



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

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Friday, September 2, 2022
WELL WORK PERMIT
Horizontal 6A / New Drill

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

Re: Permit approval for YOCUM MSH 206H
47-051-02464-00-00

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: YOCUM MSH 206H
Farm Name: YOCUM, JOSEPH LEE & MICH
U.S. WELL NUMBER: 47-051-02464-00-00
Horizontal 6A New Drill
Date Issued: 9/2/2022

Promoting a healthy environment.

09/16/2022

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.

09/16/2022

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

1) Well Operator: SWN Production Co., LLC 494512924 051-Marshall 07-Liberty 438-Littleton
Operator ID County District Quadrangle

2) Operator's Well Number: Yocum MSH 206H Well Pad Name: Yocum MSH

3) Farm Name/Surface Owner: Joseph Lee & Michael D. Yocum Public Road Access: Amos Hollow Road

4) Elevation, current ground: 1053' Elevation, proposed post-construction: 1053'

5) Well Type (a) Gas Oil Underground Storage

Other _____

(b) If Gas Shallow Deep

Horizontal

6) Existing Pad: Yes or No Yes *HJK 6/16/2020*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Target Formation- Marcellus, Down-Dip well to the South, Target Top TVD- 7256', Target Base TVD- 7299', Anticipated Thickness- 43', Associated Pressure- 4744

8) Proposed Total Vertical Depth: 7282'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 22121'

11) Proposed Horizontal Leg Length: 14424.61'

12) Approximate Fresh Water Strata Depths: 437' ✓

13) Method to Determine Fresh Water Depths: Salinity profile calculations from logs on Yocum MSH 1H 47-051-02133 ✓

14) Approximate Saltwater Depths: 986' Salinity Profile calculations from logs on Yocum MSH 1H 47-051-02133 ✓

15) Approximate Coal Seam Depths: 881'

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

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

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18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	20"	New	J-55	94#	126'	126' /	CTS
Fresh Water	13 3/8"	New	H-40	48#	530'	530' /	512 sx/CTS
Coal	See	Interm	Casing				
Intermediate	9 5/8"	New	J/K-55	36/40#	2430'	2430' /	851 sx/CTS
Production	5 1/2"	New	P-110 HP	20#	22121'	22121' /	Tail 4041sx/ 100' Inside Intermediate
Tubing							
Liners							

MJK 6/16/2022

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

PACKERS

Kind:				RECEIVED Office of Oil and Gas
Sizes:				JUL 20 2022
Depths Set:				WV Department of Environmental Protection

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

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

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

Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This will be performed in stages with the plug and perf method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. In some instances, additional toe prep may be performed by pumping additional water in the toe of the well prior to perforating and pumping Stage 1 to ensure that the toe guns/toe sleeves are fully open prior to pumping stage 1. The well is produced through surface facilities consisting of high pressure production unites, horizontal separation units, water and oil storage tanks. Max press and anticipated max rate- 12,500 psi @ 100 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 27.93

22) Area to be disturbed for well pad only, less access road (acres): 16.97

23) Describe centralizer placement for each casing string:

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

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

See Attachment ***

25) Proposed borehole conditioning procedures:

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

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*Note: Attach additional sheets as needed.

CEMENT ADDITIVES

INTERVAL	SCHLUMBERGER PRODUCT NAME	BJ PRODUCT NAME	NEXTier PRODUCT NAME	PRODUCT USE	CHEMICAL NAME	CAS-Number
SURFACE (FRESHWATER) <i>up to 3%</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 3%</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: YOCUM MSH 206
 Field: VICTORY FIELD WET
 County: MARSHALL
 SHL: 39.7328 Latitude -80.5839 Longitude
 BHL: 39.7024 Latitude -80.5501 Longitude
 KB Elev: 1,079 ft MSL

Re-entry Rig: SDC 41
 Prospect: Marcellus Shale
 State: WV
 KB: 26 ft AGL
 GL Elev: 1,053 ft MSL



No COAL VOID Anticipated

Gas Storage Interval : Not Applicable
 PROD TOC Lead @ 2,630' MD
 PROD TOC Tail @ 6,417' MD

TUBULAR DETAIL

Casing String	Casing Size (in)	Weight (Min)	Grade (Min)	Planned Interval	
				From	To
Conductor	20	94.0 #	J-55	0'	126'
Surface	13.375	48.0 #	H-40	0'	530'
Intm/Coal	9.625	36/40#	J/K-55	0'	2,430'
Production	5.5	20.0 #	P-110 HP	0'	22,121'

CEMENT DETAIL

	Sacks	Class	Density
Conductor:	151	A	19.3
Surface:	512	A	15.6
Intermediate:	851	A	15.6
Production:	4041	A	14.5-15.6

126' to 550'
Air/Mist
 550' to 2,450'
Air/Mist/Brine
 Air/Mist/Brine
 2,450' to 6,517'
Air/Mist
 Air/Mist
 TD at 6,517'

KOP at 6,517' MD
 Freshwater Depth - 437' TVD
 Coal Depth - 881' TVD
 Saltwater Depth - 986' TVD
 TVD - 7,282'
 TMD - 22,121'

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6,517' to 7,695'
12.0-12.5 ppg
 7,695' to 22,121'
12.4-12.8 ppg

EOB at 7,695' MD
 SHL Onondaga 7,125' TVD

TD at 22,121' MD
 7,282' TVD

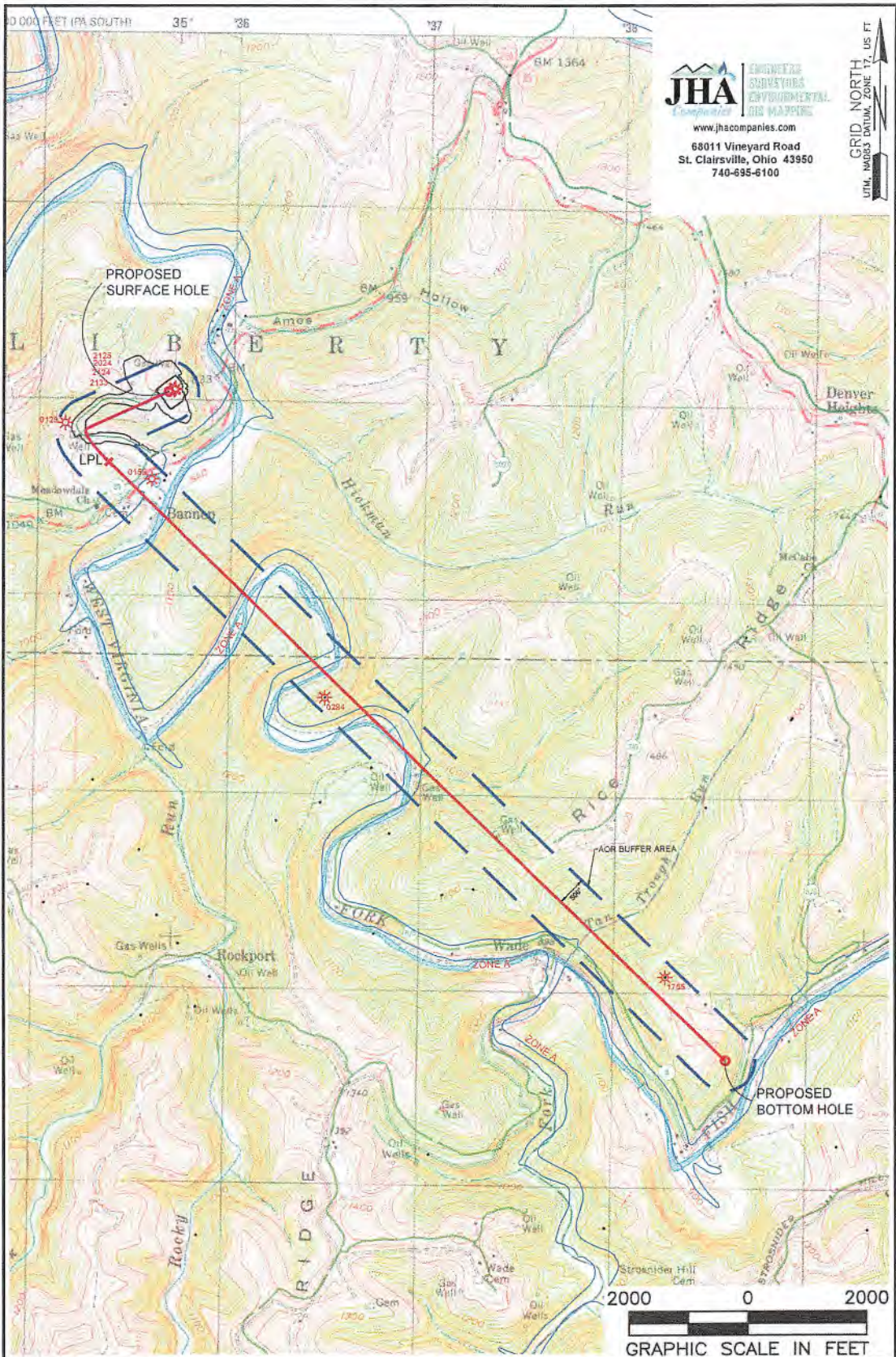
Onondaga 7,300' TVD

7,107' Target Center TVD

Created by: C R Hall on 06/10/2022

MSGK 6/16/2022

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JHA ENGINEERING SURVEYING ENVIRONMENTAL GIS MAPPING
 www.jhacompanies.com
 68011 Vineyard Road
 St. Clairsville, Ohio 43950
 740-695-6100

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

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

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

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: YOCUM MSH	WELL # 206H	SERIAL # XXXX
ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201, MORGANTOWN, WV 26508	COUNTY: MARSHALL	DISTRICT: LIBERTY	API # 47-009-XXXX
SURFACE OWNER: JOSEPH LEE AND MICHAEL D. YOCUM	USGS 7 1/2 QUADRANGLE MAP NAME: WILEYVILLE, WV		

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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 Littleton

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: _____

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

Proposed Disposal Method For Treated Pit Wastes:

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

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

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air drill to KOP, fluid drill with SOBM 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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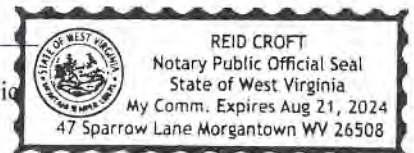
WV Department of
Environmental Protection

Subscribed and sworn before me this 1st day of June, 2022

Rail Craft

Notary Public

My commission expires 8/21/2024



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SWN Production Co., LLC

Proposed Revegetation Treatment: Acres Disturbed 27.93 Prevegetation pH _____

Lime as determined by pH test min.2 Tons/acre or to correct to pH 16.7

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

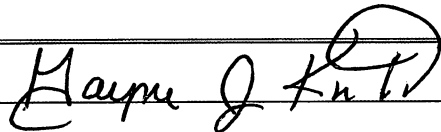
Attachment 3C

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:



Comments:

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Title: Oil & Gas Inspector

Date: 6/16/2022

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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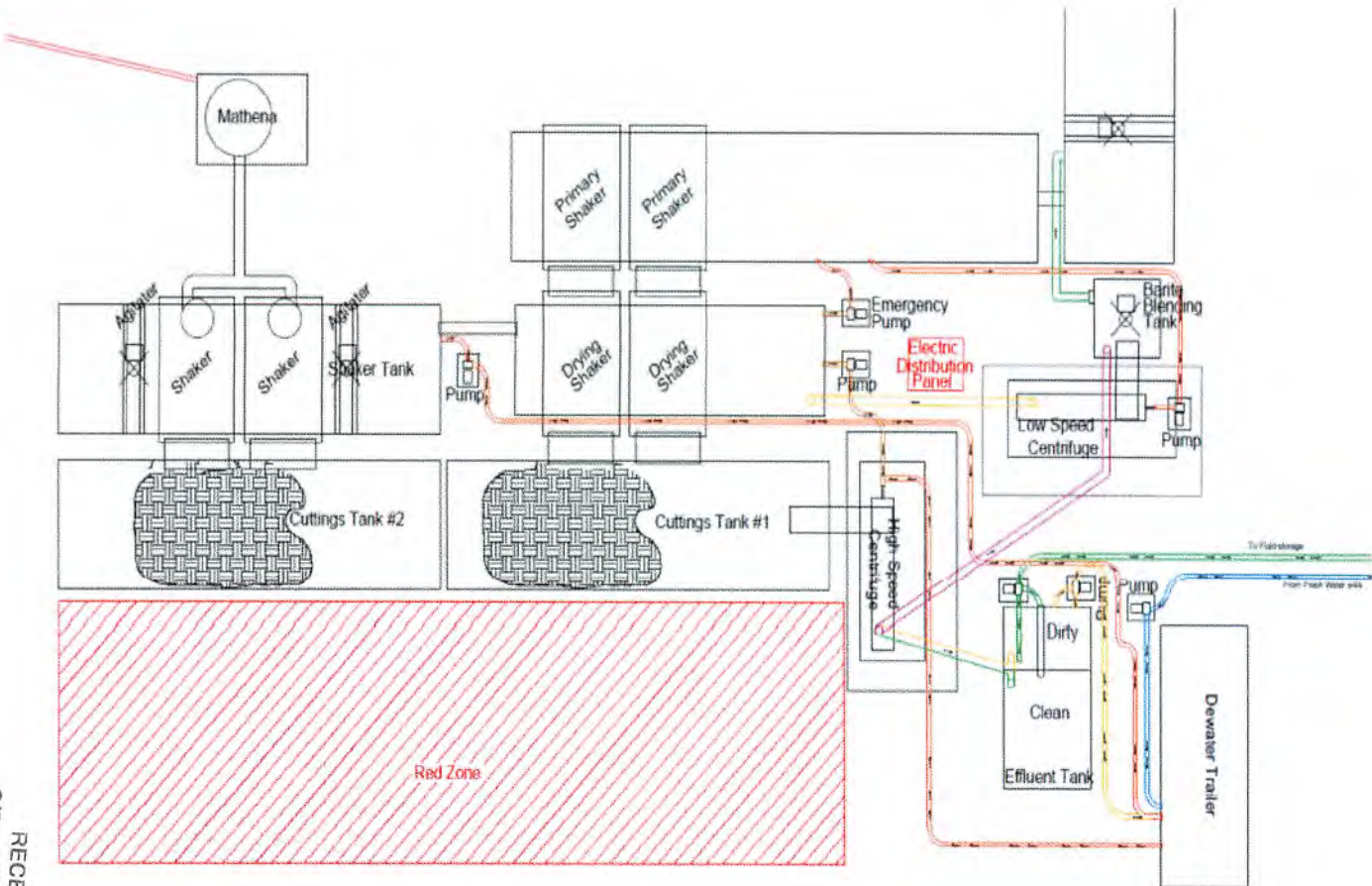
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Solids Control Layout



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

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

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

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

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

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

Seeding Calculation Information:

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

Synopsis:

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

Special Considerations:

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

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

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

RECEIVED
 Office of Oil and Gas
 WV Department of Environmental Protection
 JUL 20 2022

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: Yocum MSH 206H
Littleton QUAD
Liberty DISTRICT
Ohio COUNTY, WEST VIRGINIA

Submitted by:

Name: Brittany Woody

Brittany Woody

Date: 5/31/2022

Title: Senior Regulatory Analyst

SWN Production Co., LLC

Approved by:

Name: *Haynes*

Date: 6/16/2022

Title: Inspector

RECEIVED
Office of Oil and Gas

JUL 20 2022

WV Department of
Environmental Protection

Approved by:

Name: _____

Date: _____

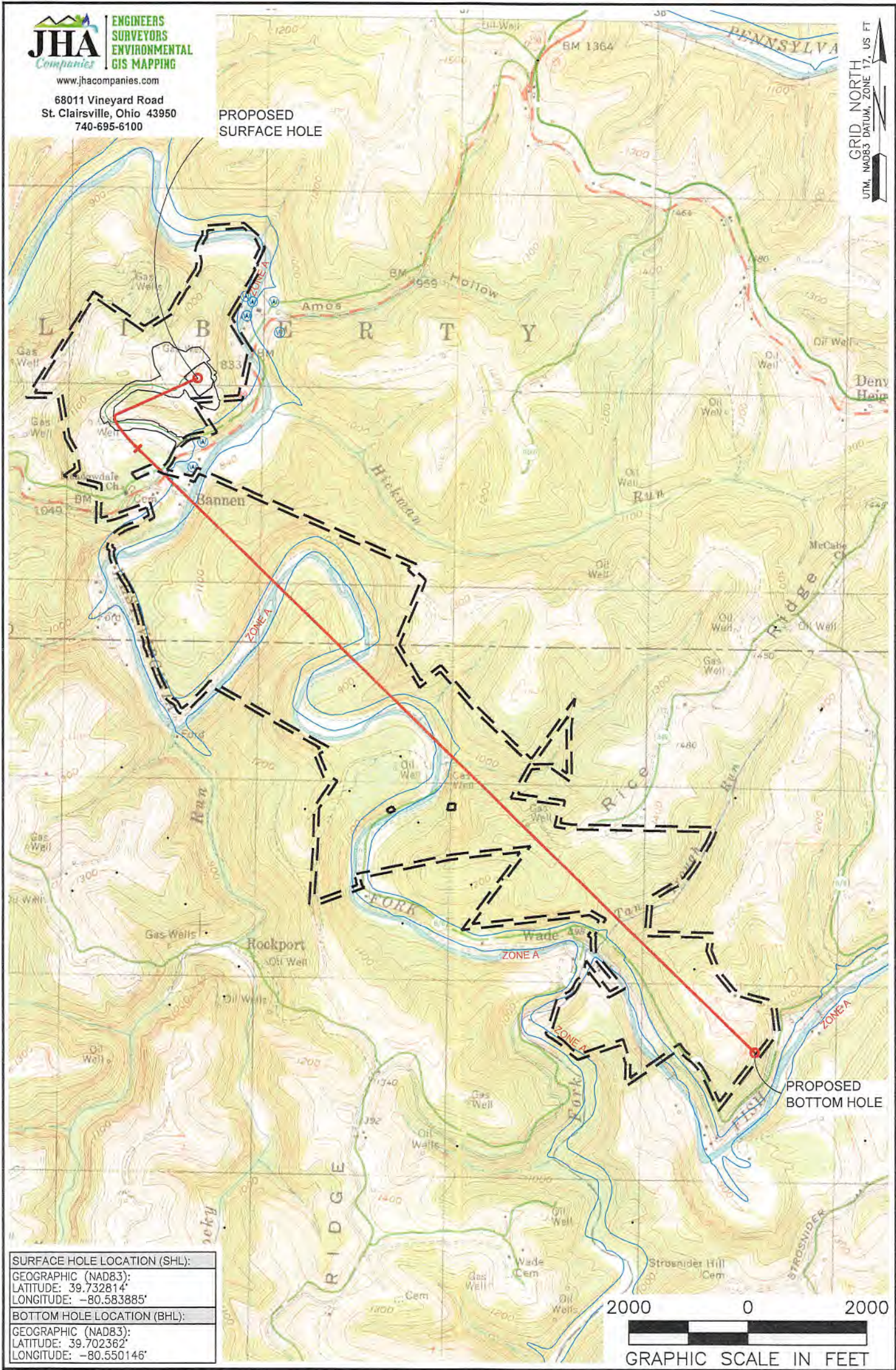
Title: _____

SWN PRODUCTION COMPANY, LLC – CONFIDENTIAL

09/16/2022

PROPOSED SURFACE HOLE

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



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 39.732814'
LONGITUDE: -80.583885'
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 39.702362'
LONGITUDE: -80.550146'

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.

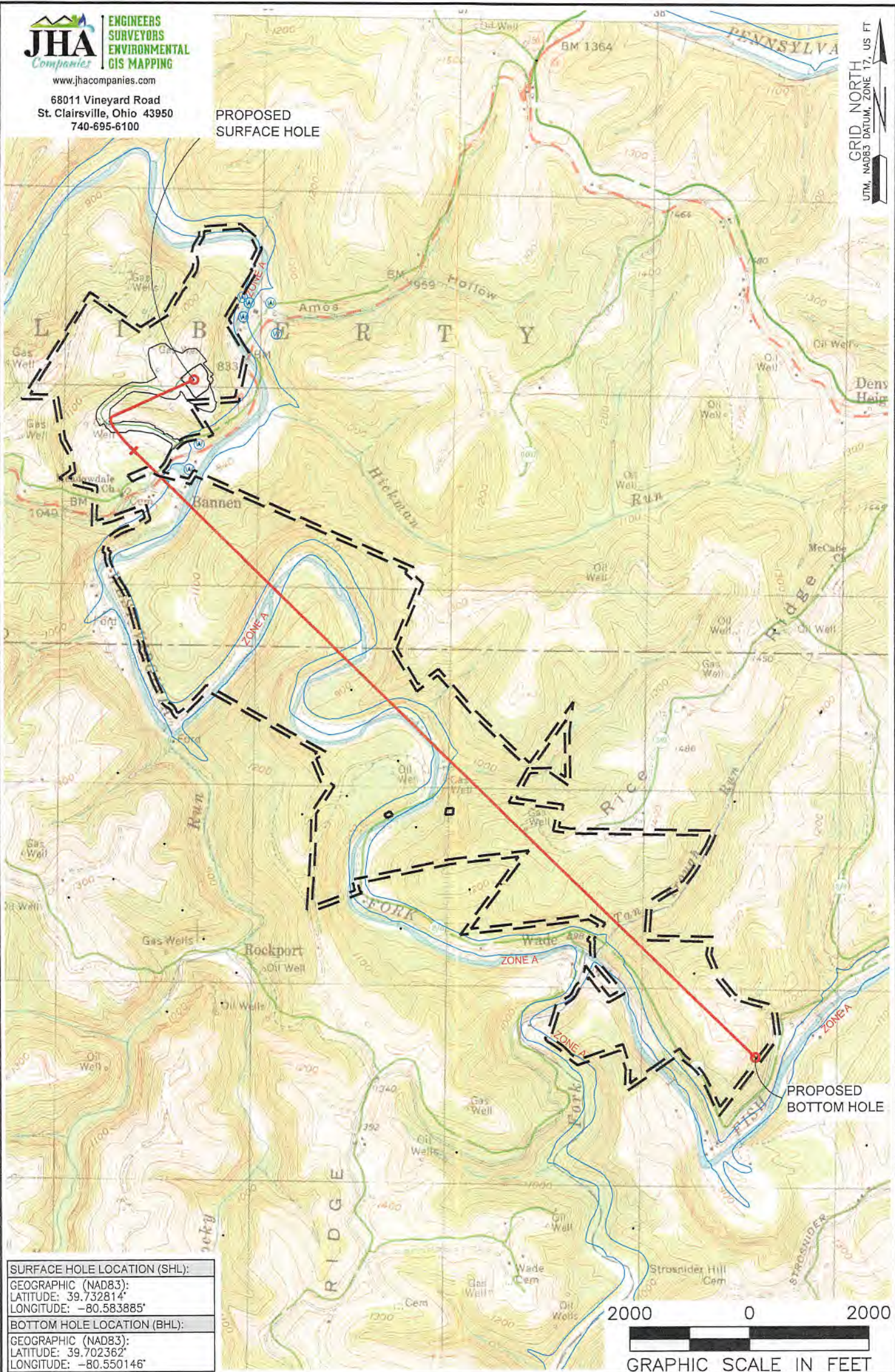
LEGEND:	PROPOSED SURFACE HOLE / BOTTOM HOLE	NATURAL BOUNDARY
EXISTING / PRODUCING WELLHEAD	ACCESS ROAD	PUBLIC ROAD
LPL* LANDING POINT LOCATION	ACCESS ROAD TO PREV. SITE	LEASE BOUNDARY
FLOOD PLAIN	PROPOSED PATH	

09/16/2022

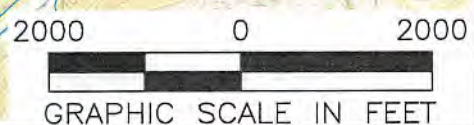
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: YOCUM MSH	WELL # 206H	SERIAL # XXXX
ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201, MORGANTOWN, WV 26508	COUNTY: MARSHALL	CODE: 103	DISTRICT: LIBERTY
SURFACE OWNER: JOSEPH LEE AND MICHAEL D. YOCUM	USGS 7 1/2 QUADRANGLE MAP NAME: WILEYVILLE, WV	API # 47-103-XXXX	

PROPOSED
 SURFACE HOLE

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



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 39.732814°
LONGITUDE: -80.583885°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 39.702362°
LONGITUDE: -80.550146°

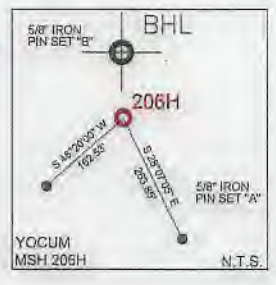
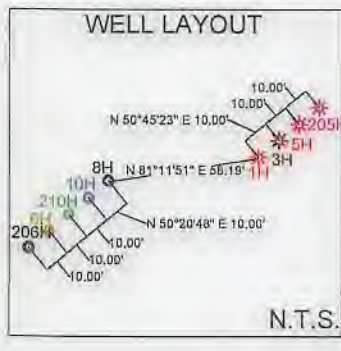
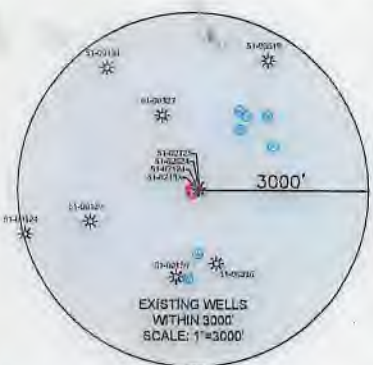


- NOTES ON SURVEY**
1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
 2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
 3. ALL INSETS ARE GRID NORTH UNLESS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

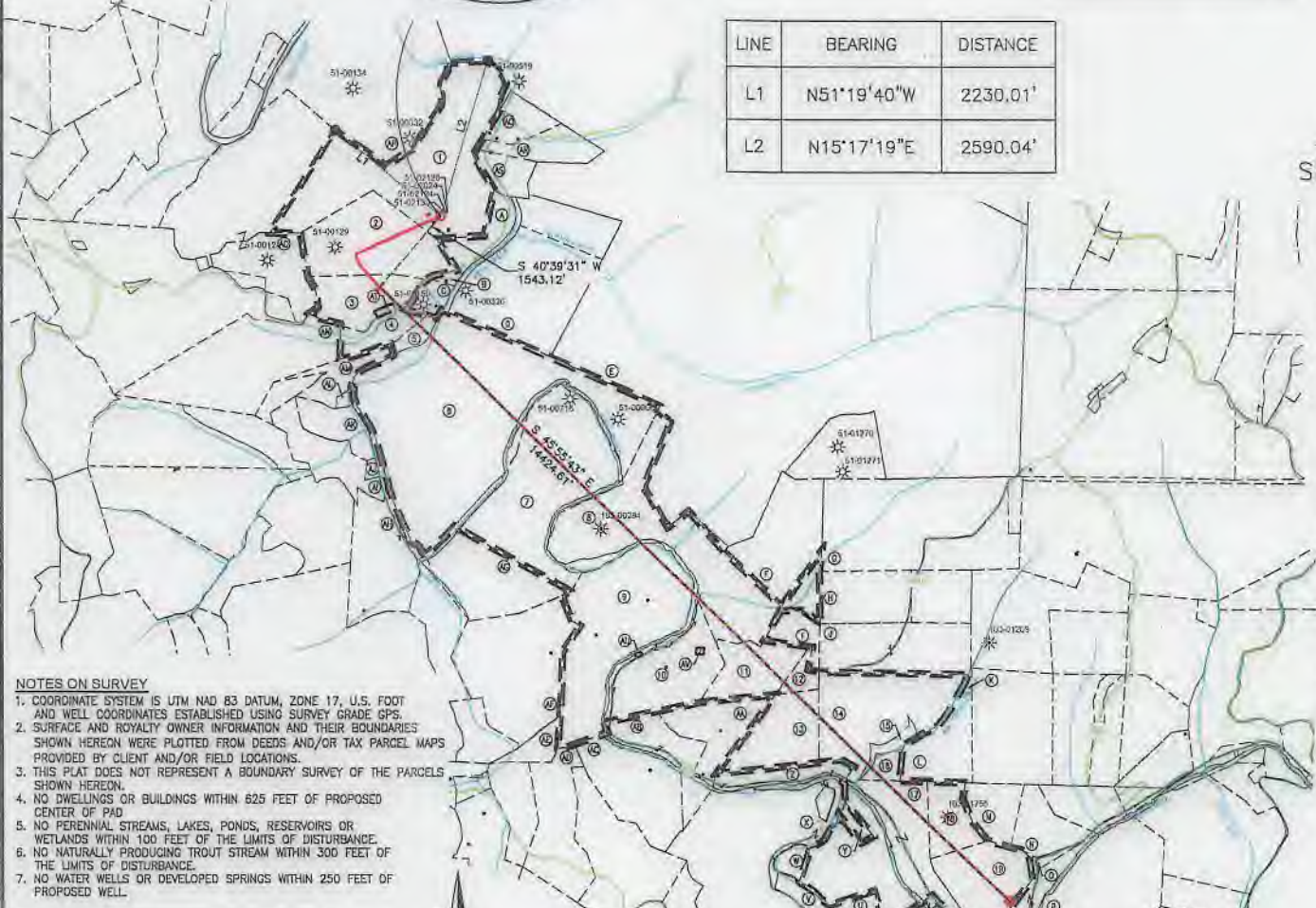
LEGEND:	PROPOSED SURFACE HOLE / BOTTOM HOLE	NATURAL BARRIER
EXISTING / PRODUCING WELLHEAD	ACCESS ROAD	PUBLIC ROAD
LPL LANDING POINT LOCATION	ACCESS ROAD TO PREV. SITE	LEASE BOUNDARY
FLOOD PLAIN	PROPOSED PATH	

09/16/2022

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: YOCUM MSH	WELL # 206H	SERIAL # XXXX
ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201, MORGANTOWN, WV 26508	COUNTY: MARSHALL	CODE: 103	DISTRICT: LIBERTY
SURFACE OWNER: JOSEPH LEE AND MICHAEL D. YOCUM	USGS 7 1/2 QUADRANGLE MAP NAME: WILEYVILLE, WV		



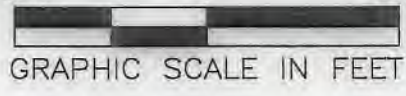
LINE	BEARING	DISTANCE
L1	N51°19'40"W	2230.01'
L2	N15°17'19"E	2590.04'



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

SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4398185.59 EASTING: 535657.52
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4397823.83 EASTING: 535357.17
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4394819.88 EASTING: 538565.68

GRID NORTH
UTM, NAD83 DATUM, ZONE 17, 1



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.E. 19809

COMPANY:
SWN **SWN** ^{RC} ^{AV} ⁺ ⁺ ⁺
Production Company, LLC Production Company™

<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 SURVEY SOURCE OF ELEVATION: GRADE GPS (NAVD 88, US FT)</p>	<p>YOCUM MSH</p> <p>OPERATOR'S WELL #: 206H</p> <p>API WELL #: 47 051 02464 STATE COUNTY PERMIT</p>
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WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW

WATERSHED: UPPER OHIO SOUTH ELEVATION: 1052.6'

DISTRICT: LIBERTY COUNTY: MARSHALL QUADRANGLE: LITTLETON, WV

SURFACE OWNER: JOSEPH LEE AND MICHAEL D. YOCUM ACREAGE: ±97.07

OIL & GAS ROYALTY OWNER: JOSEPH LEE AND MICHAEL D. YOCUM ACREAGE: ±97.07

DRILL DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION

CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY)

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,282' TVD 22,121' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY

ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201 ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201

CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND:	REVISIONS:	DATE: 06-09-2022
<p>○ PROPOSED SURFACE HOLE / BOTTOM HOLE</p> <p>★ EXISTING / PRODUCING WELLHEAD</p> <p>LPL ★ LANDING POINT LOCATION</p> <p>⊙ EXISTING WATER WELL</p> <p>⊕ EXISTING SPRING</p> <p>— NATURAL WATERWAY</p> <p>— SURVEYED BOUNDARY</p> <p>== LEASE BOUNDARY</p> <p>== PROPOSED PATH</p> <p>— PUBLIC ROAD</p>	<p>DATE: 06-09-2022</p> <p>API NO: 47-051-XXXXX</p> <p>DRAWN BY: R. GRIMES</p> <p>SCALE: 1" = 3000'</p> <p>DRAWING NO: 2017-154</p> <p>WELL LOCATION PLAT</p>	



2,026'
6013'
LONGITUDE: 80°32'30" BOTTOM HOLE (2000' SCALE)
LONGITUDE: 80°35' SURFACE HOLE (2000' SCALE)

09/16/2022

WELL BORE TABLE FOR SURFACE/ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	YOCUM JOSEPH LEE & MICHAEL D	7-26-9
TRACT	SURFACE OWNER	TAX PARCEL
2	YOCUM JOSEPH LEE & MICHAEL D	7-27-4
3	YOCUM JOSEPH LEE & MICHAEL D	7-27-5
4	OCHSENBEIN RICHARD L	7-27-9
5	BURGE DELORES E ET AL	7-27-10
6	VELLEKOOP PETER B ET UX - TOD	7-27-13
7	WV STATE COMMERCE BUREAU OF	1-2-6
8	SEIDLER EARL DALE & NETTIE	1-2-6.1
9	SEIDLER E DALE & NETTIE L	1-2-6.2
10	SEIDLER E DALE & NETTIE L	1-5-10
11	BLACKROCK ENTERPRISES LLC	1-6-1
12	UNKNOWN	UNKNOWN
13	WILLIAMS JOHN E HRS	1-6-4
14	MCGUFFIE ARCH	1-6-5
15	MILLIKEN KEVIN R ETAL	1-6-6
16	CONSOLIDATED GAS TRANS CORP	3-1-7
17	S&R INVESTMENTS	3-1-23
18	PHILLIPS JR CHARLES R	3-1-22
19	CONSOLIDATED GAS TRANSMISSION	3-1-29
ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	STIPETICH SUSAN F & FRANK R	7-27-4.2
B	YOCUM MICHAEL DAVID ET AL	7-27-4.1
C	HIGH PHILIP D	7-27-8
D	VELLEKOOP PETER B ET UX - TOD	7-27-11
E	W VA WILDLIFE RESOURCES	7-24-1
F	WILLIAMS KATHERINE E TRUST	1-3-1
G	ABEREGG D W EST & ABEREGG WILLIAM D ETAL L/E ABEREGG DA	1-3-2
H	WILLIAMS LONNIE L	1-3-7
I	CONSOLIDATED GAS TRANSMISSION	1-3-5
J	WILLIAMS JOHN EDWARD	1-3-8
K	CBC HOLDINGS LLC	3-1-8.1
L	MILLIKEN KEVIN R ETAL	3-1-8
M	CONSOLIDATED GAS TRANS CORP	3-1-21
N	CONSOLIDATED GAS TRANS CORP	3-1-20
O	CONSOLIDATED GAS TRANSMISSION	3-1-31
P	CONSOLIDATED GAS TRANSMISSION	3-1-32
Q	CONSOLIDATED GAS TRANS CORP	3-1-30
R	CONSOLIDATED GAS TRANS CORP	3-1-28
S	CONSOLIDATED GAS TRANS CORP	3-1-27
T	CONSOLIDATED GAS TRANS CORP	3-1-26
U	S&R INVESTMENTS	3-1-25
V	S&R INVESTMENTS	1-6-11
W	SHOWALTER THOMAS HRS	3-1-24
X	BLAKE GAY KAREN & JOSEPH F	1-6-7
Y	S&R INVESTMENTS	1-6-10
Z	BERRY LAWRENCE C & DOROTHY J	1-6-8
AA	SEIDLER E DALE & NETTIE L	1-6-3
AB	SEIDLER E DALE & NETTIE L	1-5-11
AC	CONSOLIDATED GAS TRANSMISSION	1-5-18
AD	CONSOLIDATED GAS TRANSMISSION	1-5-17.1
AE	BROWN NEIL A	1-5-9
AF	WV STATE OF COMM BUREAU OF	1-5-9.1
AG	WV STATE COMMERCE BUREAU OF	1-2-12
AH	MCINTIRE STEPHEN ROSS	1-2-5
AI	FERDA BRIAN T ET UX	7-27-15
AJ	FITZSIMMONS SCOTT M ET AL	7-27-14
AK	FERDA BRIAN T ET UX	7-27-16
AL	FERDA BRIAN T ET UX	7-27-16.1
AM	GEHO ANNIE L EST	7-27-21
AN	SCHANCK JOSEPH L	7-27-18
AO	HORNER DELORSE A	7-26-10
AP	CONSOLIDATED GAS SUPPLY CORP	7-26-8
AQ	GEDEON DANIEL D ET UX	7-26-6
AR	VELLEKOOP PETER B ET UX - TOD	7-26-6.1
AS	VELLEKOOP PETER B ET UX - TOD	7-26-6.2
AT	MEADOWDALE UNITED METH CH CEM	7-27-6
AU	SEIDLER E DALE & NETTIE L	1-5-10.1
AV	UNKOWN	UNKNOWN

09/16/2022

REVISIONS:

COMPANY:		 	
OPERATOR'S		YOCUM MSH	
WELL #:		47-051-02464 206H	
DISTRICT:	COUNTY:	STATE:	DATE: 06-09-2022
LIBERTY	MARSHALL	WV	API NO: 47-051-XXXX
			DRAWN BY: R. GRIMES
			SCALE: N/A
			DRAWING NO: 2017-154
			WELL LOCATION PLAT

**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				


*Co-tenancy utilization - At least 7 mineral 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: 
 Its: Staff Landman

Tract #	Tax Parcel	Lessor	Lessee	Royalty	Book/Page	% Interest Not Leased by SWN
1	7-26-9 p/o 7-26-9 (86.103 ac) p/o 7-26-9 (30.7 ac)	W.E. Franklin, Ira M. Franklin & Emma Franklin, husband and wife, John A. Franklin & Mollie Franklin, husband and wife, Mary S. Franklin, widow, M.J. Brooks & Clint Brooks, wife and husband, Edith White & J.F. White, wife and husband, and Laura Franklin, widow L.F. Burley Heirs The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC I.D. Franklin and Bessie J. Franklin, his wife The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc.	L.F. Burley The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC Statoilhydro USA Onshore Properties Inc. SWN Production Company, LLC SWN Exchange Titleholder LLC	13.75% 12.50%	186/284 2/269 422/204 642/281 662/322 36/422 209/168 422/204 642/281 662/322 675/279 33/110 33/424	0.00%
2	7-27-4	I.D. Franklin and Bessie J. Franklin, husband and wife The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc. Chesapeake Appalachia, LLC	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC Statoilhydro USA Onshore Properties Inc. SWN Production Company, LLC SWN Exchange Titleholder LLC SWN Production Company, LLC	12.50%	209/168 422/204 642/281 662/322 675/279 33/110 33/424 36/422	0.00%
3	7-27-5	I.D. Franklin and Bessie J. Franklin, husband and wife The Manufacturers Light and Heat Company Union Gasoline & Oil Corporation The Prestion Oil Company The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc. Chesapeake Appalachia, LLC	The Manufacturers Light and Heat Company Union Gasoline & Oil Corporation The Prestion Oil Company The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Exchange Titleholder LLC SWN Production Company, LLC	6.25%	342/448 220/353 2/136 2/225 422/204 662/322 675/279 33/110 33/424 36/422	0.00%
4	7-27-9	Josephine Faust, et al The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc. Chesapeake Appalachia, LLC	Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC Statoilhydro USA Onshore Properties Inc. SWN Production Company, LLC SWN Exchange Titleholder LLC SWN Production Company, LLC	12.50%	375/545 422/204 642/281 662/322 675/279 33/110 33/424 36/422	0.00%
5	7-27-10	Flora Grathwell (Flo Grathwell) and Sam Grathwell, her husband; Georgia Snyder and B.L. Snyder, her husband; John P. Franklin and Lucille Franklin, his wife; The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc.	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC Statoilhydro USA Onshore Properties Inc. SWN Production Company, LLC SWN Exchange Titleholder LLC	12.50%	371/581 422/204 642/281 662/322 675/279 33/110 33/424	0.00%
6	7-27-13	Ralph W. Evans and Nellie F. Evans, his wife; Brooks B. Evans and Sara E. Evans, his wife; Harold P. Evans and Maude Evans, his wife The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC Statoilhydro USA Onshore Properties Inc.	12.50%	299/327 422/204 642/281 662/322 675/279	0.00%

		Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc.	SWN Production Company, LLC SWN Exchange Titleholder LLC		33/110 33/424	
7	1-2-6	Elizabeth J. Myers, widow, G. M. Myers and Elinor Myers, his wife, J. C. Myers and Virginia R. Myers, his wife, Mary C. Harris and Frank Harris, her husband, Anna S. Marshall and Fred C. Marshall, her husband, and M. J. Yost, widow Myers Oil Company James T. Miller, Trustee	Myers Oil Company James T. Miller, Trustee John H. Luikart	12.50%	22A/241 45/211 31A/80 251/431	0.00%
		Florence Lyle and Joseph Lyle, her husband, Helen E. Tennant, widow, Paul Luikart and May Luikart, his wife, Clarence Luikart and Margaret Luikart, his wife Pearl Groves and Walter Groves, her husband, Sylvia Mutti and Willis Mutti, her husband, Cora Eberhart and James Eberhart, her husband, Goldie Shonk, widow, Dorothy Johnson and Dale Johnson, her husband, the Board of Trustees of the Most Worshipful Grand Lodge of Ancient, Free and Accepted Masons of West Virginia, Inc. Romaine L. Evans, single, Charleen E. Hyde and Harry Hyde, her husband, Albert Evans and Luella Evans, his wife, Kenneth Evans, single, Helen E. Tennant, Administratrix of the Estate of John H. Luikart, and Wheeling Dollar Savings and Trust Co., Executor of the Will of Grace Luikart Raymond H. Hyre, as surviving Trustee under the Provisions of Trust Agreement dated September 4, 1973 Robert L. Skinner Josephine K. Litman, a widow Pikewood Energy Corporation	Helen E. Tennant and Raymond H. Hyre, and to the survivor of them as Trustees Robert E. Litman and Robert L. Skinner Robert E. Litman Pikewood Energy Corporation SWN Production Company, LLC		251/495 251/499 280A/381 281A/415	
8	1-2-6.1	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	166A/931	0.00%
9	1-2-6.2	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	166A/931	0.00%
10	1-5-10	Nettie L. Seidler Antero Resources Corporation Antero Resources Corporation EQT Production Company Piney Holdings, Inc. Antero Resources Corporation Antero Resources Corporation EQT Production Company	Antero Resources Corporation EQT Production Company EQT Production Company SWN Production Company, LLC Antero Resources Corporation EQT Production Company EQT Production Company SWN Production Company, LLC	18%	212A/235 231A/59 231A/158 279A/35 189A/56 231A/59 231A/158 279A/35	0.00%
11	1-6-1	Royalty Owner Morris Mountaineer Oil and Gas, LLC Antero Resources Corporation Piney Holdings, Inc. Antero Resources Corporation EQT Production Company Gore-Morris Trust, by WesBanco Bank, Inc., as Successor Trustee Antero Resources Corporation	n/a Antero Resources Corporation SWN Production Company, LLC/Equinor USA Onshore Properties, Inc. Antero Resources Corporation EQT Production Company SWN Production Company, LLC/Equinor USA Onshore Properties, Inc. Antero Resources Corporation SWN Production Company, LLC/Equinor USA Onshore Properties, Inc.	n/a 20% 20% 20%	n/a 257A/400 272A/588 293A/417 231A/59 279A/35 257A/394 272A/588	12.50%
12	UNKNOWN	Royalty Owner Agnes Elnora Burns Loucks Owens Allan Paul Dunkle, single Aleta E Beatty Gregg Amy L. Sage, a married woman dealing in her sole and separate property Antero Resources Corporation Anthony Steven Beatty Bonnie Jean Vangilder, married dealing in her sole and separate property Carol Jean Dunkle Bartok aka Carol Jean Bartok, widow Cornell Holdings, Inc.	n/a SWN Production Company, LLC SWN Production Company, LLC SWN Production Company, LLC Antero Resources Corporation SWN Production Company, LLC/Equinor USA Onshore Properties, Inc. SWN Production Company, LLC SWN Production Company, LLC SWN Production Company, LLC SWN Production Company, LLC TH Exploration, LLC	n/a 17% 17% 17% 15% 17% 17% 17% 17% 17% 12.50%	n/a 283A/821 269A/310 288A/249 213A/523 272A/588 290A/539 279A/617 279A/687 194A/380	19.77%

TH Exploration, LLC	EQT Production Company		258A/333
EQT Production Company	SWN Production Company, LLC/Equinor USA		279A/34
Cornell Holdings, Inc.	Onshore Properties, Inc		204A/111
TH Exploration, LLC	TH Exploration, LLC	12.50%	258A/333
EQT Production Company	EQT Production Company		279A/34
David L. Charlton and Donna D. Charlton, husband and wife	SWN Production Company, LLC/Equinor USA		279A/34
David Scott Charlton	Onshore Properties, Inc		216A/625
DruAnn Beatty, married dealing in her sole and separate property	TH Exploration, LLC	18%	289A/559
DWG Oil & Gas Acquisitions, LLC	SWN Production Company, LLC	17%	269A/280
EQT Production Company	SWN Production Company, LLC	17.00%	188A/187
Frances Burns Taylor	EQT Production Company	12.50%	279A/35
Glen R. Charlton	SWN Production Company, LLC	17%	284A/401
Heather Colleen Charlton	SWN Production Company, LLC	17%	282A/554
Helen Beatty Destefano	SWN Production Company, LLC	17%	288A/255
H&M Land and Mineral, Inc.	SWN Production Company, LLC	17%	289A/595
EQT Production Company	EQT Production Company	12.50%	192A/698
Ileana Masters	SWN Production Company, LLC, LLC/Equinor USA		279A/34
Jan Leslie Fuller and Kevin W. Fuller, her husband	Onshore Properties, Inc		285A/175
Jeanne McWilliams	SWN Production Company, LLC	17%	281A/420
Jennifer J. Nicolini, dealing in her sole and separate property	SWN Production Company, LLC	17%	284A/407
Jessica J. Nelson	SWN Production Company, LLC	17%	280A/343
John R. Charlton, single	SWN Production Company, LLC	17%	283A/406
Kathy Knaggs, aka Emily Kathleen Knaggs	SWN Production Company, LLC	17%	270A/436
Kevin James Charlton	SWN Production Company, LLC	17%	287A/127
Lawrence J Charlton	SWN Production Company, LLC	17%	289A/565
Lawrence Thomas "Larry" Beatty	SWN Production Company, LLC	17%	289A/553
Linda Ann Wade, a/k/a Linda Ann Miller	SWN Production Company, LLC	17%	289A/542
Lois J. Beatty, divorced	SWN Production Company, LLC	17%	282A/498
Margaret Kathleen Burns Campos	SWN Production Company, LLC	17%	284A/395
Mark Loar, as POA for Betty J. Hamilton, widow	SWN Production Company, LLC	17%	283A/815
Marlen Lee Beatty, single	SWN Production Company, LLC	17%	282A/461
Marsha Kay Bailey Pattison	SWN Production Company, LLC	17%	289A/582
Michelle Work aka Michelle A. Solitro	SWN Production Company, LLC	17%	289A/588
Nicholas Nelson	SWN Production Company, LLC	17%	285A/187
Pamela J Beatty Fischer	SWN Production Company, LLC	17%	285A/778
Patricia Irene Beatty	SWN Production Company, LLC	17%	290A/132
Ralph Harrison Dunkle, Jr. and Jacqueline F. Dunkle, his wife	SWN Production Company, LLC	17%	289A/618
Rashal Rae Dunkle, married dealing in her sole and separate property	SWN Production Company, LLC	17%	279A/693
Raymond Edward Beatty n/k/a Dudley D. Balmer	SWN Production Company, LLC	17%	280A/375
Richard E. Work	SWN Production Company, LLC	17%	289A/536
Robert Roy Charlton	SWN Production Company, LLC	17%	285A/739
Ruth Eileen Anthony, a/k/a Ruth "Ilene" Anthony	SWN Production Company, LLC	17%	287A/121
Sherran Faye Slaska, married dealing in her sole and separate property	SWN Production Company, LLC	17%	285A/301
Sherri E. Johnson, a single woman	SWN Production Company, LLC	17%	269A/304
TH Exploration, LLC	TH Exploration, LLC	18%	216A/630
EQT Production Company	EQT Production Company		258A/333
Stacie Burns Warco	SWN Production Company, LLC/Equinor USA		279A/34
Steven M. Charlton and Michelle A. Charlton, husband and wife	Onshore Properties, Inc		283A/827
TH Exploration, LLC	SWN Production Company, LLC	17%	216A/686
EQT Production Company	TH Exploration, LLC	18%	258A/333
Stone Hill Minerals Holdings LLC	EQT Production Company	12.50%	279A/34
EQT Production Company	SWN Production Company, LLC/Equinor USA		180A/614
Stone Hill Minerals Holdings LLC	Onshore Properties, Inc		279A/34
TH Exploration, LLC	TH Exploration, LLC	12.50%	207A/565
EQT Production Company	EQT Production Company		258A/333
Suzanne B. Kartis and George Howard Kartis, her husband	SWN Production Company, LLC/Equinor USA		279A/34
Tammy M. Hobart, widow	Onshore Properties, Inc		284A/327
	SWN Production Company, LLC	17%	269A/604

		Terri J. Ingram, a married woman dealing in her sole and separate property	TH Exploration, LLC	18%	216A/637	
		TH Exploration, LLC	EQT Production Company		258A/333	
		EQT Production Company	SWN Production Company, LLC/Equinor USA			
		Vanita & Cordova Holding Company, LLC	Onshore Properties, Inc		279A/34	
		TH Exploration, LLC	TH Exploration, LLC	12.50%	194A/384	
		EQT Production Company	EQT Production Company		258A/333	
		Vanita & Cordova Holding Company, LLC	SWN Production Company, LLC/Equinor USA			
		TH Exploration, LLC	Onshore Properties, Inc		279A/34	
		EQT Production Company	TH Exploration, LLC	12.50%	204A/188	
		Vanita & Cordova Holding Company, LLC	EQT Production Company		258A/333	
		TH Exploration, LLC	SWN Production Company, LLC/Equinor USA			
		EQT Production Company	Onshore Properties, Inc		279A/34	
		Vanita & Cordova Holding Company, LLC	SWN Production Company, LLC	12.50%	257A/423	
		John Burns III	SWN Production Company, LLC	17%	287A/806	
		Linda Burns	SWN Production Company, LLC	17%	287A/800	
13	1-6-4	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC	12.50%	166A/931	0.00%
14	1-6-5	Royalty Owner	n/a	n/a	n/a	19.77%
		Agnes Elnora Burns Loucks Owens	SWN Production Company, LLC	17%	283A/821	
		Allan Paul Dunkle, single	SWN Production Company, LLC	17%	269A/310	
		Aleta E Beatty Gregg	SWN Production Company, LLC	17%	288A/249	
		Amy L. Sage, a married woman dealing in her sole and separate property	Antero Resources Corporation	15%	213A/523	
		Antero Resources Corporation	SWN Production Company, LLC/Equinor USA			
		Anthony Steven Beatty	Onshore Properties, Inc.		272A/588	
		Bonnie Jean Vangilder, married dealing in her sole and separate property	SWN Production Company, LLC	17%	290A/539	
		Carol Jean Dunkle Bartok aka Carol Jean Bartok, widow	SWN Production Company, LLC	17%	279A/617	
		Cornell Holdings, Inc.	SWN Production Company, LLC	17%	279A/687	
		TH Exploration, LLC	TH Exploration, LLC	12.50%	194A/380	
		EQT Production Company	EQT Production Company		258A/333	
		Cornell Holdings, Inc.	SWN Production Company, LLC/Equinor USA			
		TH Exploration, LLC	Onshore Properties, Inc		279A/34	
		EQT Production Company	TH Exploration, LLC	12.50%	204A/111	
		David L. Charlton and Donna D. Charlton, husband and wife	EQT Production Company		258A/333	
		David Scott Charlton	SWN Production Company, LLC/Equinor USA			
		DruAnn Beatty, married dealing in her sole and separate property	Onshore Properties, Inc		279A/34	
		DWG Oil & Gas Acquisitions, LLC	TH Exploration, LLC	18%	216A/625	
		EQT Production Company	SWN Production Company, LLC	17%	289A/559	
		Frances Burns Taylor	SWN Production Company, LLC	17.00%	269A/280	
		Glen R. Charlton	EQT Production Company	12.50%	188A/187	
		Heather Colleen Charlton	SWN Production Company, LLC		279A/35	
		Helen Beatty Destefano	SWN Production Company, LLC	17%	284A/401	
		H&M Land and Mineral, Inc.	SWN Production Company, LLC	17%	282A/554	
		EQT Production Company	SWN Production Company, LLC	17%	288A/255	
		Ileana Masters	SWN Production Company, LLC	17%	289A/595	
		Jan Leslie Fuller and Kevin W. Fuller, her husband	EQT Production Company	12.50%	192A/698	
		Jeanne McWilliams	SWN Production Company, LLC, LLC/Equinor USA			
		Jennifer J. Nicolini, dealing in her sole and separate property	Onshore Properties, Inc		279A/34	
		Jessica J. Nelson	SWN Production Company, LLC	17%	285A/175	
		John R. Charlton, single	SWN Production Company, LLC	17%	281A/420	
		Kathy Knaggs, aka Emily Kathleen Knaggs	SWN Production Company, LLC	17%	284A/407	
		Kevin James Charlton	SWN Production Company, LLC	17%	280A/343	
		Lawrence J Charlton	SWN Production Company, LLC	17%	283A/406	
		Lawrence Thomas "Larry" Beatty	SWN Production Company, LLC	17%	270A/436	
		Linda Ann Wade, a/k/a Linda Ann Miller	SWN Production Company, LLC	17%	287A/127	
		Lois J. Beatty, divorced	SWN Production Company, LLC	17%	289A/565	
		Margaret Kathleen Burns Campos	SWN Production Company, LLC	17%	289A/553	
		Mark Loar, as POA for Betty J. Hamilton, widow	SWN Production Company, LLC	17%	289A/542	
		Marlen Lee Beatty, single	SWN Production Company, LLC	17%	289A/542	
		Marsha Kay Bailey Pattisson	SWN Production Company, LLC	17%	282A/498	
		Michelle Work aka Michelle A. Solitro	SWN Production Company, LLC	17%	284A/395	
		Nicholas Nelson	SWN Production Company, LLC	17%	283A/815	
			SWN Production Company, LLC	17%	282A/461	
			SWN Production Company, LLC	17%	289A/582	
			SWN Production Company, LLC	17%	289A/588	
			SWN Production Company, LLC	17%	285A/187	
			SWN Production Company, LLC	17%	285A/778	

Pamela J Beatty Fischer	SWN Production Company, LLC	17%	290A/132
Patricia Irene Beatty	SWN Production Company, LLC	17%	289A/618
Ralph Harrison Dunkle, Jr. and Jacqueline F. Dunkle, his wife	SWN Production Company, LLC	17%	279A/693
Rashal Rae Dunkle, married dealing in her sole and separate property	SWN Production Company, LLC	17%	280A/375
Raymond Edward Beatty n/k/a Dudley D. Balmer	SWN Production Company, LLC	17%	289A/536
Richard E. Work	SWN Production Company, LLC	17%	285A/739
Robert Roy Charlton	SWN Production Company, LLC	17%	287A/121
Ruth Eileen Anthony, a/k/a Ruth "Ilene" Anthony	SWN Production Company, LLC	17%	285A/301
Sherran Faye Slaska, married dealing in her sole and separate property	SWN Production Company, LLC	17%	269A/304
Sherrri E. Johnson, a single woman	TH Exploration, LLC	18%	216A/630
TH Exploration, LLC	EQT Production Company		258A/333
EQT Production Company	SWN Production Company, LLC/Equinor USA		279A/34
Stacie Burns Warco	Onshore Properties, Inc		283A/827
Steven M. Charlton and Michelle A. Charlton, husband and wife	SWN Production Company, LLC	17%	283A/827
TH Exploration, LLC	TH Exploration, LLC	18%	216A/686
EQT Production Company	EQT Production Company		258A/333
Stone Hill Minerals Holdings LLC	SWN Production Company, LLC/Equinor USA		279A/34
EQT Production Company	Onshore Properties, Inc		279A/34
Stone Hill Minerals Holdings LLC	EQT Production Company	12.50%	180A/614
TH Exploration, LLC	SWN Production Company, LLC/Equinor USA		279A/34
EQT Production Company	Onshore Properties, Inc		279A/34
Suzanne B. Kartis and George Howard Kartis, her husband	TH Exploration, LLC	12.50%	207A/565
Tammy M. Hobart, widow	EQT Production Company		258A/333
Terri J. Ingram, a married woman dealing in her sole and separate property	SWN Production Company, LLC/Equinor USA		279A/34
TH Exploration, LLC	Onshore Properties, Inc		279A/34
EQT Production Company	SWN Production Company, LLC	17%	284A/327
Vanita & Cordova Holding Company, LLC	SWN Production Company, LLC	17%	269A/604
TH Exploration, LLC	TH Exploration, LLC	18%	216A/637
EQT Production Company	EQT Production Company		258A/333
Vanita & Cordova Holding Company, LLC	SWN Production Company, LLC/Equinor USA		279A/34
TH Exploration, LLC	Onshore Properties, Inc		279A/34
EQT Production Company	TH Exploration, LLC	12.50%	204A/188
Vanita & Cordova Holding Company, LLC	EQT Production Company		258A/333
TH Exploration, LLC	SWN Production Company, LLC/Equinor USA		279A/34
EQT Production Company	Onshore Properties, Inc		279A/34
Vanita & Cordova Holding Company, LLC	SWN Production Company, LLC	12.50%	257A/423
John Burns III	SWN Production Company, LLC	17%	287A/806
Linda Burns	SWN Production Company, LLC	17%	287A/800

15	1-6-6	Royalty Owner	n/a	n/a	n/a	19.77%
		Agnes Elnora Burns Loucks Owens	SWN Production Company, LLC	17%	283A/821	
		Allan Paul Dunkle, single	SWN Production Company, LLC	17%	269A/310	
		Aleta E Beatty Gregg	SWN Production Company, LLC	17%	288A/249	
		Amy L. Sage, a married woman dealing in her sole and separate property	Antero Resources Corporation	15%	213A/523	
		Antero Resources Corporation	SWN Production Company, LLC/Equinor USA		272A/588	
		Anthony Steven Beatty	Onshore Properties, Inc.		290A/539	
		Bonnie Jean Vangilder, married dealing in her sole and separate property	SWN Production Company, LLC	17%	279A/617	
		Carol Jean Dunkle Bartok aka Carol Jean Bartok, widow	SWN Production Company, LLC	17%	279A/687	
		Cornell Holdings, Inc.	TH Exploration, LLC	12.50%	194A/380	
		TH Exploration, LLC	EQT Production Company		258A/333	
		EQT Production Company	SWN Production Company, LLC/Equinor USA		279A/34	
		Cornell Holdings, Inc.	Onshore Properties, Inc		204A/111	
		TH Exploration, LLC	TH Exploration, LLC	12.50%	258A/333	
		EQT Production Company	EQT Production Company		279A/34	
		David L. Charlton and Donna D. Charlton, husband and wife	SWN Production Company, LLC/Equinor USA		279A/34	
		David Scott Charlton	Onshore Properties, Inc		216A/625	
		DruAnn Beatty, married dealing in her sole and separate property	TH Exploration, LLC	18%	289A/559	
			SWN Production Company, LLC	17%	269A/280	
			SWN Production Company, LLC	17.00%		

DWG Oil & Gas Acquisitions, LLC	EQT Production Company	12.50%	188A/187
EQT Production Company	SWN Production Company, LLC		279A/35
Frances Burns Taylor	SWN Production Company, LLC	17%	284A/401
Glen R. Charlton	SWN Production Company, LLC	17%	282A/554
Heather Colleen Charlton	SWN Production Company, LLC	17%	288A/255
Helen Beatty Destefano	SWN Production Company, LLC	17%	289A/595
H&M Land and Mineral, Inc.	EQT Production Company	12.50%	192A/698
	SWN Production Company, LLC, LLC/Equinor USA		
EQT Production Company	Onshore Properties, Inc		279A/34
Ileana Masters	SWN Production Company, LLC	17%	285A/175
Jan Leslie Fuller and Kevin W. Fuller, her husband	SWN Production Company, LLC	20%	281A/420
Jeanne McWilliams	SWN Production Company, LLC	17%	284A/407
Jennifer J. Nicolini, dealing in her sole and separate property	SWN Production Company, LLC	17%	280A/343
Jessica J. Nelson	SWN Production Company, LLC	17%	283A/406
John R. Charlton, single	SWN Production Company, LLC	17%	270A/436
Kathy Knaggs, aka Emily Kathleen Knaggs	SWN Production Company, LLC	17%	287A/127
Kevin James Charlton	SWN Production Company, LLC	17%	289A/565
Lawrence J Charlton	SWN Production Company, LLC	17%	289A/553
Lawrence Thomas "Larry" Beatty	SWN Production Company, LLC	17%	289A/542
Linda Ann Wade, a/k/a Linda Ann Miller	SWN Production Company, LLC	17%	282A/498
Lois J. Beatty, divorced	SWN Production Company, LLC	17%	284A/395
Margaret Kathleen Burns Campos	SWN Production Company, LLC	17%	283A/815
Mark Loar, as POA for Betty J. Hamilton, widow	SWN Production Company, LLC	17%	282A/461
Marlen Lee Beatty, single	SWN Production Company, LLC	17%	289A/582
Marsha Kay Bailey Pattison	SWN Production Company, LLC	17%	289A/588
Michelle Work aka Michelle A. Solitro	SWN Production Company, LLC	17%	285A/187
Nicholas Nelson	SWN Production Company, LLC	17%	285A/778
Pamela J Beatty Fischer	SWN Production Company, LLC	17%	290A/132
Patricia Irene Beatty	SWN Production Company, LLC	17%	289A/618
Ralph Harrison Dunkle, Jr. and Jacqueline F. Dunkle, his wife	SWN Production Company, LLC	17%	279A/693
Rashal Rae Dunkle, married dealing in her sole and separate property	SWN Production Company, LLC	17%	280A/375
Raymond Edward Beatty n/k/a Dudley D. Balmer	SWN Production Company, LLC	17%	289A/536
Richard E. Work	SWN Production Company, LLC	17%	285A/739
Robert Roy Charlton	SWN Production Company, LLC	17%	287A/121
Ruth Eileen Anthony, a/k/a Ruth "Ilene" Anthony	SWN Production Company, LLC	17%	285A/301
Sherran Faye Slaska, married dealing in her sole and separate property	SWN Production Company, LLC	17%	269A/304
Sherri E. Johnson, a single woman	TH Exploration, LLC	18%	216A/630
TH Exploration, LLC	EQT Production Company		258A/333
	SWN Production Company, LLC/Equinor USA		
EQT Production Company	Onshore Properties, Inc		279A/34
Stacie Burns Warco	SWN Production Company, LLC	17%	283A/827
Steven M. Charlton and Michelle A. Charlton, husband and wife	TH Exploration, LLC	18%	216A/686
TH Exploration, LLC	EQT Production Company		258A/333
	SWN Production Company, LLC/Equinor USA		
EQT Production Company	Onshore Properties, Inc		279A/34
Stone Hill Minerals Holdings LLC	EQT Production Company	12.50%	180A/614
	SWN Production Company, LLC/Equinor USA		
EQT Production Company	Onshore Properties, Inc		279A/34
Stone Hill Minerals Holdings LLC	TH Exploration, LLC	12.50%	207A/565
TH Exploration, LLC	EQT Production Company		258A/333
	SWN Production Company, LLC/Equinor USA		
EQT Production Company	Onshore Properties, Inc		279A/34
Suzanne B. Kartis and George Howard Kartis, her husband	SWN Production Company, LLC	17%	284A/327
Tammy M. Hobart, widow	SWN Production Company, LLC	17%	269A/604
Terri J. Ingram, a married woman dealing in her sole and separate property	TH Exploration, LLC	18%	216A/637
TH Exploration, LLC	EQT Production Company		258A/333
	SWN Production Company, LLC/Equinor USA		
EQT Production Company	Onshore Properties, Inc		279A/34
Vanita & Cordova Holding Company, LLC	TH Exploration, LLC	12.50%	194A/384
TH Exploration, LLC	EQT Production Company		258A/333
	SWN Production Company, LLC/Equinor USA		
EQT Production Company	Onshore Properties, Inc		279A/34
Vanita & Cordova Holding Company, LLC	TH Exploration, LLC	12.50%	204A/188
TH Exploration, LLC	EQT Production Company		258A/333

		EQT Production Company	SWN Production Company, LLC/Equinor USA		279A/34	
		Vanita & Cordova Holding Company, LLC	Onshore Properties, Inc		257A/423	
		John Burns III	SWN Production Company, LLC	12.50%	287A/806	
		Linda Burns	SWN Production Company, LLC	17%	287A/800	
16	3-1-7	Delores A. Showalter Horner TH Exploration, LLC	TH Exploration, LLC SWN Production Company, LLC	18%	285A/65 See Attached	0.00%
17	3-1-23	Stone Hill Minerals Holdings, LLC TH Exploration, LLC	TH Exploration, LLC SWN Production Company, LLC	19%	261A/890 49/615	0.00%
18	3-1-22	Piney Holdings, Inc.	SWN Production Company, LLC	20%	293A/415	0.00%
19	3-1-29	Piney Holdings, Inc.	SWN Production Company, LLC	20%	261A/91	0.00%

ASSIGNMENT AND CONVEYANCE

This Assignment and Conveyance (this "*Assignment*") is from **TH Exploration, LLC**, a Texas limited liability company ("*Assignor*"), to **SWN PRODUCTION COMPANY, LLC**, a Texas limited liability company ("*SWN*"), and **EQUINOR USA ONSHORE PROPERTIES INC**, a Delaware corporation ("*EQNR*" and, together with SWN, the "*Assignees*"), and is executed on July 6th, 2022 (the "*Effective Date*"). Assignor and Assignees may be referred to herein collectively as the "*Parties*," or individually as a "*Party*." Capitalized terms used herein but not otherwise defined herein (including in Section 3.7) shall have the meanings given such terms in that certain Acreage Trade Agreement between the Assignor and the Assignees dated March 25, 2022 (the "*Acreage Trade Agreement*").

ARTICLE 1 ASSIGNMENT OF ASSETS

Section 1.1 **Assignment.** For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor hereby **GRANTS, BARGAINS, ASSIGNS, CONVEYS AND TRANSFERS** unto (a) SWN an undivided 74.0000% of Assignor's right title and interest in and to and (b) EQNR an undivided 26.0000% of Assignor's right, title and interest in and to, in the case of both (a) and (b), (i) the oil and gas leases described in more detail on Exhibit A attached hereto (the "*Leases*") INsofar AND ONLY INsofar as they cover those lands described on Exhibit A (the "*Leasehold Rights*") and (ii) any surface use agreements that relate to such Leasehold Rights (collectively with the Leasehold Rights, the "*Conveyed Assets*").

TO HAVE AND TO HOLD the Conveyed Assets, together with all and singular the rights, privileges, contracts and appurtenances, in any way appertaining or belonging thereto, unto Assignees, its successors and assigns, forever, subject, to the terms and conditions of this Assignment.

Section 1.2 **Assignment Subject to Acreage Trade Agreement.** This Assignment is made in accordance with and is subject to the terms, covenants and conditions contained in that certain Acreage Trade Agreement. In the event of a conflict between the provisions of the Acreage Trade Agreement and this Assignment, the provisions of the Acreage Trade Agreement shall control. The execution and delivery of this Assignment by Assignor, and the execution and acceptance of this Assignment by Assignees, shall not operate to release or impair any surviving rights or obligations of either Party with respect to the other under the Acreage Trade Agreement.

ARTICLE 2 SPECIAL WARRANTY OF TITLE AND DISCLAIMERS

Section 2.1 **Special Warranty of Title.** Assignor hereby agrees to warrant and defend Defensible Title to the Leases unto Assignees, its successors and assigns, against every Person whomsoever lawfully claiming or to claim the same or any part thereof by, through or under Assignor or any of their respective Affiliates, but not otherwise.

Section 2.2 **Disclaimers of Warranties and Representations.**

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(a) EXCEPT AS EXPRESSLY REPRESENTED OTHERWISE IN SECTION VI OF THE ACREAGE TRADE AGREEMENT OR THIS ASSIGNMENT, ASSIGNOR MAKES NO, AND HEREBY EXPRESSLY DISCLAIMS, ANY REPRESENTATION OR WARRANTY, EXPRESS, IMPLIED OR STATUTORY, INCLUDING AS TO (I) TITLE TO THE LEASEHOLD RIGHTS, (II) THE CONTENTS, CHARACTER OR NATURE OF ANY DESCRIPTIVE MEMORANDUM, OR ANY REPORT OF ANY OF ITS PETROLEUM ENGINEERING CONSULTANTS, OR ANY GEOLOGICAL OR SEISMIC DATA OR INTERPRETATION, RELATING TO THE LEASEHOLD RIGHTS, (III) THE QUANTITY, QUALITY OR RECOVERABILITY OF PETROLEUM SUBSTANCES IN OR FROM THE LEASEHOLD RIGHTS, (IV) THE EXISTENCE OF ANY PROSPECT, OR ANY RECOMPLETION, INFILL OR STEP-OUT DRILLING OPPORTUNITIES, (V) ANY ESTIMATES OF THE VALUE OF THE LEASEHOLD RIGHTS, (VI) THE PRODUCTION OF PETROLEUM SUBSTANCES FROM THE LEASEHOLD RIGHTS, OR ANY PRODUCTION OR DECLINE RATES, (VII) THE MAINTENANCE, REPAIR, CONDITION, QUALITY, SUITABILITY, DESIGN OR MARKETABILITY OF THE LEASEHOLD RIGHTS, (VIII) INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT, AND (IX) ANY OTHER MATERIALS OR INFORMATION THAT MAY HAVE BEEN MADE AVAILABLE OR COMMUNICATED TO TUG HILL OR ITS AFFILIATES, OR ITS OR THEIR RESPECTIVE EMPLOYEES, AGENTS, CONSULTANTS, REPRESENTATIVES OR ADVISORS IN CONNECTION WITH THE TRANSACTIONS CONTEMPLATED BY THIS ASSIGNMENT OR ANY DISCUSSION OR PRESENTATION RELATING THERETO, AND FURTHER DISCLAIMS ANY REPRESENTATION OR WARRANTY, EXPRESS, IMPLIED, OR STATUTORY, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR CONFORMITY TO MODELS OR SAMPLES OF MATERIALS OR ANY EQUIPMENT, IT BEING EXPRESSLY UNDERSTOOD AND AGREED BY THE PARTIES THAT, EXCEPT AS EXPRESSLY REPRESENTED OTHERWISE IN SECTION VI OF THE ACREAGE TRADE AGREEMENT OR THIS ASSIGNMENT, THE LEASEHOLD RIGHTS ARE BEING TRANSFERRED BY IT "AS IS, WHERE IS," WITH ALL FAULTS AND DEFECTS.

ARTICLE 3 MISCELLANEOUS

Section 3.1 Separate Assignments. Where separate assignments of Conveyed Assets have been, or will be, executed for filing with and approval by applicable Governmental Authorities, any such separate assignments (a) shall evidence the Assignment and assignment of the applicable Conveyed Assets herein made, and shall not constitute any additional Assignment or assignment of the Conveyed Assets, (b) are not intended to modify, and shall not modify, any of the terms, covenants and conditions, or limitations on warranties, set forth in this Assignment and are not intended to create, and shall not create, any representations, warranties or additional covenants of or by Assignor to Assignees, and (c) shall be deemed to contain all of the terms and provisions of this Assignment, as fully and to all intents and purposes as though the same were set forth at length in such separate assignments.

Section 3.2 Governing Law. EXCEPT TO THE EXTENT THAT THE LAWS OF THE STATE OF WEST VIRGINIA ARE MANDATORILY APPLICABLE TO THIS ASSIGNMENT IN CONNECTION WITH THE CONVEYANCES OF PROPERTY

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INTERESTS INVOLVING REAL PROPERTY LOCATED IN THE STATE OF WEST VIRGINIA, THIS ASSIGNMENT AND ANY CLAIM, CONTROVERSY OR DISPUTE ARISING UNDER OR RELATED TO THIS ASSIGNMENT OR THE RIGHTS, DUTIES AND RELATIONSHIP OF THE PARTIES, SHALL BE GOVERNED BY AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS, EXCLUDING ANY CONFLICTS OF LAW, RULE OR PRINCIPLE THAT MIGHT REFER CONSTRUCTION OF PROVISIONS TO THE LAWS OF ANOTHER JURISDICTION. EXCEPT AS OTHERWISE PROVIDED IN THE ACREAGE TRADE AGREEMENT, ANY DISPUTE, CONTROVERSY OR CLAIM ARISING OUT OF, RELATING TO OR IN CONNECTION WITH THIS ASSIGNMENT OR THE VALIDITY HEREOF, SHALL BE FINALLY SETTLED IN ACCORDANCE WITH SECTION XILE. OF THE ACREAGE TRADE AGREEMENT.

Section 3.3 Successors and Assigns. This Assignment shall bind and inure to the benefit of the Parties and their respective successors and assigns; *provided, however*, that nothing in this Assignment shall assign or grant, or in any way operate to assign or grant, any right, title or interest in, to or under the Acreage Trade Agreement to any successor or assign of Assignees with respect to the Conveyed Assets or any part thereof, it being expressly understood that rights, titles and interests under the Acreage Trade Agreement may only be obtained or assigned in accordance with the terms thereof.

Section 3.4 Titles and Captions. All Article or Section titles or captions in this Assignment are for convenience only, shall not be deemed part of this Assignment and in no way define, limit, extend or describe the scope or intent of any provisions hereof. Except to the extent otherwise stated in this Assignment, references to "Articles" and "Sections" are to Articles and Sections of this Assignment, and references to "Exhibits" are to the Exhibits attached to this Assignment, which are made a part hereof and incorporated herein for all purposes.

Section 3.5 Counterparts. This Assignment may be executed in any number of counterparts, and each such counterpart hereof shall be deemed to be an original instrument, but all of such counterparts shall constitute for all purposes one agreement. Multiple counterparts of this Assignment may be recorded with federal agencies and in the counties and parishes of the states where the Conveyed Assets are located, but the inclusion of a description of any Asset in more than one counterpart of this Assignment shall not be construed as having effected any cumulative, multiple or overlapping interest in the applicable Asset. Any signature hereto delivered by a party by facsimile or other electronic transmission shall be deemed an original signature hereto.

Section 3.6 Prior Representations, Warranties and Covenants. To the extent, and only to the extent, (a) permitted by Law, (b) of any indemnity of Assignees provided to Assignor under the Acreage Trade Agreement and (c) such subrogation is not prohibited or otherwise restricted by the respective underlying instrument or agreement, Assignees shall be subrogated to Assignor's rights in and to all representations, warranties and covenants given with respect to the Conveyed Assets. To the extent provided in the preceding sentence, Assignor hereby grants and transfers to Assignees, its successors and assigns, to the extent so transferrable and permitted by Law, the benefit of and the right to enforce all representations, warranties and covenants, if any, which Assignor is entitled to enforce with respect to the Conveyed Assets.

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Section 3.7 **Definitions.** When used in this Assignment, the following terms shall have the meanings specified:

“Defensible Title” means, other than Permitted Encumbrances, with respect to such title of Assignor that:

(i) entitles Assignees (in the aggregate) to the Net Acreage that is set forth on Exhibit B to the Acreage Trade Agreement for such Lease;

(ii) entitles Assignees (in the aggregate) to receive and retain from each Lease described in Exhibit B to the Acreage Trade Agreement not less than the percentage set forth on Exhibit B to the Acreage Trade Agreement as the Net Revenue Interest in such Lease; and

(iii) is free and clear of all liens (including mortgages or deeds of trust), suits, judgments, encumbrances, charges, adverse claims, burdens and defects that may adversely affect the ownership, development, operation or value of such Lease.

(Remainder of page intentionally left blank. Signatures to follow)

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EXECUTED as of the date of the Parties' acknowledgments below, but effective at the Effective Date.

ASSIGNOR:

TH EXPLORATION, LLC,
a Texas limited liability company

David D. Kalish

By: David D. Kalish
Title: Senior Vice President - Land

ACKNOWLEDGMENTS

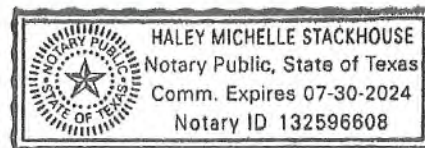
STATE OF Texas
COUNTY OF Tarrant

On this, the 6th day of July, 2022, before me a Notary Public, the undersigned officer, David D. Kalish, personally appeared and acknowledged himself to be the Senior Vice President - Land of TH Exploration, LLC, and that he as such Senior Vice President - Land and being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as Senior Vice President - Land.

Haley Michelle Stackhouse
Notary Public

SEAL

My commission expires: 07-30-2024



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ASSIGNEES:

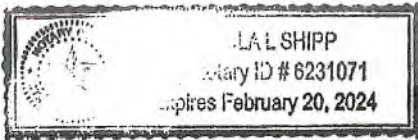
SWN PRODUCTION COMPANY, LLC
a Texas limited liability company

By: *[Signature]* *8/20/22*
Name: PAUL M BACHO
Title: LAND MANAGER

ACKNOWLEDGMENTS

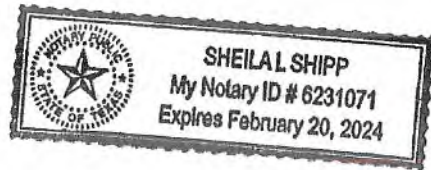
STATE OF TEXAS
COUNTY OF HARRIS

On this, the 11th day of July, 2022, before me a Notary Public, the undersigned officer, PAUL M. BACHO, personally appeared and acknowledged himself to be the LAND MANAGER of SWN PRODUCTION COMPANY, LLC, a Texas limited liability company, and that he as such LAND MANAGER and being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as Land Manager.



[Signature]
Notary Public

SEAL
My commission expires: 2/20/2024



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09/16/2022

ASSIGNEES

**EQUINOR USA ONSHORE PROPERTIES INC,
a Delaware corporation**

By: _____
Name: _____
Title: _____

ACKNOWLEDGMENTS

STATE OF _____
COUNTY OF _____

On this, the ____ day of _____, 2022, before me a Notary Public, the undersigned officer, _____, personally appeared and acknowledged himself to be the _____ of _____, a _____, and that he as such _____ and being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as _____.

Notary Public

SEAL
My commission expires: _____

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Exhibit "A"
Leases - TH Exploration, LLC to SWN and EQNR

Attached to and made a part of that certain Assignment and Conveyance, effective July ^{6th} 2022 by and between TH Exploration, LLC and SWN Production Company, LLC and Equinor USA Onshore Properties Inc.

TH Lease Number	Lessor	Lessee	Effective Date	County	District	BK - PG	Gross Acres	Tax Parcel Number	Partial Assignment	Conveyed Parcels	Retained Parcels	Conveyed Depths
10*40410	DELORSE A HORNER, WIDOW	TH EXPLORATION, LLC	03/03/2022	Wetzel	Clay	285A - 65	7.500000	3-1-7	No	3-1-7		ALL

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July 14, 2022

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

RE: SWN's proposed New Well: Yocum MSH 206H in Marshall County, West Virginia, Drilling under Amos Hollow Road.

Dear Mr Brewer:

SWN Production Company, LLC ("SWN") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to SWN's right to drill under Amos Hollow 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,



Ian R. Nicas
Staff Landman
SWN Production Company, LLC

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

09/16/2022

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: 7/19

API No. 47- 009 - _____
Operator's Well No. Yocum MSH 206H
Well Pad Name: Yocum MSH

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>535657.52</u>
County: <u>051-Marshall</u>		Northing: <u>4398185.59</u>
District: <u>Liberty</u>	Public Road Access: <u>Amos Hollow Road</u>	
Quadrangle: <u>Littleton</u>	Generally used farm name: <u>Yocum</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 JUL 20 2022 WV Department of Environmental Protection		

Required Attachments:

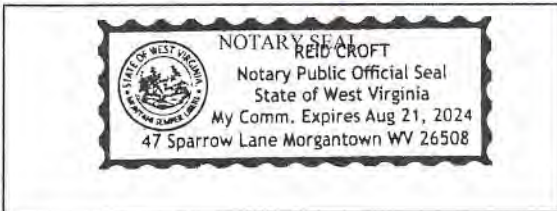
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication 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></u>
Telephone:	<u>304-884-1610</u>	Email:	<u>Brittany_Woody@swn.com</u>

Brittany Woody



Subscribed and sworn before me this 1st day of June, 2022.
Reid Croft Notary Public
My Commission Expires 8/21/2024

Oil and Gas Privacy Notice:

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

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

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

Date of Notice: 7/19 Date Permit Application Filed: 7/19

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: Joseph L. Yocum
 Address: 230 Curtis Ave
Moundsville, WV 26041
 Name: Michael D. Yocum
 Address: 2001 4th Street
Moundsville, WV 26041

COAL OWNER OR LESSEE
 Name: Blaze Minerals
 Address: 520 Folly Road, Suite P285
Charleston, SC 29412

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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*Please attach additional forms if necessary

**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: 7/19 Date Permit Application Filed: 7/19

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: Susan and Frank Stipetch
 Address: 310 3rd Street
Glen Dale, WV 26038
 Name: Phillip D. High
 Address: 37 Aaronwoods Court
Wheeling, WV 26003

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

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

COAL OWNER OR LESSEE
 Name: Consol Energy
 Address: 257 Technology Drive Suite 101
Canonsburg, PA 15317-6506

COAL OPERATOR
 Name: _____
 Address: _____

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

WV Department of Environmental Protection

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

*Please attach additional forms if necessary

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/oil-and-gas/pages/default.aspx.

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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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Environmental Protection

09/16/2022

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 with the secretary 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.**

09/16/2022

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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09/16/2022

WW-6A
(8-13)

API NO. 47-009 - _____
OPERATOR WELL NO. Yocum MSH 206H
Well Pad Name: Yocum MSH

Notice is hereby given by:

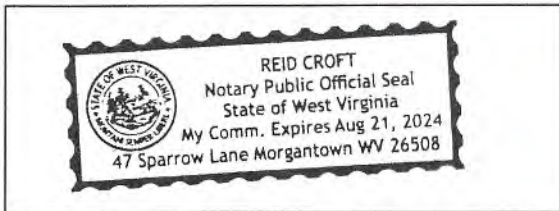
Well Operator: SWN Production Co., LLC
Telephone: 304-884-1610
Email: Brittany_Woody@swn.com

Brittany Woody

Address: 1300 Fort Pierpont Dr., Suite 201
Morgantown, WV 26508
Facsimile: _____

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 Jun, 2022.

Reid Croft Notary Public

My Commission Expires 8/21/2024

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WV Department of
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OWNERNAME	ADDRESS	CITY/STATE/ZIP	PARCEL ID	WaterSources
GEDEON DANIEL D ET UX	6740 PARK RD	LEAVITTSBURG, OH 44430	07 26000600000000	3
VELLEKOOP PETER ET UX	220 CRYSTAL COVE RD	WALDOBORO, ME 04572	07 26000600020000	4
YOCUM MICHAEL DAVID ET AL	2001 4TH ST	MOUNDSVILLE, WV 26041	07 27000400010000	1
HIGH PHILIP D	37 AARON WOODS CT	WHEELING, WV 26003	07 27000800000000	1

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09/16/2022

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: 5/18/22 **Date of Planned Entry:** 5/25/22

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: Joseph L. Yocum ✓
Address: 230 Curtis Ave
Moundsville, WV 26041

Name: Michael D. Yocum ✓
Address: 2001 4th Street
Moundsville, WV 26041

Name: Susan and Frank Stipetch ✓
Address: 310 3rd Street
Glen Dale, WV 26038

COAL OWNER OR LESSEE

Name: Blaze Minerals, LLC ✓
Address: 520 Folly Road, Suite P285
Charleston, SC 29412

MINERAL OWNER(s)

Name: Columbia Gas Transmission, LLC ✓
Address: 5151 San Felipe, Suite 2500
Houston, TX 77005

*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>39.732795, -80.583668</u>
County:	<u>Marshall</u>	Public Road Access:	<u>Amos Hollow Road</u>
District:	<u>Liberty</u>	Watershed:	<u>West Virginia Fork Fish Creek</u>
Quadrangle:	<u>Littleton</u>	Generally used farm name:	<u>Yocum</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: _____

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Office of Oil and Gas

JUL 20 2022

WV Department of
Environmental Protection

Oil and Gas Privacy Notice:

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

09/16/2022

**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: 5/18/22 **Date of Planned Entry:** 5/18/22

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: Phillip D. High

Address: 37 Aaronwoods Court
Wheeling, WV 26003

Name: _____

Address: _____

Name: _____

Address: _____

COAL OWNER OR LESSEE

Name: Consol Energy Attn: Casey Saunders

Address: 275 Technology Drive., Suite 101
Canonsburg, PA 15317-9565

MINERAL OWNER(s)

Name: Karen Sue Franklin Marshall

Address: 1722 Rock Road
Chambersburg, PA 17202

*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>39.732795, -80.583668</u>
County: <u>Marshall</u>	Public Road Access: <u>Amos Hollow Road</u>
District: <u>Liberty</u>	Watershed: <u>West Virginia Fork Fish Creek</u>
Quadrangle: <u>Littleton</u>	Generally used farm name: <u>Yocum</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

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: _____

JUL 20 2022

WV Department of
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Oil and Gas Privacy Notice:

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

09/16/2022

**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: 5/18/2022 **Date of Planned Entry:** 5/25/2022

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: _____
Address: _____

MINERAL OWNER(s)
Name: Thomas Elwood Franklin
Address: 43 Ridgeway Drive
Mechanicburg, PA 17050
*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>39.732795, -80.583668</u>
County: <u>Marshall</u>	Public Road Access: <u>Amos Hollow Road</u>
District: <u>Liberty</u>	Watershed: <u>West Virginia Fork Fish Creek</u>
Quadrangle: <u>Littleton</u>	Generally used farm name: <u>Yocum</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

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: _____

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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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

09/16/2022

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: 5/18/2022 **Date of Planned Entry:** 5/25/2022

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: _____
Address: _____

MINERAL OWNER(s)

Name: Three Rivers Royalty II, LLC
Address: 9055 E. Mineral Circle, Suite 101
Centennial, CO 80112

*please attach additional forms if necessary

Notice is hereby given:

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

State: West Virginia
County: Marshall
District: Liberty
Quadrangle: Littleton

Approx. Latitude & Longitude: 39.732795, -80.583668
Public Road Access: Amos Hollow Road
Watershed: West Virginia Fork Fish Creek
Generally used farm name: Yocum

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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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: _____

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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

09/16/2022

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: 06/01/2022 Date Permit Application Filed: 7/19

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: Susan and Frank Stipetch
Address: 310 3rd Street
Glen Dale, WV 26083

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: West Virginia UTM NAD 83 Easting: 535,657.52
County: Marshall Northing: 4,398,185.59
District: Liberty Public Road Access: Amos Hollow Rd.
Quadrangle: Littleton, WV Generally used farm name: Yocum MSH
Watershed: Upper Ohio South

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 Drive, Suite 201
Morgantown, WV 26508
Telephone: 304-884-1675
Email: Justin_Booth@swn.com
Facsimile: _____

Authorized Representative: Justin Booth RECEIVED
Address: 1300 Fort Pierpont Drive, Suite 201 Office of Oil and Gas
Morgantown, WV 26508
Telephone: 304-884-1675 JUL 20 2022
Email: Justin_Booth@swn.com
Facsimile: _____ 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.

09/16/2022

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: 06/01/2022 **Date Permit Application Filed:** 7/19

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: Joseph L. Yocum
Address: 230 Curtis Avenue
Moundsville, WV 26041

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>535,657.52</u>
County:	<u>Marshall</u>		Northing:	<u>4,398,185.59</u>
District:	<u>Liberty</u>	Public Road Access:		<u>Amos Hollow Rd.</u>
Quadrangle:	<u>Littleton, WV</u>	Generally used farm name:		<u>Yocum MSH</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 Drive, Suite 201
Morgantown, WV 26508
Telephone: 304-884-1675
Email: Justin_Booth@swn.com
Facsimile: _____

Authorized Representative: Justin Booth
Address: 1300 Fort Pierpont Drive, Suite 201
Morgantown, WV 26508
Telephone: 304-884-1675
Email: Justin_Booth@swn.com
Facsimile: _____

RECEIVED
Office of Oil and Gas
JUL 20 2022
WV Department of
Environmental Protection

Oil and Gas Privacy Notice:

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

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: 06/01/2022 **Date Permit Application Filed:** 7/19

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

- CERTIFIED MAIL HAND
RETURN RECEIPT REQUESTED DELIVERY

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

Notice is hereby provided to the SURFACE OWNER(s)

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

Name: <u>Michael D. Yocum</u>	Name: _____
Address: <u>2001 4th Street</u> <u>Moundsville, WV 26041</u>	Address: _____

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>535,657.52</u>
County: <u>Marshall</u>	Northing: <u>4,398,185.59</u>
District: <u>Liberty</u>	Public Road Access: <u>Amos Hollow Rd.</u>
Quadrangle: <u>Littleton, WV</u>	Generally used farm name: <u>Yocum MSH</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 Drive, Suite 201</u>
Telephone: <u>304-884-1675</u>	<u>Morgantown, WV 26508</u>
Email: <u>Justin_Booth@swn.com</u>	Facsimile: <u>304-884-1675</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.

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Office of Oil and Gas
JUL 20 2022
WV Department of
Environmental Protection
09/16/2022



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways

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

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

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

May 31, 2022

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 Yocum Pad, Marshall County
Yocum MSH 206H Well Site ✓

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2018-0157 which has been issued to Southwestern Energy for access to the State Road for a well site located off Marshall County Route 89 SLS MP 2.15.

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

Very Truly Yours,

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

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

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Office of Oil and Gas
JUL 20 2022
WV Department of
Environmental Protection

Attachment VI Frac Additives

Product Name	Product Use	Chemical Name	CAS Number
AI-303 (U.S. Well Services)	Mixture	Ethylene glycol	107-21-1
		Cinnamaldehyde	104-55-2
		Butyl cellosolve	111-76-2
		Formic acid	64-18-6
		Polyether	Proprietary
AP ONE (U.S. Well Services)	Breaker	Ammonium persulfate	68527-49-1
			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, Exoxylated propoxylated	68213-24-1
		Fatty Alcohols ethoxylated	Proprietary
		Water	7732-18-5
FLOJET DRP 1130X (SWN Well Services)	Friction Reducer	Proprietary	Proprietary
FR-76 (Halliburton)	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8
		Inorganic Salt	Proprietary
GYPTRON T-390 (Champion Technologies)	Scale Inhibitor	Methanol	67-56-1
		Nonylphenol Ethoxylate	Proprietary
HAI-150E (Halliburton)	Corrosion Inhibitor	No hazardous substance	N/A
HCL (SWN Well Services)	Hydrochloric Acid	Hydrochloric Acid	7647-01-0
		Water	7732-18-5
LP-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, Exoxylated	68551-12-2
		Oleic Acid Diethanolamide	93-83-4
Plexslick 953	Friction Reducer	Ammonium Chloride	12125-02-9
		Petroleum Distillate	64742-47-8
		Sodium Chloride	7647-14-5
		Ammonium Chloride	12125-02-9
		N,N-bis (2-hydroxyethyl) oleamide	93-83-4
Plexslick 957	Friction Reducer	Petroleum Distillate	64742-47-8
		Ammonium Chloride	12125-02-9
		Oleic Acid Diethanolamide	93-83-4
		Alcohols, C12-16, Exoxylated	68551-12-2
		Water	7732-15-5
WFRA-2000 (U.S. Well Services)	Anionic Friction Reducer	Hydrotreated light distillate (petroleum)	64742-47-8
		Propenoic acid, polymer with propenamide	9003-06-9
Plexaid 655 NM	Scale Inhibitor	Diethylenetriamine penta (methylene phosphonic acid)	15827-30-8
Plexslick 922	no data available	Copolymer of 2-propenamide	69418-26-4
		Distillates (petroleum), hydrotreated light	64742-47-8
		Ammonium chloride ((NH4)Cl)	12125-02-9
		Oleic Acid Diethanolamide	93-83-4
Tolcide PS50A	Biocidal product	Tetrakis (hydroxymethyl) phosphonium sulphate	55566-30-8
		Acrylic acid terpolymer containing carboxylate phosphonate and sulfonate groups	397256-50-7
LD-2950	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8
		Ethoxylated alcohol	Proprietary
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

As of 1/16/2020

RECEIVED
Office of Oil and Gas

JUL 20 2022

WV Department of
Environmental Protection

09/16/2022

AS-BUILT PLANS FOR YOCUM WELL PAD AND ACCESS ROAD

**LIBERTY DISTRICT, MARSHALL COUNTY, WV
FEBRUARY 2019**



TOPTHOLE COORDINATES

Well Number	WV83-N Latitude	WV83-W Longitude	UTM 83-17 Northing	UTM 83-17 Easting
205H	N 39.732964°	W 80.583491°	14429769.221 ft	1757933.640 ft
3H	N 39.732946°	W 80.583518°	14429763.700 ft	1757906.049 ft
3H	N 39.732929°	W 80.583545°	14429756.199 ft	1757498.460 ft
1H	N 39.732911°	W 80.583572°	14429749.720 ft	1757490.871 ft
SLOT 5	N 39.732893°	W 80.583600°	14429743.188 ft	1757483.283 ft
SLOT 6	N 39.732875°	W 80.583627°	14429736.678 ft	1757475.694 ft
SLOT 7	N 39.732857°	W 80.583654°	14429730.173 ft	1757468.105 ft
SLOT 8	N 39.732840°	W 80.583681°	14429723.660 ft	1757460.516 ft
SLOT 9	N 39.732822°	W 80.583708°	14429717.157 ft	1757452.928 ft
SLOT 10	N 39.732804°	W 80.583735°	14429710.651 ft	1757445.339 ft
SLOT 11	N 39.732786°	W 80.583762°	14429704.145 ft	1757437.750 ft
SLOT 12	N 39.732769°	W 80.583789°	14429697.636 ft	1757430.161 ft
SLOT 13	N 39.732751°	W 80.583816°	14429691.130 ft	1757422.572 ft
SLOT 14	N 39.732733°	W 80.583843°	14429684.620 ft	1757414.983 ft
SLOT 15	N 39.732715°	W 80.583871°	14429678.115 ft	1757407.394 ft
SLOT 16	N 39.732697°	W 80.583898°	14429671.609 ft	1757399.805 ft
SLOT 17	N 39.732679°	W 80.583925°	14429665.103 ft	1757392.216 ft
SLOT 18	N 39.732661°	W 80.583952°	14429658.597 ft	1757384.627 ft
SLOT 19	N 39.732643°	W 80.583979°	14429652.091 ft	1757377.038 ft
SLOT 20	N 39.732625°	W 80.584006°	14429645.585 ft	1757369.449 ft
SLOT 21	N 39.732607°	W 80.584033°	14429639.079 ft	1757361.860 ft
SLOT 22	N 39.732589°	W 80.584060°	14429632.573 ft	1757354.271 ft
SLOT 23	N 39.732571°	W 80.584087°	14429626.067 ft	1757346.682 ft
SLOT 24	N 39.732553°	W 80.584114°	14429619.561 ft	1757339.093 ft
SLOT 25	N 39.732535°	W 80.584141°	14429613.055 ft	1757331.504 ft
SLOT 26	N 39.732517°	W 80.584168°	14429606.549 ft	1757323.915 ft
SLOT 27	N 39.732499°	W 80.584195°	14429600.043 ft	1757316.326 ft
SLOT 28	N 39.732481°	W 80.584222°	14429593.537 ft	1757308.737 ft
SLOT 29	N 39.732463°	W 80.584249°	14429587.031 ft	1757301.148 ft
SLOT 30	N 39.732445°	W 80.584276°	14429580.525 ft	1757293.559 ft
SLOT 31	N 39.732427°	W 80.584303°	14429574.019 ft	1757285.970 ft
SLOT 32	N 39.732409°	W 80.584330°	14429567.513 ft	1757278.381 ft

DISTURBANCE SUMMARY

Property Owner (Tax Map / Parcel)	Access Road Disturbance	Well Pad Disturbance	Total Disturbance
Yocum Joseph Lee & Michael D (25-7-26-9)	2.84	16.97	19.81
Yocum Joseph Lee & Michael D (25-7-27-4)	7.66	0.00	7.66
Yocum Joseph Lee & Michael D (25-7-27-5)	0.25	0.00	0.25
High Phillips D (25-7-27-8)	0.11	0.00	0.11
Total Disturbance	10.86	16.97	27.83

SITE COORDINATES

Coordinates Label	Well Pad Center	Access Road Beginning	AST Center
WV83-N Latitude	N 39.732854°	N 39.732732°	N 39.731829°
WV83-W Longitude	W 80.583723°	W 80.584223°	W 80.585613°
WV83-N Northing	45081.231 ft	44982.466 ft	45126.087 ft
WV83-W Easting	1663725.933 ft	1663403.685 ft	1663199.057 ft
UTM 83-17 Northing	14429723.908 ft	14429645.345 ft	14429706.875 ft
UTM 83-17 Easting	1757448.620 ft	1757144.214 ft	1756815.538 ft
UTM 83-17 Northing	439190.165 m	439786.993 m	4388305.372 m
UTM 83-17 Easting	535671.411 m	535278.626 m	535508.927 m

WELLS

WELL NAME	API NUMBER	CELLAR DIAMETER	CELLAR DEPTH	CELLAR MATERIAL
PERMITTED YOCUM MSH 3H	051-01024	10"	10'	CELLAR TECH
PERMITTED YOCUM MSH 3H	051-02124	10"	10'	CELLAR TECH
PERMITTED YOCUM MSH 295H	051-02125	10"	10'	CELLAR TECH
PERMITTED YOCUM MSH 3H	051-02133	10"	10'	CELLAR TECH

DRIVING DIRECTIONS FROM CAMERON , WV

- FROM DOWNTOWN CAMERON 3-WAY STOP
- HEAD SOUTH ON WILEY (361-FT)
- TURN LEFT ONTO IN-250 S / MAPLE AVE (R-4-mi)
- TURN RIGHT ONTO AMOS HOLLOW RD (2.0-mi)
- DESTINATION WILL BE ON THE RIGHT.

SHEET INDEX

SHEET	DESCRIPTION
1	TITLE SHEET
2-7	EVACUATION PLAN & PREVAILING WIND
4	AS-BUILT OVERALL SITE PLAN
5-8	AS-BUILT ACCESS ROAD PLAN & PROFILE
9	AS-BUILT WELL PAD PLAN
10	AS-BUILT WELL PAD SECTIONS
R1	SLIP REPAIR OVERALL
R2	SLIP REPAIR SITE PLAN
R3	AST PLAN
R4	AST PAD SECTIONS
RS-R14	ACCESS ROAD SECTIONS
R15	AST AR PROFILE
D1-D6	DETAILS
D7-D8	GENERAL NOTES

I hereby certify that I am a licensed engineer in the state of West Virginia. This As-Built certifies, to the best of my knowledge, information and belief; the Well Pad constructed by Burns Drilling & Excavation, in Marshall County, WV on behalf of SWN Production Company, LLC, has been constructed in general conformance to the plans and specification and, in my professional opinion, is in compliance with applicable laws, codes, and ordinances.

**APPROVED
MODIFICATION
WVDEP 008**

WBS 10/7/2019

- APPROVED FOR PERMITS DATE: 2/16/18 BY: RBM
- APPROVED FOR BIDS DATE: 5/16/18 BY: RBM
- APPROVED FOR CONSTRUCTION DATE: 8/6/18 BY: RBM

REVISION NUMBER	REVISED SHEETS	BY	DATE	DESCRIPTION
1	1,4,8,R1-R8 & D1-D7	JCA & JRP	09/19/19	ADDED SLIP REPAIR PLANS & DETAILS
2	R1-R3, R5 & D7-08	JCA	06/25/19	REVISED PER OEP COMMENTS



ONE CALL UTILITY SYSTEM CONTACT INFO



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

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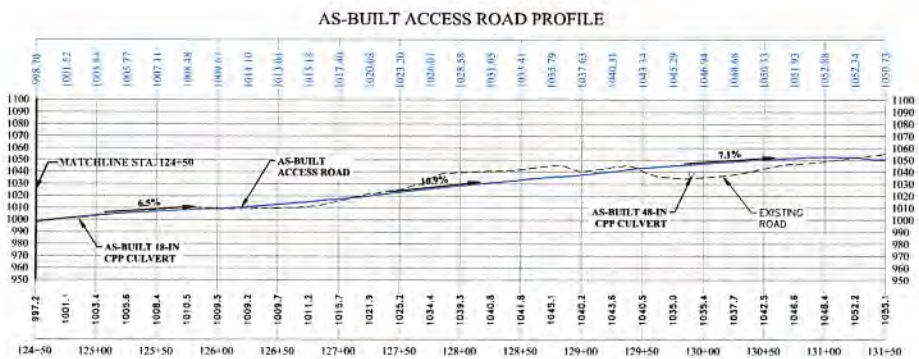
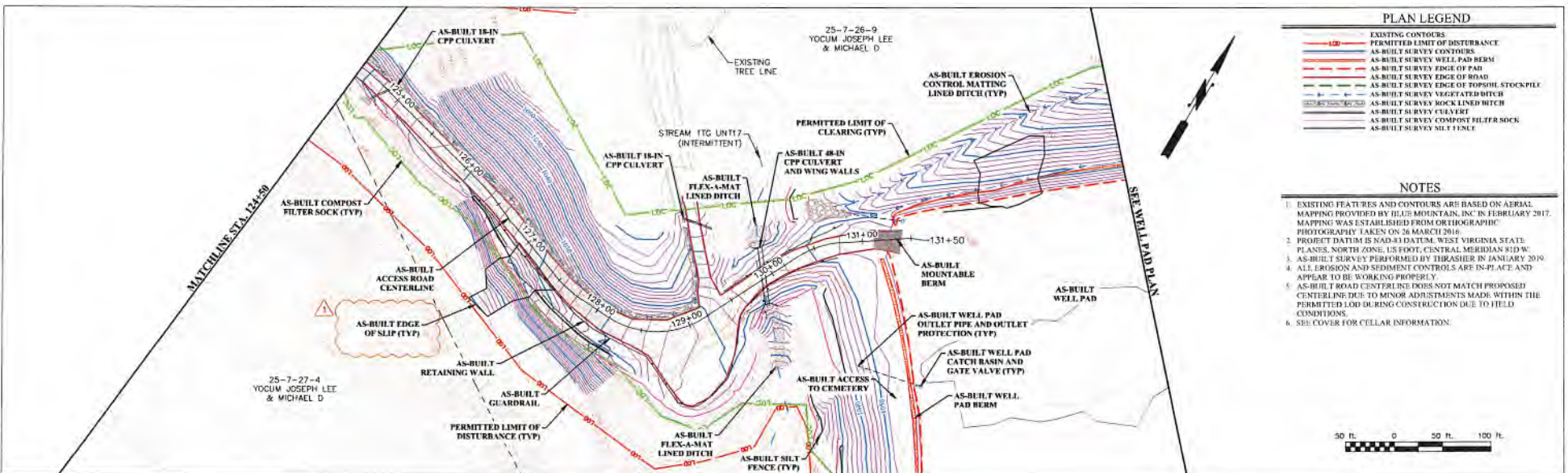


OPERATOR
SWN PRODUCTION COMPANY, LLC
179 Innovation Drive
Jane Lee, WV 26378
(304) 864-1610



D:\2019\19-00000\19-00000.dwg, 11/15/2019, 2:30 PM, User: jrp, Plot: 19-00000.dwg, 11/15/2019, 2:30 PM, User: jrp, Plot: 19-00000.dwg

LAYOUT DATE: 02/19/2019
 CADD FILE: P:\300-310-YOCUM WEL PAD-SOUTHWESTERN ENERGY\Yocum\AS-BUILT\310-Yocum-Submittal-Set.dwg
 PLOT DATE/TIME: 9/19/2018 9:16 AM



APPROVED
MODIFICATION
WVDEP 000
WBS 10/7/2019



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NO.	BY	DATE	ACCESS SLIP AS-BUILT	DESCRIPTION
1	JRP	02/19/19	ACCESS SLIP AS-BUILT	



APPROVED FOR PERMITS
 BY: RRM DATE: 02/19/2018
 APPROVED FOR BID
 BY: RRM DATE: 02/19/2018
 APPROVED FOR CONSTRUCTION
 BY: RRM DATE: 02/19/2018
 PROJECT NO: 101-080-3170

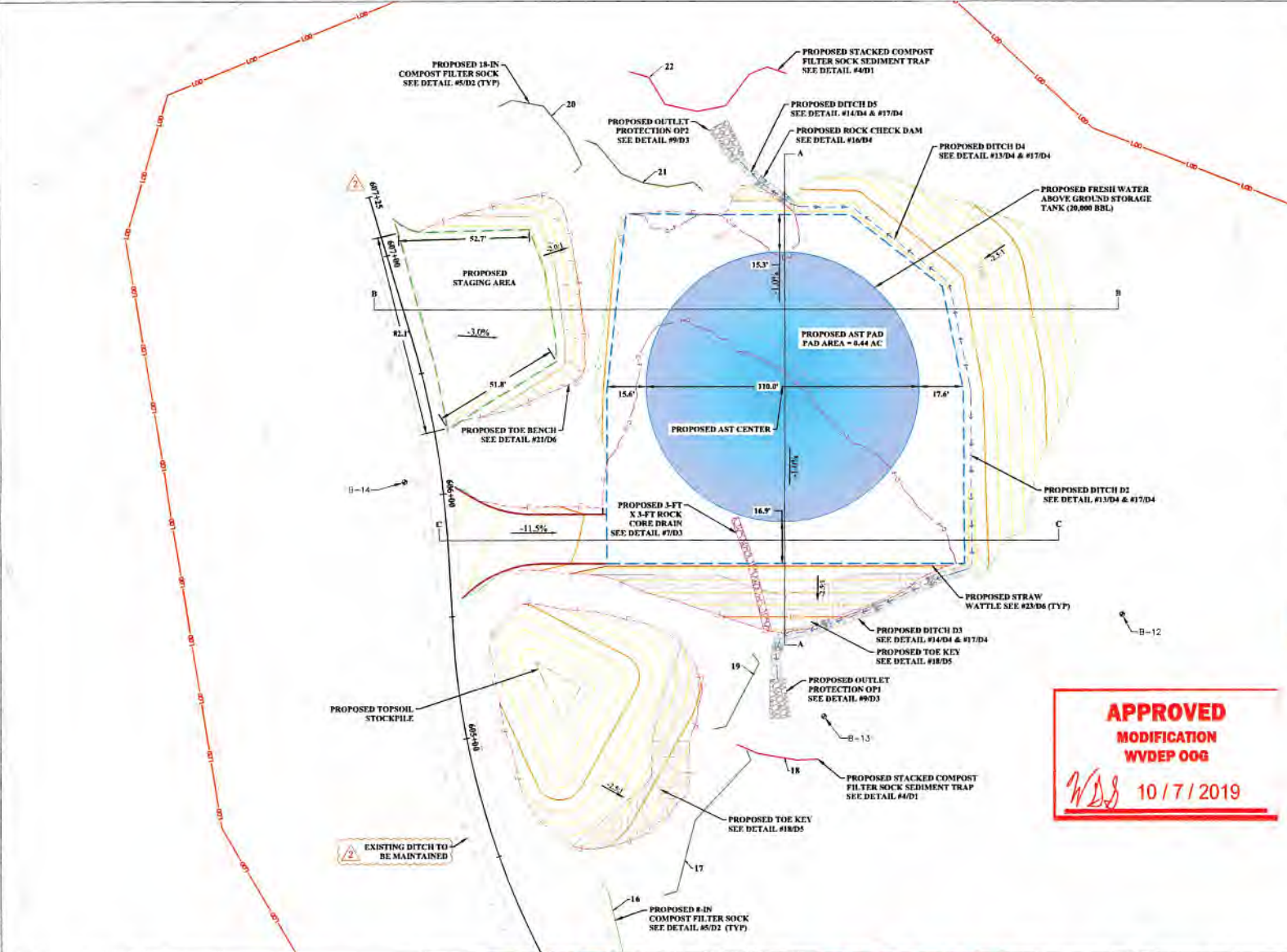


PROJECT OWNER
SWN PRODUCTION COMPANY, LLC
 PROJECT NAME
YOCUM WELL PAD
 PROJECT LOCATION
MARSHALL COUNTY, WV

SHEET TITLE
AS-BUILT ACCESS ROAD PLAN AND PROFILE
 SHEET No.
8

PLOT DATE/TIME: 8/22/2018 8:58 PM

PROJECT: C:\Users\jsw\OneDrive\Documents\SWN\Projects\Yocum Well Pad\Yocum Well Pad - SWN Production Company.dwg



PLAN LEGEND

---	EXISTING CONTOURS
---	PROPOSED LIMIT OF DISTURBANCE
---	PROPOSED LIMIT OF CLEARING
---	AS-BUILT SURVEY CONTOURS
---	AS-BUILT SURVEY WELL PAD BERM
---	AS-BUILT SURVEY EDGE OF PAD
---	AS-BUILT SURVEY EDGE OF ROAD
---	AS-BUILT SURVEY EDGE OF TOPSOIL STOCKPILE
---	AS-BUILT SURVEY VEGETATED DITCH
---	AS-BUILT SURVEY ROCK LINED DITCH
---	AS-BUILT SURVEY CULVERT
---	AS-BUILT SURVEY COMPOST FILTER SOCK
---	AS-BUILT SURVEY SILT FENCE
---	AS-BUILT SURVEY RETAINING WALL
---	EXISTING EDGE OF SLIP
---	PROPOSED VEGETATED DITCH
---	PROPOSED ROCK LINED DITCH
---	PROPOSED CONTOURS
---	PROPOSED CUT LIMIT
---	PROPOSED FILL LIMIT
---	PROPOSED EDGE OF ACCESS ROAD
---	PROPOSED 8-IN COMPOST FILTER SOCK
---	PROPOSED 18-IN COMPOST FILTER SOCK
---	PROPOSED 24-IN COMPOST FILTER SOCK
---	PROPOSED STACKED COMPOST FILTER SOCK
---	PROPOSED STRAW WATTLE
---	PROPOSED EDGE OF STAGING AREA
---	PROPOSED EDGE OF AST PAD
---	PROPOSED ROCK CORE DRAIN
---	PROPOSED SOIL TOE KEY
---	PROPOSED TOE BENCH
---	PROPOSED OUTLET PROTECTION

- NOTES**
- EXISTING FEATURES AND CONTOURS ARE BASED ON AERIAL MAPPING PROVIDED BY BELTE MOUNTAIN, INC. IN FEBRUARY 2017. PHOTOGRAPHY TAKEN ON 26 MARCH 2016.
 - PROJECT DATUM IS NAD-83 DATUM, WEST VIRGINIA STATE PLANES, NORTH ZONE, US FOOT, CENTRAL MERIDIAN 81° W.
 - AS-BUILT SURVEY PERFORMED BY THRASHER IN JANUARY 2018.
 - TOE KEYS AND TOE BENCHES SHOWN ARE FOR REPRESENTATION ONLY. TOE KEYS AND TOE BENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAIL #18/D4 AND #21/D6.
 - ALL PROPOSED SLOPES ARE TO BE TRACKED IN ACCORDANCE WITH DETAIL #3/D1.
 - SEE COMPOST FILTER SOCK SCHEDULE ON DETAIL #5/D2 FOR SECTIONS THAT MAY BE REPLACED WITH SILT SAVER PRIORITY 1 (DETAIL #2/D1) OR SUPER SILT FENCE (DETAIL #6/D2).
 - PROPOSED CONTOURS SHOWN INSIDE THE TANK PAD REPRESENT THE SUBGRADE SURFACE. THE STONE SURFACE SHALL BE GRADED IN ACCORDANCE WITH THE DETAILS AND TYPICAL SECTIONS SHOWN WITHIN THESE PLANS. PROPOSED CONTOURS IN ALL OTHER LOCATIONS REPRESENT FINISH GRADE.
 - ALL CONSTRUCTED SLOPES SHALL BE STABILIZED WITH HYDRAULICALLY APPLIED EROSION CONTROL, BLANKET OR ROLLED EROSION CONTROL, SLOPE MATTING. SEE DETAIL #1/D1 AND #15/D4.
 - ALL SURVEY STAKES SHALL FOLLOW SWN FLAGGING / STAKING STANDARDS. SEE DETAIL #6/D2.
 - ALL EARTHWORK IS TO BE PERFORMED IN ACCORDANCE WITH THE GENERAL NOTES AND DETAILS CONTAINED WITHIN THESE PLANS.

APPROVED MODIFICATION WVDEP 00G
WDS 10/7/2019



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NO.	BY	DATE	DESCRIPTION
2	JSA	08/25/18	REVISED PER DEP COMMENTS
1	JSP	08/19/18	ADDED THIS SHEET

SWN
Production Company

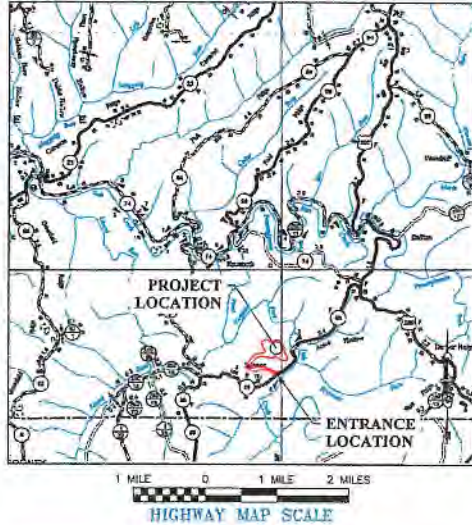
APPROVED FOR PERMITS
 BY: HEM DATE: 02/19/2018
 APPROVED FOR DEP
 BY: HEM DATE: 02/16/2018
 APPROVED FOR CONSTRUCTION
 BY: HEM DATE: 08/26/2018
 PROJECT NO: 101-030-3170

THRASHER
 THE THRASHER GROUP, INC.
 1405 WHITE HART BOULEVARD, BROOKPORT, WV 25330
 PHONE (304) 824-4100 FAX (304) 824-7953

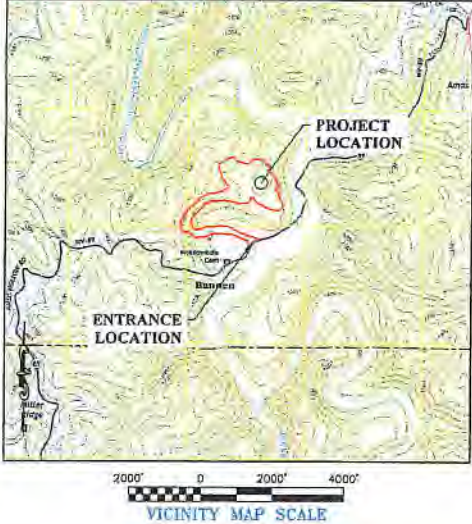
PROJECT OWNER
SWN PRODUCTION COMPANY, LLC
 PROJECT NAME
YOCUM WELL PAD
 PROJECT LOCATION
 MARSHALL COUNTY, WV

SHEET TITLE
YOCUM SLIP REPAIR AST PLAN
 SHEET No.
R3

MARSHALL COUNTY, WV HIGHWAY MAP



LITTLETON, WV QUAD MAP



ONE CALL UTILITY SYSTEM CONTACT INFO



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

COG FILE: R:\038-3170-YOCUM WELL PAD - SOUTHWESTERN ENERGY - Drawings\As-Built\3170-As-Built-Cover.dwg
 PLOT DATE/TIME: 3/19/2018 2:08 PM
 USER: jones.lindsay

AS-BUILT PLANS FOR YOCUM WELL PAD AND ACCESS ROAD

LIBERTY DISTRICT, MARSHALL COUNTY, WV FEBRUARY 2019

RECEIVED
Office of Oil and Gas

JUL 20 2022

WV Department of
Environmental Protection

MJK
 6/16/2022

TOPHOLE COORDINATES

Well Number	WV83-N Latitude	WV83-N Longitude	UTM 83-17 Northing	UTM 83-17 Easting
20SH	N 39.732964*	W 80.583491*	14429769.221 ft	1757513.640 ft
5H	N 39.732946*	W 80.583516*	14429762.709 ft	1757506.049 ft
3H	N 39.732929*	W 80.583545*	14429756.199 ft	1757498.460 ft
1H	N 39.732911*	W 80.583572*	14429749.720 ft	1757490.871 ft
SLOT 5	N 39.732893*	W 80.583600*	14429743.188 ft	1757483.283 ft
SLOT 6	N 39.732875*	W 80.583627*	14429736.678 ft	1757475.694 ft
SLOT 7	N 39.732857*	W 80.583654*	14429730.173 ft	1757468.105 ft
SLOT 8	N 39.732840*	W 80.583681*	14429723.667 ft	1757460.516 ft
SLOT 9	N 39.732822*	W 80.583708*	14429717.157 ft	1757452.928 ft
SLOT 10	N 39.732804*	W 80.583735*	14429710.651 ft	1757445.339 ft
SLOT 11	N 39.732786*	W 80.583762*	14429704.145 ft	1757437.750 ft
SLOT 12	N 39.732769*	W 80.583789*	14429697.636 ft	1757430.161 ft
SLOT 13	N 39.732751*	W 80.583816*	14429691.130 ft	1757422.572 ft
SLOT 14	N 39.732733*	W 80.583843*	14429684.620 ft	1757414.983 ft
SLOT 15	N 39.732715*	W 80.583871*	14429678.115 ft	1757407.394 ft
SLOT 16	N 39.732697*	W 80.583898*	14429671.609 ft	1757399.805 ft
SLOT 17	N 39.732679*	W 80.583925*	14429665.103 ft	1757392.216 ft
SLOT 18	N 39.732661*	W 80.583952*	14429658.597 ft	1757384.627 ft
SLOT 19	N 39.732643*	W 80.583979*	14429652.091 ft	1757377.038 ft
SLOT 20	N 39.732625*	W 80.584006*	14429645.585 ft	1757369.449 ft
SLOT 21	N 39.732607*	W 80.584033*	14429639.079 ft	1757361.860 ft
SLOT 22	N 39.732589*	W 80.584060*	14429632.573 ft	1757354.271 ft
SLOT 23	N 39.732571*	W 80.584087*	14429626.067 ft	1757346.682 ft
SLOT 24	N 39.732553*	W 80.584114*	14429619.561 ft	1757339.093 ft
SLOT 25	N 39.732535*	W 80.584141*	14429613.055 ft	1757331.504 ft
SLOT 26	N 39.732517*	W 80.584168*	14429606.549 ft	1757323.915 ft
SLOT 27	N 39.732499*	W 80.584195*	14429600.043 ft	1757316.326 ft
SLOT 28	N 39.732481*	W 80.584222*	14429593.537 ft	1757308.737 ft
SLOT 29	N 39.732463*	W 80.584249*	14429587.031 ft	1757301.148 ft
SLOT 30	N 39.732445*	W 80.584276*	14429580.525 ft	1757293.559 ft
SLOT 31	N 39.732427*	W 80.584303*	14429574.019 ft	1757285.970 ft
SLOT 32	N 39.732409*	W 80.584330*	14429567.513 ft	1757278.381 ft

DISTURBANCE SUMMARY

Property Owner (Tax Map / Parcel)	Access Road Disturbance	Well Pad Disturbance	Total Disturbance
Yocum Joseph Lee & Michael D (25-7-26-9)	3.94	16.07	19.91
Yocum Joseph Lee & Michael D (25-7-27-4)	7.66	0.00	7.66
Yocum Joseph Lee & Michael D (25-7-27-5)	0.25	0.00	0.25
High Phil H D (25-7-27-8)	0.11	0.00	0.11
Total Disturbance:	11.96	16.07	27.93

SITE COORDINATES

Coordinate Label	Well Pad Center	Access Road Beginning	AST Center
WV83-N Latitude	N 39.732854*	N 39.729937*	N 39.733809*
WV83-N Longitude	W 80.583773*	W 80.584823*	W 80.585613*
WV83-N Northing	450881.231 ft	448822.466 ft	451268.087 ft
WV83-N Easting	1663725.923 ft	1663403.685 ft	1663199.057 ft
UTM 83-17 Northing	14429728.998 ft	14428665.345 ft	14430106.875 ft
UTM 83-17 Easting	1757448.620 ft	1757144.214 ft	1756915.538 ft
UTM 83-17 Northing	4398180.195 m	4397865.993 m	4398305.372 m
UTM 83-17 Easting	535671.411 m	535578.628 m	535508.927 m

WELLS

WELL NAME	API NUMBER	CELLAR DIAMETER	CELLAR DEPTH	CELLAR MATERIAL
PERMITTED YOCUM MSH 3H	051-02024	10"	10'	CELLAR TECH
PERMITTED YOCUM MSH 3H	051-02124	10"	10'	CELLAR TECH
PERMITTED YOCUM MSH 30SH	051-02125	10"	10'	CELLAR TECH
PERMITTED YOCUM MSH 3H	051-02113	10"	10'	CELLAR TECH

DRIVING DIRECTIONS FROM CAMERON, WV

- FROM DOWNTOWN CAMERON 5-WAY STOP
1. HEAD SOUTH ON WILEY (361-FT)
 2. TURN LEFT ONTO US-250 S / MAPLE AVE (8.4-mi)
 3. TURN RIGHT ONTO AMOS HOLLOW RD (2.0-mi)
 4. DESTINATION WILL BE ON THE RIGHT.



- APPROVED FOR PERMITS DATE: 2/19/18 BY: RBM
- APPROVED FOR BIDS DATE: 5/16/18 BY: RBM
- APPROVED FOR CONSTRUCTION DATE: 8/8/18 BY: RBM

REVISION NUMBER	REVISED SHEETS	BY	DATE	DESCRIPTION
1	1,4,8,R1-R8 & D1-D7	JCA & JRP	09/19/19	ADDED SLIP REPAIR PLANS & DETAILS



OPERATOR
SWN PRODUCTION COMPANY, LLC
179 Innovation Drive
Jane Lew, WV 26378
(304) 884-1610



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