.679341</u>
County: <u>Wetzel</u>	Public Road Access: <u>Brock Ridge Road</u>
District: <u>Proctor</u>	Watershed: <u>Little Fishing Creek</u>
Quadrangle: <u>Wileyville</u>	Generally used farm name: <u>Constance Taylor</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 57th 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.

Notice is hereby given by:

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

Oil and Gas Privacy Notice:

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

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: 05/01/2020 **Date Permit Application Filed:** 05/22/20

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: Constance A. Taylor
Address: 807 Johnson St.
New Martinsville, WV 26155

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>527,525.60</u>
County:	<u>Wetzel</u>		Northing:	<u>4,389,464.46</u>
District:	<u>Proctor</u>	Public Road Access:	<u>Brock Ridge Road</u>	
Quadrangle:	<u>Wileyville</u>	Generally used farm name:	<u>Constance Taylor</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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator: SWN Production Company, LLC
Address: 1300 Fort Pierpont Dr., Suite 201
Morgantown, WV 26508
Telephone: 832-540-1136
Email: Steve_Teel@swn.com
Facsimile: _____

Authorized Representative: Steve Teel
Address: 1300 Fort Pierpont Dr., suite 201
Morgantown, WV 26508
Telephone: 832-540-1136
Email: Steve_Teel@swn.com
Facsimile: _____

Office of Oil and Gas
JUN 24 2020
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.

**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: 05/01/2020 **Date Permit Application Filed:** 4/22/20

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

- CERTIFIED MAIL** **HAND DELIVERY**
RETURN RECEIPT REQUESTED

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: Constance A. Taylor Address: _____
Address: 807 Johnson St. Address: _____
New Martinsville, WV 26155

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>527,525.60</u>
County:	<u>Wetzel</u>	Northing:	<u>4,389,464.46</u>
District:	<u>Proctor</u>	Public Road Access:	<u>Brock Ridge Road</u>
Quadrangle:	<u>Willeyville</u>	Generally used farm name:	<u>Constance Taylor</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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator:	<u>SWN Production Company, LLC</u>	Address:	<u>1300 Fort Pierpont Dr., Suite 201</u>
Telephone:	<u>832-540-1136</u>		<u>Morgantown, WV 26508</u>
Email:	<u>Steve_Teel@swn.com</u>	Facsimile:	_____

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Office of Oil and Gas
JUN 24 2020
WV Department of
Environmental Protection

Oil and Gas Privacy Notice:
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WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

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

April 28, 2020

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

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

Subject: DOH Permit for the Constance Taylor Pad, Wetzel County

Constance Taylor WTZ 401H Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2016-0385 which has been issued to Southwestern Energy for access to the State Road for a well site located off Wetzel County Route 15/1 SLS.

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

Very Truly Yours,

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

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Office of Oil and Gas

JUN 24 2020

WV Department of
Environmental Protection

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

Attachment VI Frac Additives

Product Name	Product Use	Chemical Name	CAS Number
AI-303 (U.S. Well Services)	Mixture	Ethylene glycol	107-21-1
		Cinnamaldehyde	104-55-2
		Butyl cellosolve	111-76-2
		Formic acid	64-18-6
		Polyether	Proprietary
		Acetophenone, thiourea, formaldehyde polymer	68527-49-1
AP ONE (U.S. Well Services)	Breaker	Ammonium persulfate	7727-54-0
Bactron K-139 (Champion Technologies)	Biocide	Glutaraldehyde	111-30-8
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
		Ethanol	64-17-5
Bactron K-219 (Champion Technologies)	Biocide	Methanol	67-56-1
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
CarboNRT	Tracer	Ceramic Proppant	66402-68-4
EC6486A (Nalco Champion)	Scale Inhibitor	Amine Triphosphate	Proprietary
		Ethylene Glycol	107-21-1
EC6734A (Champion Technologies)	Biocide	Hydrogen Peroxide	7722-84-1
		Acetic Acid	64-19-7
		Peroxyacetic Acid	79-21-0
Econo-CI200 (SWN Well Services)	Corrosion Inhibitor	Methanol	67-56-1
		Oxyalkylated fatty acid	68951-67-7
		Fatty acids	61790-12-3
		Modified thiourea polymer	68527-49-1
		Water	7732-18-5
		Hydrochloric acid	7647-01-0
		Potassium acetate	127-08-2
Formaldehyde	50-00-0		
Ecopol-FEAC (SWN Well Services)	Iron Control	Acetic Acid	64-19-7
		Citric Acid	77-92-9
		Water	7732-18-5
FDP-S1176-15 (Halliburton)	Friction Reducer	Polyacrylate	Proprietary
		Hydrotreated light petroleum distillate	64742-47-8
FLOJET DR900 LPP (SWN Well Services)	Friction Reducer	Distillates (petroleum) hydrotreated light	64674-47-8
		Ethylene Glycol	107-21-1
		Alcohols, C12-16, Exoxyated propoxylated	68213-24-1
		Fatty Alcohols ethoxylated	Proprietary
		Water	7732-18-5
FLOJET DRP 1130X (SWN Well Services)	Friction Reducer	Proprietary	Proprietary
FR-75 (Halliburton)	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8
		Inorganic Salt	Proprietary
GYPTRON T-390 (Champion Technologies)	Scale Inhibitor	Methanol	67-56-1
		Nonylphenol Ethoxylate	Proprietary
HAI-150E (Halliburton)	Corrosion Inhibitor	No hazardous substance	N/A
HCL (SWN Well Services)	Hydrochloric Acid	Hydrochloric Acid	7647-01-0
		Water	7732-18-5
LP-65 MC (Halliburton)	Scale Inhibitor	Organic phosphonate	Proprietary
		Ammonium Chloride	12125-02-9
OPTI-FLEX (U.S. Well Services)	Viscosifying Agent	Distillates, petroleum, hydrotreated light	64742-47-8
Plexslick 930	Friction Reducer	Copolymer of 2-propenamide	Proprietary
		Hydrotreated Distillate	64742-47-8
		Sodium Chloride	7647-14-5
		Alcohols, C12-16, Exoxyated	68551-12-2
		Oleic Acid Diethanolamide	93-83-4
Ammonium Chloride	12125-02-9		
Plexslick 953	Friction Reducer	Petroleum Distillate	64742-47-8
		Sodium Chloride	7647-14-5
		Ammonium Chloride	12125-02-9
		N,N-bis (2-hydroxyethyl) oleamide	93-83-4
Plexslick 957	Friction Reducer	Petroleum Distillate	64742-47-8
		Ammonium Chloride	12125-02-9
		Oleic Acid Diethanolamide	93-83-4
		Alcohols, C12-16, Exoxyated	68551-12-2
		Water	7732-15-5
WFRA-2000 (U.S. Well Services)	Anionic Friction Reducer	Hydrotreated light distillate (petroleum)	64742-47-8
		Propenoic acid, polymer with propenamide	9003-06-9
Plexaid 655 NM	Scale inhibitor	Diethylenetriamine penta (methylene phosphonic acid)	15827-30-8
Plexslick 922	no data available	Copolymer of 2-propenamide	69418-26-4
		Distillates (petroleum), hydrotreated light	64742-47-8
		Ammonium chloride ((NH4)Cl)	12125-02-9
		Oleic Acid Diethanolamide	93-83-4
		Tetrakis (hydroxymethyl) phosphonium sulphate	55566-30-8
Tolcide P550A	Biocidal product	Acrylic acid terpolymer containing carboxylate phosphonate and sulfonate groups	397256-50-7
LD-2950	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8
		Ethoxylated alcohol	Proprietary
Legend LD-7750W	Scale Control	Poly (oxy-1,2-ethanediyl) alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5
		Methanol	67-56-1
		Phosphonic Acid Salt	Proprietary
MC MX 8-4743	Specialty Product	Sodium Nitrate	7631-99-4



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

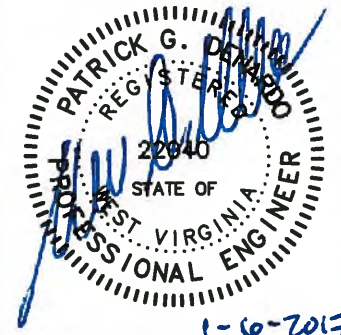
AT LEAST 48 HOURS, BUT NOT MORE THAN 10 WORKING DAYS (EXCLUDING WEEKENDS AND HOLIDAYS), PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THESE ACTIVITIES SHALL CONTACT MISS UTILITY OF WEST VIRGINIA AT 811 OR 1-800-245-4848.

AS-BUILT SITE PLAN

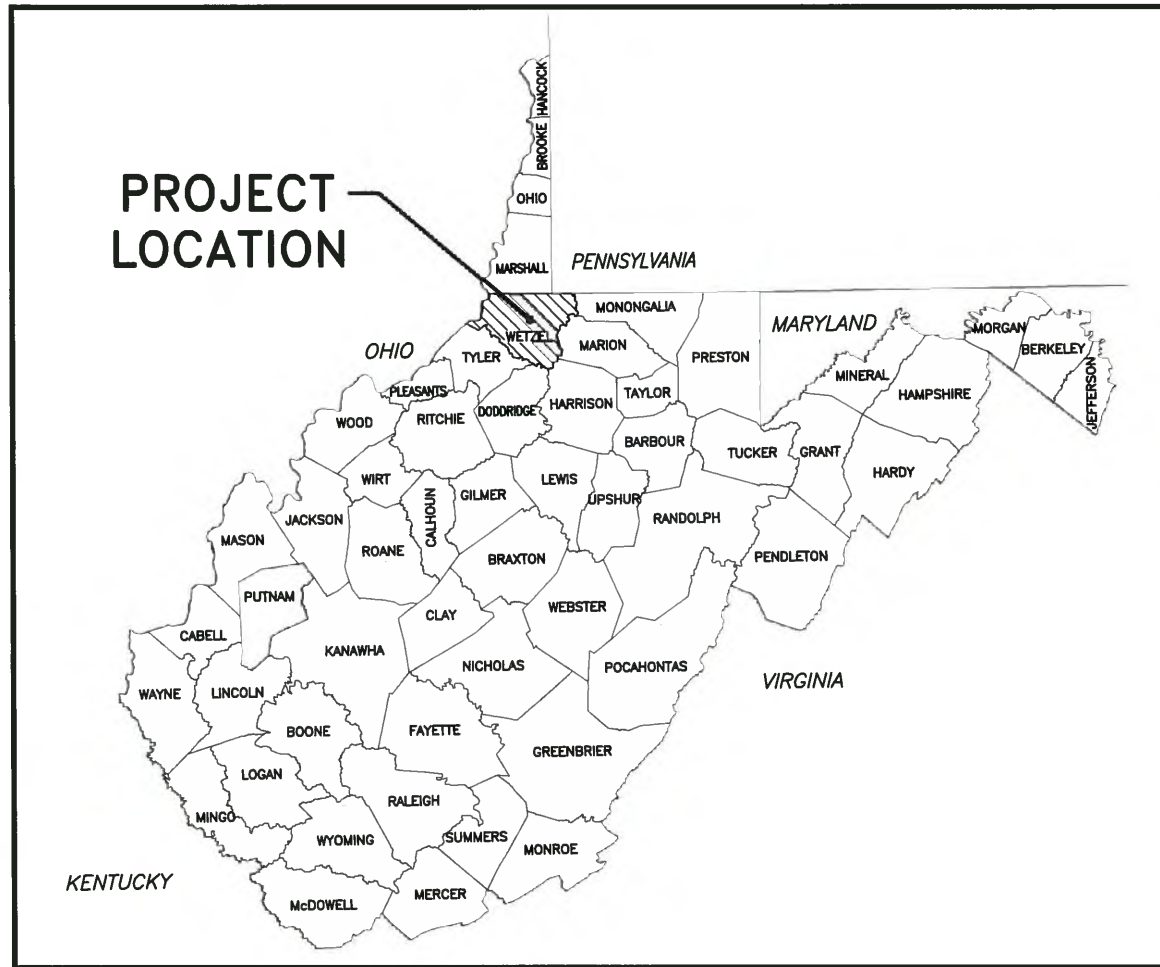
FOR

CONSTANCE TAYLOR WTZ PAD

PROCTOR DISTRICT, WETZEL COUNTY, WV

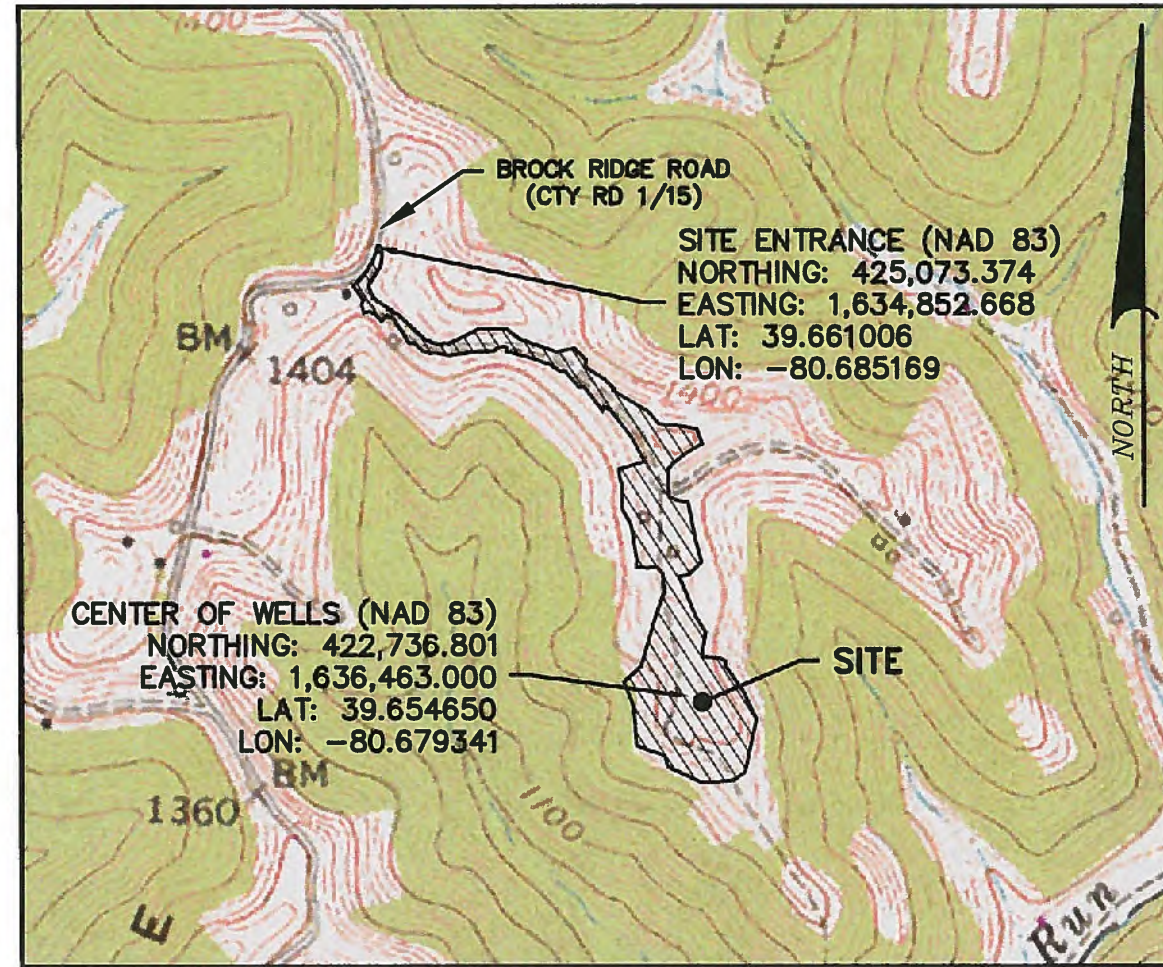


DRAWN BY: JMS
DATE: 12/08/2016
SCALE: AS SHOWN
DWG. NO. 087569006



COUNTY MAP

N.T.S.



LOCATION MAP

SCALE - 1"=1000'

LIST OF DRAWINGS

- TS1.1COVER SHEET
- EP2.1EVACUATION ROUTE/PREVAILING WINDS
- EP2.2EVACUATION ROUTE/PREVAILING WINDS
- AS3.1AS-BUILT SITE PLAN
- AS3.2AS-BUILT SITE PLAN
- AS3.3AS-BUILT SITE PLAN
- CRA4.1ACCESS ROAD PROFILES
- CRA4.2PAD CROSS SECTIONS
- MRP5.1RECLAMATION PLAN
- MRP5.2RECLAMATION PLAN
- MRP5.3RECLAMATION PLAN
- MRD6.1DETAILS
- MRD6.2DETAILS
- MRD6.3DETAILS

SITE DATA

TOTAL DISTURBED AREA: 18.72 ACRES
ROAD DISTURBED AREA: 9.73 ACRES
PAD DISTURBED ACRES: 8.99 ACRES
ACCESS ROAD LENGTH: 3,250'
ACCESS ROAD AVERAGE WIDTH: VARIES
WELL PAD ELEVATION: 1430.20

WELL API NUMBERS

WELL NUMBER	API NUMBER	CELLAR DIAMETER	CELLAR DEPTH	CELLAR MATERIAL
5H	103-03149	8 FT	8 FT	CMP
8H	103-03150	8 FT	8 FT	CMP



OPERATOR

SWN PRODUCTION CO., LLC
P.O. BOX 1300
JANE LEW, WV 26378
(832) 796-1610

**WVDEP OOG
ACCEPTED AS-BUILT**

WJL 6/23/2020

COVER SHEET
FOR

CONSTANCE TAYLOR WTZ PAD

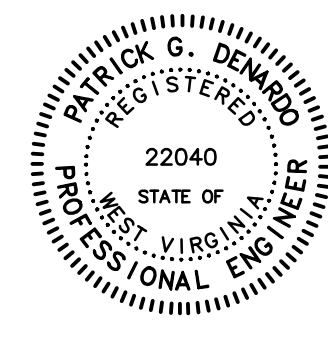
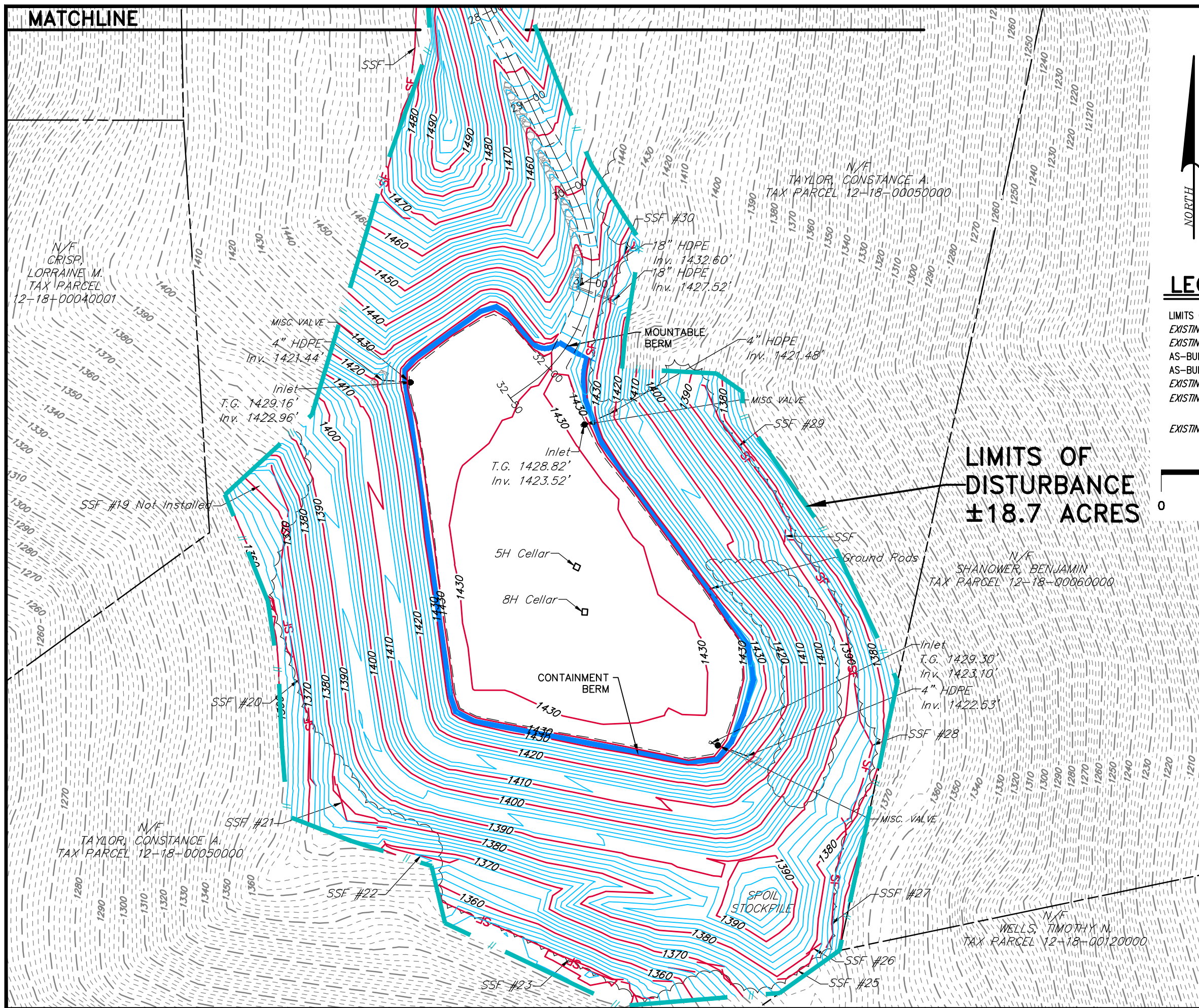
PROCTOR DISTRICT WETZEL COUNTY, WV



RETIW Associates, Inc.
One Robinson Plaza, 6600 Steubenville Pike, Suite 200,
Pittsburgh, PA 15205
Phone (412) 446-1728 • Fax (412) 446-1733
Engineers • Planners • Surveyors • Landscape Architects
Environmental Consultants

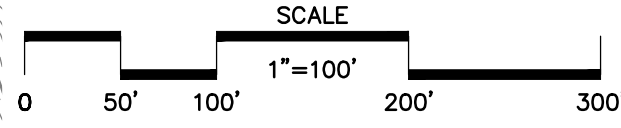
TS1.1

MATCHLINE



LEGEND

- LIMITS OF DISTURBANCE
- EXISTING CHAIN-LINK FENCE
- EXISTING CONTOUR LINE
- AS-BUILT MAJOR CONTOUR LINE
- AS-BUILT MINOR CONTOUR LINE
- EXISTING WELL HEAD
- EXISTING TREELINE
- EXISTING RIPRAP



LIMITS OF DISTURBANCE ±18.7 ACRES

**WVDEP OOG
ACCEPTED AS-BUILT**

WJD 6/23/2020

DRAWN BY: JMS
 DATE: 12/08/2016
 SCALE: 1"=100'
 DWG. NO. 087569006



RETNEW Associates, Inc.
 One Robinson Plaza, 6600 Steubenville Pike, Suite 200,
 Pittsburgh, PA 15205
 Phone (412) 446-1728 • Fax (412) 446-1733
 Engineers • Planners • Surveyors • Landscape Architects
 Environmental Consultants

AS-BUILT SITE PLAN
 FOR
CONSTANCE TAYLOR WTZ PAD
 PROCTOR DISTRICT WETZEL COUNTY, WV

AS3.3