



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

Wednesday, August 25, 2021
WELL WORK PERMIT
Horizontal 6A / New Drill

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

Re: Permit approval for OE Burge MSH 5H
47-051-02388-00-00

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: OE Burge MSH 5H
Farm Name: Mason Dixon Farms
U.S. WELL NUMBER: 47-051-02388-00-00
Horizontal 6A New Drill
Date Issued: 8/25/2021

PERMIT CONDITIONS

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

CONDITIONS

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.

08/27/2021

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

1) Well Operator: SWN Production Co., LLC 494512924 051-MARsha 4-Liberty 370-Glen Easton
Operator ID County District Quadrangle

2) Operator's Well Number: OE Burge MSH 5H Well Pad Name: OE Burge MS pad

3) Farm Name/Surface Owner: Mason Dixon Farms Public Road Access: CR 92/1

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

5) Well Type (a) Gas Oil Underground Storage

Other _____

(b) If Gas Shallow Deep

Horizontal

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s): B.S. 7-13-21
Target Formation- Marcellus, Up-Dip well to the North, Target Top TVD- 7091', Target Base TVD- 7126', Anticipated Thickness- 35', Associated Pressure- 4831

8) Proposed Total Vertical Depth: 7111'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 20,536'

11) Proposed Horizontal Leg Length: 12,859.74'

12) Approximate Fresh Water Strata Depths: 228'

13) Method to Determine Fresh Water Depths: Salinity Profile Analysis using deepest nearby water well

14) Approximate Saltwater Depths: 1188' Salinity Profile

15) Approximate Coal Seam Depths: 1091'

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

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

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

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WW-6B
(04/15)

API NO. 47- 051 - **02388**
 OPERATOR WELL NO. OE Burge MSH 5H
 Well Pad Name: OE Burge MSH pad

18) **CASING AND TUBING PROGRAM**

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	J-55	94#	126'	126'	CTS
Fresh Water	13 3/8"	New	H-40	48#	328'	328'	335 sx/CTS
Coal	See	interm	Casing				
Intermediate	9 5/8"	New	J-55	36#	2650'	2650'	1056 sx/CTS
Production	5 1/2"	New	P-110 HP	20#	20,536'	20,536'	Test 3568sx/ 100' inside Intermediate
Tubing							
Liners							

BS. 8-3-21

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

PACKERS

Kind:				
Sizes:				
Depths Set:				

WW-6B
(10/14)

API NO. 47- 051 - 02388
OPERATOR WELL NO. OE Burge MSH 5H
Well Pad Name: OE Burge MS pad

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

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

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

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

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 13.5

22) Area to be disturbed for well pad only, less access road (acres): 7.6

23) Describe centralizer placement for each casing string:

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

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

See Attachment ***

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25) Proposed borehole conditioning procedures:

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

*Note: Attach additional sheets as needed.

Southwestern Energy Company

Proposed Drilling Program

Well: O E BURGE MSH 5
 Field: VICTORY FIELD WET
 County: MARSHALL
 SHL: 39.7509 Latitude -80.6317 Longitude
 BHL: 39.7808 Latitude -80.6613 Longitude
 KB Elev: 1,368 ft MSL

Re-entry Rig: TBD
 Prospect: Marcellus Shale
 State: WV
 KB: 26 ft AGL
 GL Elev: 1,342 ft MSL



No COAL VOID Anticipated

Gas Storage Interval : 1,966' - 2,483' (Maxton, Big Injun)
 PROD TOC Lead @ 2,850' MD
 PROD TOC Tail @ 6,300' 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'	328'
Intm/Coal	9.625	36.0 #	J-55	0'	2,650'
Production	5.5	20.0 #	P-110 HP	0'	20,536'

126' to 348'
Air/Mist

348' to 2,670'
Air/Mist

10.5# Brine Mud

2,670' to 6,400'
Air/Mist

CEMENT DETAIL

	Sacks	Class	Density
Conductor:	151	A	19.3
Surface:	335	A	15.6
Intermediate:	1056	A	15.6
Production:	3668	A	15

Air
TD at 6,400'

KOP at 6,400' MD

Freshwater Depth - 228' TVD
 Coal Depth - 1,091' TVD
 Saltwater Depth - 1,188' TVD
 TVD - 7,111'
 TMD - 20,536'

6,400' to 7,671'
12.0-12.2 ppg

B.S 8-3-21

TD at 20,536' MD
6,979' TVD

7,111' Target Center

EOB at 7,671' MD

SHL Onondaga 7,126' TVD

Onondaga 6,994' TVD

7,671' to 20,536'
12.2-12.8 ppg

WW-9
(4/16)

API Number 47 - 051 - 02388
Operator's Well No. O E Burge MSH 5H

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) Laurel Run of Fish Creek Quadrangle Glen Easton

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: _____

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

Proposed Disposal Method For Treated Pit Wastes:

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

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

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

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

Additives to be used in drilling medium? Attachment 3B

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

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

-Landfill or offsite name/permit number? Meadowfill SWF- 1032, Short Creek SWF-1034, Carbon Limestone MSWL018781, Wetzel County 1021 Apex Sanitary Landfill U6-U8438, BROOKE CO SWF-TU13,

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 4th day of January, 20 21

Reid Croft

Notary Public

My commission expires August 21, 2024



08/27/2021

47051 02388

Form WW-9

Operator's Well No. O E Burge MSH 5H

SWN Production Co., LLC

Proposed Revegetation Treatment: Acres Disturbed 13.5 Prevegetation pH _____

Lime as determined by pH test min.2 Tons/acre or to correct to pH 7.6

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: Bamy Stiles

Comments: _____

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Title: Oil & Gas Inspector

Date: 1-26-21

Field Reviewed? () Yes () No

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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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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

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

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

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

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	
Organic Fertilizer @ 200lbs per Acre	
Apply @ 200lbs per acre Oct. 15th- April 15th	
Pelletized Lime @ 2 Tons per Acre	

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

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

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

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

WETLANDS (delineated as jurisdictional wetlands)

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

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OE Burge MSH 5H AOR

API	Operator	Status	Latitude	Longitude	Vertical TD	Producing Formation	Producing Zones Not Perforated	People on the Ground
051-00317	Unknown	Plugged			2,176.00	Big Injun	Maxton Sand	
051-00620	CNX Gas Company, LLC	Plugged			2,719'	Gordon	Big Injun, Big Lime	
051-00941	Consolidation Coal Company	Plugged			1,096'	Unknown	Big Injun, Big Lime	
051-00942	Consolidation Coal Company	Plugged			1,422'	Unknown	Big Injun, Big Lime	
051-00858	Consolidation Coal Company	Plugged			1,455'	Unknown	Big Injun, Big Lime	
051-70668	Unknown	Unknown			Unknown	Unknown		No Well Found
051-70008	Unknown	Unknown			Unknown	Unknown		No Well Found
051-30091	Unknown	Unknown			Unknown	Unknown		No Well Found
051-30331	Unknown	Unknown			Unknown	Unknown		No Well Found
051-70670	Unknown	Unknown			Unknown	Unknown		No Well Found
051-70673	Unknown	Unknown			Unknown	Unknown		No Well Found
051-70674	Unknown	Unknown			Unknown	Unknown		No Well Found
051-30006	Unknown	Unknown			Unknown	Unknown		No Well Found
051-30035	Unknown	Unknown			Unknown	Unknown		No Well Found
051-30096	Unknown	Unknown			Unknown	Unknown		No Well Found
051-30181	Unknown	Unknown			Unknown	Unknown		No Well Found

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MARCELLUS WELL DRILLING PROCEDURES AND WELL SITE SAFETY PLAN



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

051 02388
API NO. 47-XXX-XXXX
WELL NAME: O E Burge MSH 5H
Glen Easton QUAD
Liberty DISTRICT
MARSHALL COUNTY, WEST VIRGINIA

Submitted by:

B.S. 1-26-21

Name: Brittany Woody

Date: 12/11/2019

Brittany Woody

Title: Senior Regulatory Analyst

SWN Production Co., LLC

Approved by:

Name: _____

Date: _____

Title: _____

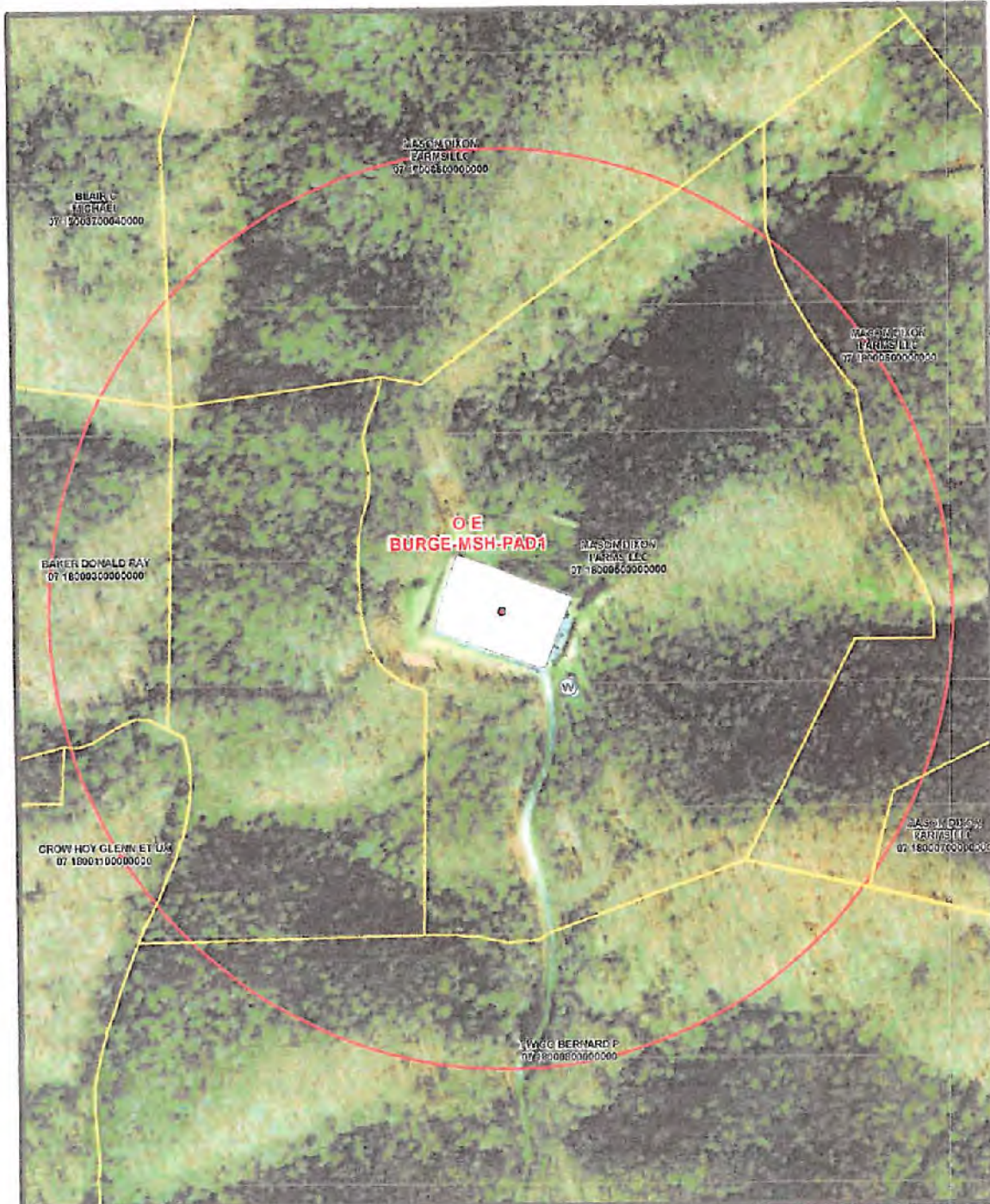
Approved by:

Name: _____

Date: _____

Title: _____

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N
 1 in = 417 ft
 0 0.025 0.05 0.1 0.15 0.2
 Coordinate System: NAD 1983 UTM Zone 17N
 Units: Meter

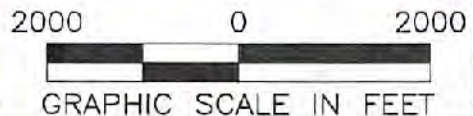
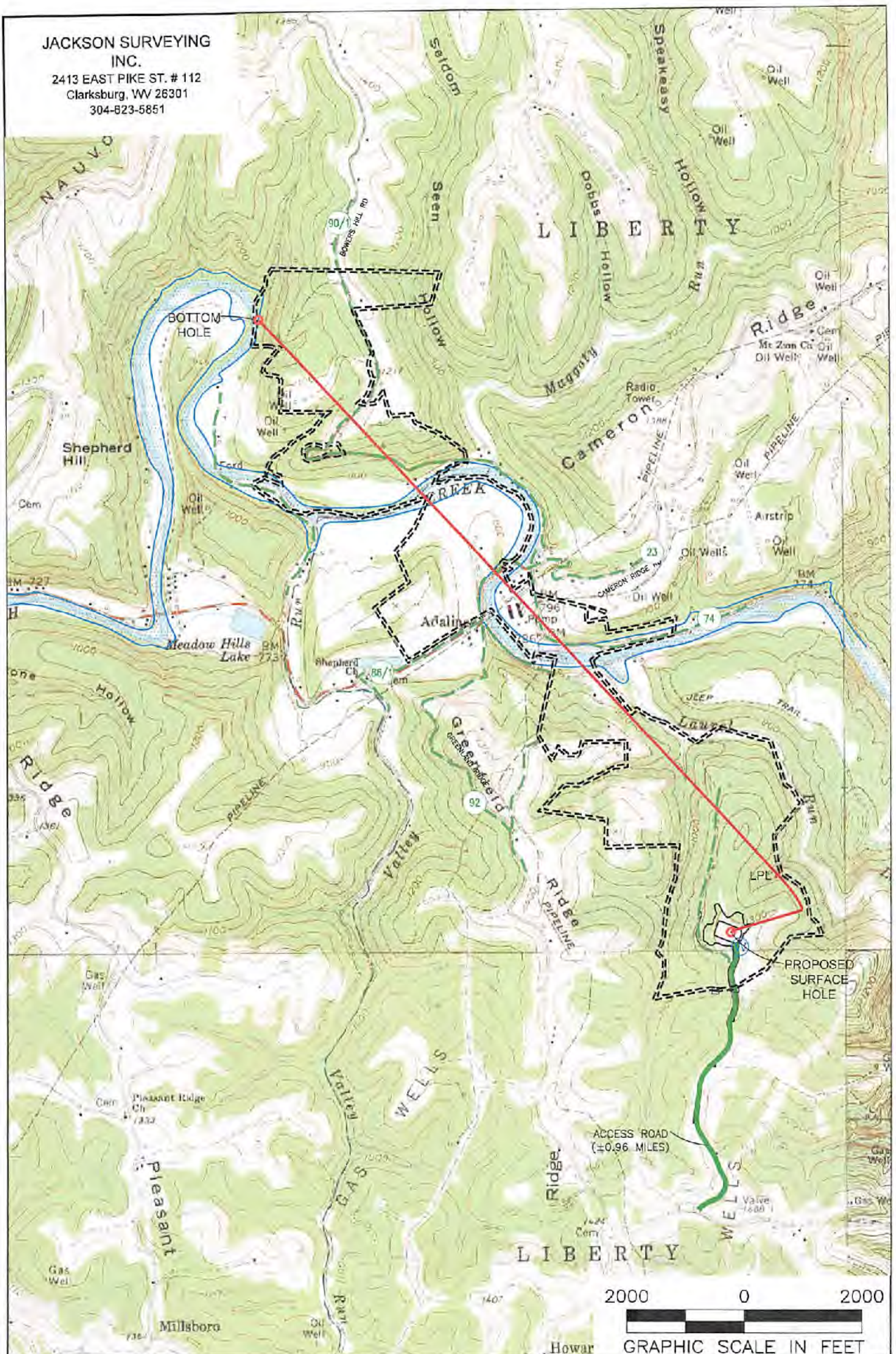
- Spring
- Water Well
- Pond
- Parcel
- 1500' Buffer

Coordinates: 39.760913, -80.631905

Water Purveyor Map
 Well Pad: OE Burge
 County: MSH
SWN $\frac{P^2}{A} = V^2$
 Southwestern Energy
 Date: 11/10/2020 | Author: willisb

**JACKSON SURVEYING
INC.**

2413 EAST PIKE ST. # 112
Clarksburg, WV 26301
304-623-5851



NOTES ON SURVEY

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

LEGEND:

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- ⊛ EXISTING / PRODUCING WELLHEAD
- LPL ✕ LANDING POINT LOCATION
- FLOOD PLAN
- PUBLIC ROAD
- ACCESS ROAD TO PREV. SITE
- == LEASE BOUNDARY
- PROPOSED PATH

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WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: OE BURGE MSH	WELL # 5H	SERIAL #
ADDRESS: 1300 FORT PIERPONT RD., SUITE 200 MORGANTOWN, WV 26508	COUNTY - CODE MARSHALL - 051	DISTRICT; LIBERTY	
SURFACE OWNER: MASON DIXON FARMS, LLC	USGS 7 1/2 QUADRANGLE MAP NAME GLEN EASTON, WV		

Latitude: 39°47'30" SURFACE HOLE 1882'

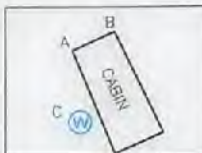
Latitude: 39°47'30" BOTTOM HOLE 9839'

JACKSON SURVEYING INC.

2413 EAST PIKE ST. # 112
Clarksburg, WV 26301
304-623-5851

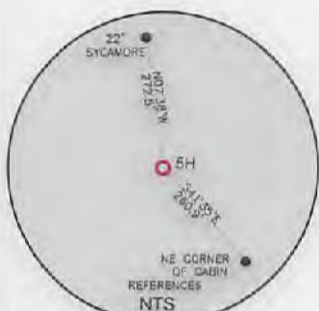
LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	S 04°17'40" E	957.89'	SHL TO LANDMARK	30" BLACK OAK FD
L2	S 14°59'04" W	1017.52'	SHL TO LANDMARK	3/4" REBAR FOUND
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L3	N 39°43'55" W	1252.04'	1900.53'	SHL TO LP

5H SHL TO A 254.8'
5H SHL TO B 260.9'
5H SHL TO C 287.5'



SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,400,174.271 EASTING: 531,552.219
LANDING POINT (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,400,467.754 EASTING: 531,796.151
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,403,326.500 EASTING: 529,114.497

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

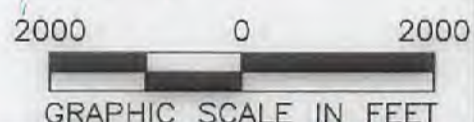
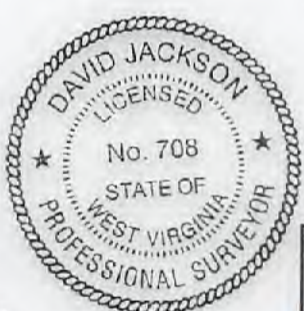


- WELL RESTRICTIONS**
- NO OCCUPIED DWELLINGS > 2500 SQ FT, WITHIN 625 FEET OF CENTER OF PAD.
 - NO AGRICULTURE BUILDINGS > 2500 SQ FT, WITHIN 625 FEET OF CENTER OF PAD.
 - NO WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF PROPOSED WELL.
 - NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
 - NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
 - NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

- NOTES ON SURVEY**
- 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.
 - ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

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

P.S. 708 *David L Jackson*



COMPANY: **SWN** Production Company, LLC

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25034

MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)

OE BURGE MSH
OPERATOR'S WELL #: 5H
API WELL #: 47 051 02388 H6A
STATE COUNTY PERMIT

WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW

WATERSHED: LAUREL RUN OF FISH CREEK (HUC-10) ELEVATION: 1342.2'

DISTRICT: LIBERTY COUNTY: MARSHALL QUADRANGLE: GLEN EASTON, WV

SURFACE OWNER: MASON DIXON FARMS, LLC ACREAGE: ±66.03

OIL & GAS ROYALTY OWNER: O. E. BURGE ET AL ACREAGE: ±66.03

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

CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY) **08/27/2021**

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,111 TVD 20,536 TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC ADDRESS: 1300 FORT PIERPONT RD., SUITE 200 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

DESIGNATED AGENT: BRITTANY WOODY ADDRESS: 1300 FORT PIERPONT RD., SUITE 200 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND:	<ul style="list-style-type: none"> ○ PROPOSED SURFACE HOLE / BOTTOM HOLE ⊗ EXISTING / PRODUCING WELLHEAD LPL* LANDING POINT LOCATION ⊙ EXISTING WATER WELL ⊕ EXISTING SPRING 	<ul style="list-style-type: none"> — SURVEYED BOUNDARY — DRILLING UNIT == LEASE BOUNDARY — PROPOSED PATH 	REVISIONS:	DATE: 07-07-2021
				DRAWN BY: N. MANO
				SCALE: 1" = 2000'
				DRAWING NO:
				WELL LOCATION PLAT



JACKSON SURVEYING
 INC.
 2413 EAST PIKE ST. # 112
 Clarksburg, WV 26301
 304-623-5851

WELL BORE TRACTS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	MASON DIXON FARMS LLC (S/R)	07-0018-05
TRACT	SURFACE OWNER (S)	TAX PARCEL
2	MASON DIXON FARMS LLC (S)	07-0017-36
3	MASON DIXON FARMS LLC (S)	07-0017-37
4	SCOTT AARON COLE & SAMANTHA (S)	07-0017-37.4
5	SCOTT AARON COLE & SAMANTHA (S)	07-0017-37.7
6	WALLACE RODNEY J ET UX (S)	07-0017-37.6
7	OLDFIELD KAREN K ET AL (S)	07-0017-37.1
8	BUTLER BENJAMIN ET UX (S)	07-0017-9.3
9	COLUMBIA GAS TRANSMISSION (S)	07-0017-6
10	COLUMBIA GAS TRANSMISSION (S)	07-0017-4
11	BUZZARD JOANN (S)	07-0017-3
12	WILLIAMS ROBERT W & DEBRA JEAN (S)	07-0009-5
13	DOBBS ADA C ET AL (S)	07-0009-4
14	ANDRICH THOMAS M JR. EST ET UX (S)	09-0015-8
15	ANDRICH THOMAS M JR. EST ET UX (S)	09-0015-8.2
16	CONSOLIDATION COAL COMPANY MURRAY ENERGY (S)	09-0015-6

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	MASON DIXON FARMS LLC	07-0018-6
B	MASON DIXON FARMS LLC	07-0018-8.1
C	CROW HOY GLENN ET UX	07-0018-11
D	BAKER DONALD RAY	07-0018-3
E	MASON DIXON FARMS LLC	07-0018-2
F	MASON DIXON FARMS LLC	07-0017-37.5
G	SCOTT AARON COLE & SAMANTHA	07-0017-37.8
H	MASON DIXON FARMS LLC	07-0017-38
I	COLUMBIA GAS TRANSMISSION	07-0017-5
J	BUZZARD GUY L	07-0017-38.1
K	BUZZARD GUY L	07-0017-38.2
L	BUZZARD GUY LAMONT	07-0017-38.4
M	BUZZARD GUY L	07-0017-38.3
N	STERN SHAWN GLENN	07-0017-38.6
O	STERN JERRY GLENN ET UX - LIFE	07-0017-38.5
P	STERN JERRY G ET UX - LIFE	07-0017-1.2
Q	STERN JERRY GLENN - LIFE	07-0017-1.7
R	STERN FAMILY FARM LLC	07-0017-1
S	STERN FAMILY FARM LLC	07-0017-2
T	EWING MICHELLE R	09-0017-24
U	MASON J MONT EST	09-0017-17
V	HALL ROBERT L	09-0015-22
W	POLINSKI DAVID M SR & RHONDA S	09-0017-18
X	MASTERS STEVEN D & MONICA M	07-0009-4.1
Y	HALL ROBERT L	09-0015-20
Z	HALL ROBERT L	09-0015-21

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A2	HALL ROBERT L	09-0015-9
B2	TYLER WILLIAM A ET AL	09-0015-10
C2	TYLER WILLIAM A ET AL	09-0015-11
D2	BYERS RICHARD W	09-0015-12
E2	BYERS RICHARD W	09-0015-5
F2	MEYER ANNA E EST	09-0012-35
G2	CONSOLIDATION COAL COMPANY MURRAY ENERGY	09-0012-36
H2	ASTON PAUL & SUSAN	07-0009-2
I2	CONSOLIDATION COAL COMPANY MURRAY ENERGY	09-0015-7
J2	WOOD ROY R SR	09-0015-7.1
K2	CONSOLIDATION COAL COMPANY MURRAY ENERGY	07-0009-3
L2	CONSOLIDATION COAL COMPANY MURRAY ENERGY	09-0015-8.1
M2	MAGNONE WILLIAM NICHOLAS J & ARLENE C - LIFE	07-0009-8
N2	ASTON PAULET UX	07-0009-7.1
O2	ASTON CHAD EVERETT ET UX	07-0009-7
P2	ASTON CHAD EVERETT ET UX	07-0009-6
Q2	HAYWARD CHARLES JR & LISA K	07-0009-10.1
R2	RICHMOND BERT KENNETH ET UX	07-0009-10
S2	COLUMBIA GAS TRANSMISSION	07-0017-7
T2	W VA DEPT OF HIGHWAYS	07-0017-7.1
U2	W VA DEPT OF HIGHWAYS	07-0017-3.2
V2	MASON ERIC T	07-0009-12
W2	COLUMBIA GAS TRANSMISSION	07-0017-7
X2	JOBES STEPHEN	07-0017-9
Y2	COTTRELL SAMUEL L	07-0017-10
Z2	MATZ BRETT J	07-0017-9.1
A3	MCCULLY BETTY TAYLOR ET VIR	07-0017-13
B3	JOHNSON ROBERT & KATHY	07-0017-8
C3	MASON DIXON FARMS LLC	07-0017-35
D3	WALLACE RODNEY J & DIANNA L	07-0017-37.3
E3	MASON DIXON FARMS LLC	07-0017-33
F3	WARREN JAMES ROBERT	07-0017-34
G3	MASON DIXON FARMS LLC	07-0019-1

08/27/2021

REVISIONS:	COMPANY:	 	
	OPERATOR'S	OE BURGE MSH	DATE: 07-07-2021
	WELL #:	5H	DRAWN BY: N. MANO
	DISTRICT:	COUNTY:	SCALE: N/A
	LIBERTY	MARSHALL	DRAWING NO:
		STATE:	WV
			WELL LOCATION PLAT 2

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

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

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

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
See Exhibit "A"				

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

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

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

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

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WV Department of
Environmental Protection

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

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

4705102388

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC, Operator
 O E Burge MSH 5H
 Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	Book/Page	% Interest Not Leased by Southwestern Production Company, LLC
1	7-18-5	O.E. Burge and Sarah Burge, his wife; D.E. Richmond and Mary Richmond, his wife; Nile H. Hinerman and Claudia Hinerman, his wife The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	353/236 422/204 642/281 662/322 33/110	0.00%
2	7-17-36	Hobson Teagarden and Ensel R. Teagarden, his wife, Floella Teagarden Grathwell and Sam Grathwell, her husband The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	272/222 422/204 642/281 662/322 33/110	0.00%
3	7-17-37	Hazen H. Fair and Martha J. Fair, husband and wife, Roscoe Fair and Sarah E. Fair, husband and wife, Rhoda L. Brown, widow, Blaine Allen and Lucille Allen, husband and wife, Francis J. Garrett and Louise Garrett, husband and wife, Louise Garrett, Attorney in Fact for Florence Saddler and Lucille West The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	353/215 422/204 642/281 662/322 33/110	0.00%
4	7-17-37.4	Hazen H. Fair and Martha J. Fair, husband and wife, Roscoe Fair and Sarah E. Fair, husband and wife, Rhoda L. Brown, widow, Blaine Allen and Lucille Allen, husband and wife, Francis J. Garrett and Louise Garrett, husband and wife, Louise Garrett, Attorney in Fact for Florence Saddler and Lucille West The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	353/215 422/204 642/281 662/322 33/110	0.00%
5	7-17-37.7	Hazen H. Fair and Martha J. Fair, husband and wife, Roscoe Fair and Sarah E. Fair, husband and wife, Rhoda L. Brown, widow, Blaine Allen and Lucille Allen, husband and wife, Francis J. Garrett and Louise Garrett, husband and wife, Louise Garrett, Attorney in Fact for Florence Saddler and Lucille West The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	353/215 422/204 642/281 662/322 33/110	0.00%
6	7-17-37.6	Hazen H. Fair and Martha J. Fair, husband and wife, Roscoe Fair and Sarah E. Fair, husband and wife, Rhoda L. Brown, widow, Blaine Allen and Lucille Allen, husband and wife, Francis J. Garrett and Louise Garrett, husband and wife, Louise Garrett, Attorney in Fact for Florence Saddler and Lucille West The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	353/215 422/204 642/281 662/322 33/110	0.00%
7	7-17-37.1	Royalty Owner	n/a	n/a	n/a	12.40%
		Roscoe Fair and Sarah E. Fair, his wife; Hazen H. Fair and Martha J. Fair, his wife; Lucille Allen and Blaine Allen, her husband; Osce B. Moison, widow; H.W. Mason and Sarah J. Mason, his wife; Keziah F. Manning, widow and Rhoda L. Brown, widow The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC Kandee Blake, s/k/a Kandee L. Blake and William Blake, her husband Chesapeake Appalachia, LLC Charles W. Yohe, s/k/a Charles Yohe, a single man Chesapeake Appalachia, LLC Joanne Whipkey and Robert Whipkey Chesapeake Appalachia, LLC Reva A. Herron, 1/4/a Revn A. Ryan and Richard Herron, her husband Chesapeake Appalachia, LLC Carolyn Mae Gaughan, s/k/a Carolyn Gaughan, a married woman dealing in her sole and separate property Chesapeake Appalachia, LLC Glenn June Galfourakis, a single woman	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Columbia Gas Transmission Corporation SWN Production Company, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50% 17.00% 17.00% 17.00% 17.00% 17.00% 17.00% 17.00% 17.00%	353/259 422/204 642/281 662/322 33/110 741/334 33/110 741/340 33/110 742/550 33/110 742/544 33/110 742/395 33/110 742/383	

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 WV Department of Environmental Protection

08/27/2021

EXHIBIT "A"
 Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC, Operator
 O E Burge MSH SH
 Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	Book/Page	% Interest Not Leased by Southwestern Production Company, LLC
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Ted H. Waller, a widower	Chesapeake Appalachia, LLC	17.00%	744/76	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Irene Glover, a/k/a Lois Irene Whitehead, a single woman	Chesapeake Appalachia, LLC	17.00%	745/245	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Shirley Ann McWhorter, a/k/a Shirley McWhorter, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	746/79	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Howard Eldon Yoho and Walentyna Yoho, his wife	Chesapeake Appalachia, LLC	17.00%	747/388	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Antonia R. Yoho, a widow	Chesapeake Appalachia, LLC	17.00%	747/617	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Donald L. Yoho, a/k/a Donald Lee Yoho and Sharon Yoho, his wife	Chesapeake Appalachia, LLC	17.00%	748/143	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Robert B. Lilley, a/k/a Robert D. Lilley, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	17.00%	750/177	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Waneta M. Holt, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	17.00%	751/173	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Doris M. McCollum, a single woman	Chesapeake Appalachia, LLC	17.00%	750/189	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Rhoda M. McCoy, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	755/001	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		William R. Lilley, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	17.00%	754/640	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Mary M. Yoho, a widow	Chesapeake Appalachia, LLC	17.00%	754/601	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Susan Crim, a/k/a Susan Beth Fish-Crim, a/k/a Susan Beth Fish Crim, a/k/a Susan Fish, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	758/102	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Mary Margaret Aston, a widow	Chesapeake Appalachia, LLC	17.00%	758/96	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Anna Mae Chaplin, a single woman	Chesapeake Appalachia, LLC	17.00%	758/58	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Nancy Jane Lahar, a single woman	Chesapeake Appalachia, LLC	17.00%	758/64	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Betty Ann Blake, a widow, by her Attorney-in-Fact,	Chesapeake Appalachia, LLC	17.00%	762/61	
		David Blake and James Blake	SWN Production Company, LLC		33/110	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Carl Yoho, a/k/a Carl Wayne Yoho and Bridgette Yoho, his wife	Chesapeake Appalachia, LLC	17.00%	761/420	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		-33/110	
		Donna Lynn Yoho, f/k/a Donna Lynn Stanley, a/k/a Donna Lynn Stanley Yoho, a single woman	Chesapeake Appalachia, LLC	17.00%	764/639	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Paul Yoho, a/k/a Paul David Yoho and Tina Yoho, his wife	Chesapeake Appalachia, LLC	17.00%	768/318	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Jill Yoho-White, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	769/575	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Larry Douglas Garner, a widower	Chesapeake Appalachia, LLC	17.00%	802/124	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Berna Lee Bolton, a widow	Chesapeake Appalachia, LLC	17.00%	802/572	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		David C. White as Special Commissioner appointed in Civil Matter Number 15-P-69H, Marshall County, WV	SWN Production Company, LLC	15.00%	948/34	
		Ronald Young, single	SWN Production Company, LLC	17.00%	1076/433	
		Orville Young, LLC c/o Ronald Young, Manager	SWN Production Company, LLC	17.00%	1076/428	
		Billie J. Keller, widow	SWN Production Company, LLC	16.00%	1112/610	
		Challen R. Mason, Sr., married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1107/270	
		Denise Suppa, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1114/82	
		Douglas Greig Paetzold, married dealing in his sole and separate property	SWN Production Company, LLC	17.00%	1115/1	
		Elaine Henderson Clegg, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1108/164	
		Eric T. Mason, single	SWN Production Company, LLC	16.00%	1115/8	
		Erin Rebecca Lizon, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1108/48	
		Gregory T. Brant, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1112/594	
		Jack L. Mason, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1108/125	
		James W. Mason, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1111/73	
		John M. Brant, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1112/115	
		Justin Nixon, single	SWN Production Company, LLC	16.00%	1111/533	

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EXHIBIT "A"
 Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC, Operator
 O F Burge MSH 5H
 Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	Book/Page	% Interest Not Leased by Southwestern Production Company, LLC
		Kathryn Marie Whipkey, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1108/131	
		Kathy Brown, widow	SWN Production Company, LLC	16.00%	1111/215	
		Kenneth Richmond, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1107/264	
		Mark Magee, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1107/282	
		Meissa D. Brant, single	SWN Production Company, LLC	16.00%	1112/122	
		Nancy Faye Fye, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1108/176	
		Paula Lynn Bell, single	SWN Production Company, LLC	17.00%	1114/75	
		Roger L. Slonaker, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1108/40	
		Shirley Koontz, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1107/254	
		Stephen Carmichael, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1108/150	
		Vicky L. Scott, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1112/129	
8	7-17-9.3	Raymond Burge and Alma Burge, his wife	The Manufacturers Light and Heat Company	12.50%	353/121	0.00%
		The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		422/204	
		Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		642/281	
		Columbia Gas Transmission Corporation	Chesapeake Appalachia, LLC		662/322	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
9	7-17-6	Royalty Owner	n/a	n/a	n/a	12.40%
		Lucille Allen and Blaine Allen, her husband, Dice B. Mason, widow; H.W. Mason and Sarah J. Mason, his wife; Keziah F. Manning, widow	The Manufacturers Light and Heat Company	12.50%	353/252	
		The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		422/204	
		Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		642/281	
		Columbia Gas Transmission Corporation	Chesapeake Appalachia, LLC		662/322	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Charles W. Yoho, a/k/a Charles Yoho, a single man	Chesapeake Appalachia, LLC	17.00%	741/352	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Joanne Whipkey, a/k/a JoAnne Whipkey and Robert Whipkey, her husband	Chesapeake Appalachia, LLC	17.00%	742/217	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Irene Glover, a/k/a Lois Irene Whitehead, a single woman	Chesapeake Appalachia, LLC	17.00%	742/556	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Reva A. Herron, t/a/a Reva A. Ryan and Richard Herron, her husband	Chesapeake Appalachia, LLC	17.00%	742/538	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Gloria June Gallourakis, a single woman	Chesapeake Appalachia, LLC	17.00%	742/389	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Carolyn Mae Gaughan, a/k/a Carolyn Gaughan, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	742/528	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Ted H. Waller, a widower	Chesapeake Appalachia, LLC	17.00%	742/562	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Kandee L. Blake, a/k/a Kandee Blake and William Blake, her husband	Chesapeake Appalachia, LLC	17.00%	744/82	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Shirley Ann McWhorter, a/k/a Shirley McWhorter, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	746/295	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Howard Eldon Yoho and Walentyna Yoho, his wife	Chesapeake Appalachia, LLC	17.00%	747/358	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Antonia R. Yoho, a widow	Chesapeake Appalachia, LLC	17.00%	747/605	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Donald L. Yoho, a/k/a Donald Lee Yoho and Sharon Yoho, his wife	Chesapeake Appalachia, LLC	17.00%	748/539	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Robert B. Lilley, a/k/a Robert D. Lilley, a married man	Chesapeake Appalachia, LLC	17.00%	750/124	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Waneta M. Holt, a married woman	Chesapeake Appalachia, LLC	17.00%	751/185	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Doris M. McCollum, a single woman	Chesapeake Appalachia, LLC	17.00%	751/179	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Rhoda M. McCoy, a married woman	Chesapeake Appalachia, LLC	17.00%	755/13	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		William R. Lilley, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	17.00%	755/7	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Mary M. Yoho, a widow	Chesapeake Appalachia, LLC	17.00%	754/630	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Susan Crim, a/k/a Susan Beth Fish-Crim, a/k/a Susan Beth Fish-Crim, a/k/a Susan Fish, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	757/541	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Mary Margaret Arton, a widow	Chesapeake Appalachia, LLC	17.00%	757/534	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	

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EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC, Operator
 O E Burge MSH 5H
 Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	Book/Page	% Interest Not Leased by Southwestern Production Company, LLC
		The Alfred E. Yoho Estate, a/k/a Alfred Elwood Yoho Estate, by Howard Eldon Yoho, a/k/a Howard E. Yoho, a/k/a Howard E. Yoho, a/k/a Howard Yoho, acting as Executor	Chesapeake Appalachia, LLC	17.00%	758/52	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Nancy Jane Lahar, a single woman	Chesapeake Appalachia, LLC	17.00%	758/46	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Anna Mae Chaplin, a single woman	Chesapeake Appalachia, LLC	17.00%	758/34	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Betty Ann Blake, a/k/a Betty Ann Blake, a widow, by her Attorneys-In-Fact, David Blake and James Blake	Chesapeake Appalachia, LLC	17.00%	760/104	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Carol Wayne Yoho, a/k/a Carl Yoho and Bridgette Yoho, his wife	Chesapeake Appalachia, LLC	17.00%	761/426	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Donna Lynn Yoho, f/k/a Donna Lynn Stanley, a/k/a Donna Lynn Stanley Yoho, a single woman	Chesapeake Appalachia, LLC	17.00%	765/553	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Paul David Yoho, a/k/a Paul Yoho and Tina Yoho, his wife	Chesapeake Appalachia, LLC	17.00%	768/312	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		David C. White as Special Commissioner appointed in Civil Matter Number 15-P-69H, Marshall County, WV	SWN Production Company, LLC	15.00%	948/34	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Columbia Gas Transmission, LLC and NSource Energy Ventures, LLC	Chesapeake Appalachia, LLC	12.50%	662/322	
		Larry Douglas Garner, a widower	SWN Production Company, LLC	17.00%	1069/367	
		Orville Young, LLC c/o Ronald Young, Manager	SWN Production Company, LLC	17.00%	1072/256	
		Ronald Young, single	SWN Production Company, LLC	17.00%	1072/260	
		Billie J. Keller, widow	SWN Production Company, LLC	16.00%	1112/610	
		Challen R. Mason, Sr., married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1107/270	
		Denise Suppa, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1114/82	
		Elaine Henderson Clegg, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1108/164	
		Eric T. Mason, single	SWN Production Company, LLC	16.00%	1115/8	
		Erin R. Lizon, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1108/48	
		Douglas Greig Paetzold, married dealing in his sole and separate property	SWN Production Company, LLC	17.00%	1115/1	
		Gregory T. Brant, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1112/564	
		Jack L. Mason, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1108/125	
		James W. Mason, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1111/73	
		John M. Brant, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1112/115	
		Justin Nixon, single	SWN Production Company, LLC	16.00%	1111/533	
		Kathryn Marie Whipkey, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1108/131	
		Kathy Brown, widow	SWN Production Company, LLC	16.00%	1111/215	
		Kenneth Richmond, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1107/264	
		Mark Magee, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1107/282	
		Melissa D. Brant, single	SWN Production Company, LLC	16.00%	1112/122	
		Nancy Faye Fye, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1108/176	
		Roger L. Stonaker, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1108/40	
		Paula Lynn Bell, single	SWN Production Company, LLC	17.00%	1114/75	
		Shirley Kooztz, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1107/254	
		Stephen Carmichael, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1108/150	
		Vicky L. Scott, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1112/129	
10	7-17-4	Royalty Owner	n/a	n/a	n/a	1.95%
		Hazen H. Fair and Martha J. Fair, husband and wife, Roscoe Fair and Sarah E. Fair, husband and wife, Rhoda L. Brown, widow, Blaine Allen and Lucille Allen, husband and wife	The Manufacturers Light and Heat Company	12.50%	353/107	
		The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		422/204	
		Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		642/281	
		Columbia Gas Transmission Corporation	Chesapeake Appalachia, LLC		662/322	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		James Harold Winchel, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	18.00%	747/222	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Georgia D. Berges, aka Georgia Doan (Jody) Berges and Ronald Berges, her husband	Chesapeake Appalachia, LLC	18.00%	747/611	

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EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC, Operator
 O E Burge MSH 5H
 Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	Book/Page	% Interest Not Leased by Southwestern Production Company, LLC
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Russell Eugene Winchel, a/k/a Russell E. Winchel, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	18.00%	748/533	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Richard C. Moore, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	18.00%	749/169	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Gail Darland, a single woman, by her AIF Dority, a/k/a Glenda "Sam" Dority, a/k/a "Sam" Glenda Dority, f/k/a Glenda Howard	Chesapeake Appalachia, LLC	18.00%	751/456	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Cheryl Aber, a single woman	Chesapeake Appalachia, LLC	18.00%	751/443	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		G. Dority, a/k/a Glenda "Sam" Dority, a/k/a "Sam" Glenda Dority, f/k/a Glenda Howard, a single woman	Chesapeake Appalachia, LLC	18.00%	751/450	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		David C. White as Special Commissioner appointed in Civil Matter Number 15-P-60H, Marshall County, WV	SWN Production Company, LLC	15.00%	948/34	
11	7-17-3	Royalty Owner	n/a	n/a	n/a	1.95%
		Hazen H. Fair and Martha J. Fair, husband and wife, Rescoe Fair and Sarah E. Fair, husband and wife, Rhoda L. Brown, widow, Blaine Allen and Lucille Allen, husband and wife	The Manufacturers Light and Heat Company	12.50%	353/107	
		The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		422/204	
		Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		642/281	
		Columbia Gas Transmission Corporation	Chesapeake Appalachia, LLC		662/322	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		James Harold Winchel, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	18.00%	747/222	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Georgia D. Berges, aka Georgia Dean (Jody) Berges and Ronald Berges, her husband	Chesapeake Appalachia, LLC	18.00%	747/611	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Russell Eugene Winchel, a/k/a Russell E. Winchel, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	18.00%	748/533	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Richard C. Moore, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	18.00%	749/169	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Gail Darland, a single woman, by her AIF Dority, a/k/a Glenda "Sam" Dority, a/k/a "Sam" Glenda Dority, f/k/a Glenda Howard	Chesapeake Appalachia, LLC	18.00%	751/456	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Cheryl Aber, a single woman	Chesapeake Appalachia, LLC	18.00%	751/443	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		G. Dority, a/k/a Glenda "Sam" Dority, a/k/a "Sam" Glenda Dority, f/k/a Glenda Howard, a single woman	Chesapeake Appalachia, LLC	18.00%	751/450	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		David C. White as Special Commissioner appointed in Civil Matter Number 15-P-60H, Marshall County, WV	SWN Production Company, LLC	15.00%	948/34	
12	7-9-5	Olive Taylor and George E. Taylor, her husband; Helen Hinds and W.C. Hinds, her husband; Lucille A. Mason and William M. Mason, her husband; Alegra Gallaher and H.A. Gallaher, her husband; Duayne Postlewait and George Postlewait, and Flora M. Postlewait.	The Manufacturers Light and Heat Company	12.50%	363/15	0.00%
		The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		422/204	
		Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		642/281	
		Columbia Gas Transmission Corporation	Chesapeake Appalachia, LLC		650/63	
		Columbia Gas Transmission Corporation	Chesapeake Appalachia, LLC		662/322	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Guy Kenneth Postlewait, married dealing in his sole and separate property	SWN Production Company, LLC	15.00%	1100/343	
		Sandra Lynn Preull, married dealing in her sole and separate property	SWN Production Company, LLC	15.00%	1100/409	
		Gary Albert Postlewait, married dealing in his sole and separate property	SWN Production Company, LLC	15.00%	1100/338	
		Usa Kay Byars, married and dealing in her sole and separate property	SWN Production Company, LLC	15.00%	1102/511	
		Mark Alan Hutter, married and dealing in his sole and separate property	SWN Production Company, LLC	15.00%	1102/516	
		Janet Lee Ellison, married dealing in her sole and separate property	SWN Production Company, LLC	15.00%	1100/353	
		Sarah Jane Cooley, married dealing in her sole and separate property	SWN Production Company, LLC	15.00%	1103/332	
13	7-9-4	Royalty Owner	n/a	n/a	n/a	2.78%
		Terry W. Higgins, a married man dealing in his sole and separate property	SWN Production Company, LLC	17.00%	979/126	
		Colin A. Willison, a/k/a Colin A. Willison, III, a single man	SWN Production Company, LLC	16.00%	965/283	

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EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-5A1, by SWN Production Company, LLC, Operator
 O E Burge MSH 5H
 Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	Book/Page	% Interest Not Leased by Southwestern Production Company, LLC
		Michelle E. Higgins, a single woman	SWN Production Company, LLC	17.00%	979/131	
		Robert A. Michael, a married man dealing in his sole and separate property	SWN Production Company, LLC	17.00%	989/140	
		Diane D. DeMarzo, a widow	SWN Production Company, LLC	17.00%	984/211	
		Stanley J. Richmond, a/k/a Stanley Richmond, a single man	SWN Production Company, LLC	16.00%	1014/1	
		Savannah Lee Floyd, a married woman dealing in her sole and separate property	SWN Production Company, LLC	17.00%	1072/12	
		Joseph Martin, single	SWN Production Company, LLC	17.00%	1072/268	
		Betty Marie Sickler, a/k/a Betty F. Sickler and Edwin M. Sickler, Jr., wife and husband	SWN Production Company, LLC	17.00%	1062/558	
		Marsha L. Laberie, f/k/a Marsha L. Schon, a married woman dealing in her sole and separate property	SWN Production Company, LLC	17.00%	1069/390	
		Dustin Douglas Jones, a single man	SWN Production Company, LLC	17.00%	1066/91	
		Justin Mark Jones and Kimberly Dawn Jones, husband and wife	SWN Production Company, LLC	17.00%	1066/86	
		Eric Colin Willison, a married man	SWN Production Company, LLC	17.00%	1067/84	
		James Martin, single	SWN Production Company, LLC	17.00%	1076/90	
		Black Gold Group, Ltd, an Ohio limited liability company	SWN Production Company, LLC	17.00%	1104/478	
		Thomas Matheny, married dealing in his sole and separate property	SWN Production Company, LLC	17.00%	1104/90	
		Stephen B. Krinke, married dealing in his sole and separate property	SWN Production Company, LLC	17.00%	1106/429	
		Mark F. Krinke, single	SWN Production Company, LLC	17.00%	1111/83	
		Deborah Ferrell, single	SWN Production Company, LLC	17.00%	1112/605	
14	9-15-8	Patricia Aileen George aka Patty Aileen Ogden George, divorced	SWN Production Company, LLC	17.00%	1100/389	0.00%
		Robert Leslie Ogden, single	SWN Production Company, LLC	17.00%	1100/394	
		Jon Booher, married dealing in his sole and separate property	SWN Production Company, LLC	17.00%	1100/340	
		Sheri L. Ewaets, married dealing in her sole and separate property	SWN Production Company, LLC	17.00%	1099/474	
		Bethanie Booher, divorced	SWN Production Company, LLC	17.00%	1099/534	
		Sam W. Booher, III, married dealing in his sole and separate property	SWN Production Company, LLC	17.00%	1100/316	
		Marsie Hamilton Clark, married dealing in her sole and separate property	SWN Production Company, LLC	17.00%	1101/404	
		Audra Mary Minette, married dealing in her sole and separate property	SWN Production Company, LLC	17.00%	1100/393	
		Black Gold Group, Ltd, an Ohio limited liability company	SWN Production Company, LLC	17.00%	1104/483	
		Carol Kee, single	SWN Production Company, LLC	17.00%	1100/348	
		David Lewis Booher, married dealing in his sole and separate property	SWN Production Company, LLC	17.00%	1099/544	
		Jennifer Booher, single	SWN Production Company, LLC	17.00%	1100/325	
		Mtuel E. Parker, widow	SWN Production Company, LLC	17.00%	1101/132	
		Patricia Sue McAlister, a married woman dealing in her sole and separate property	SWN Production Company, LLC	17.00%	1099/480	
		Steven Hamilton, a single man	SWN Production Company, LLC	17.00%	1102/520	
		Virginia Lee Ogden Davies, married dealing in her sole and separate property	SWN Production Company, LLC	17.00%	1099/539	
15	9-15-8.2	Marvie S. Alexander, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1100/385	0.00%
		James H. Stover, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1101/157	
		W. Karl Walton III, married and dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1102/525	
		Normand K. Walton, single	SWN Production Company, LLC	16.00%	1108/177	
		Amanda F. Mankar, single	SWN Production Company, LLC	16.00%	1101/195	
		Margie Mae Davenport, widow	SWN Production Company, LLC	16.00%	1101/120	
		Clarence C. Stover, Jr, married dealing in his sole and separate property	SWN Production Company, LLC	16.00%	1101/141	
		Sarah H. Mankar, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1100/330	
		Shirley S. Richardson, married dealing in her sole and separate property	SWN Production Company, LLC	16.00%	1101/203	
		Thomas Bernard Andrich, Executor of the Estate of Fumilo Andrich, Individually and as Guardian for Thomas Elsa Andrich, a minor child	SWN Production Company, LLC	17.00%	1114/16	
16	9-15-6	Royalty Owner	n/a	n/a	n/a	15.00%
		Lawrence Parker Boyd and Stephanie Hughes Boyd, husband and wife	Chesapeake Appalachia, LLC	16.00%	840/286	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Loanne B. Longo, f/k/a Barbara Leanne Boyd and Phillip Joseph Longo Sr., wife and husband	Chesapeake Appalachia, LLC	16.00%	840/274	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Susan B. Dula, f/k/a Susan K. Boyd and Randy L. Dula, wife and husband	Chesapeake Appalachia, LLC	16.00%	840/280	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Charles A. Boyd, III and Kim Mosler Boyd, husband and wife	Chesapeake Appalachia, LLC	16.00%	840/283	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		CHK-MAC, L.L.C.	Chesapeake Appalachia, LLC	15.00%	798/150	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Master Mineral Holdings I, LP	TH Exploration, LLC	18.00%	1083/91	
		TH Exploration, LLC	SWN Production Company, LLC		1114/273	
		Octo Oil Company LLC	TH Exploration, LLC	18.00%	1076/17	

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 WV Dept. of Environmental Protection

08/27/2021

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC, Operator
 O E Burge MSH 5H
 Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	Book/Page	% Interest Not Leased by Southwestern Production Company, LLC
		TH Exploration, LLC	SWN Production Company, LLC		1114/273	
* At least 7 minerals owners in tract and at least 75% of the royalty owners have consented to the lawful use or development of the oil or natural gas mineral property on the tract. The interests of the remaining co-tenants will be secured pursuant to the Co-tenancy Modernization and Majority Protection Act.						

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4705102388



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

July 8, 2021

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

RE: SWN's proposed New Well: O E Burge MSH 5H in Marshall County, West Virginia, Drilling under Bowers Hill Road, Cameron Ridge Road, and Co. Hwy 74.

Dear Ms. Adkins:

SWN Production Company, LLC ("SWN") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to SWN's right to drill under Bowers Hill Road, Cameron Ridge Road, and Co. Hwy 74. 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,

Brandi Williams

Brandi Williams, CPL
Staff Landman
SWN Production Company, LLC

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The Right People doing the Right Things,
wisely investing the cash flow from our
underlying assets with **Wize+®**

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

Date of Notice Certification: 7/19

API No. 47- 051 - 02388
Operator's Well No. OE Burge MSH 5H
Well Pad Name: OE Burge MS pad

Notice has been given:

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>531,552.219</u>
County:	<u>051-Marshall</u>		Northing:	<u>4,400,174.271</u>
District:	<u>Liberty</u>	Public Road Access:		<u>CR 92/1</u>
Quadrangle:	<u>Glen Easton</u>	Generally used farm name:		<u>OE Burge</u>
Watershed:	<u>Laurel Run of Fish Creek</u>			

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

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 40px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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Required Attachments:

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

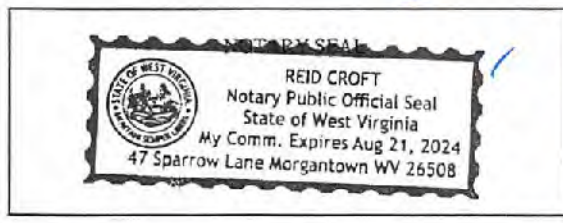
WW-6AC
(1/12)

Certification of Notice is hereby given:

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

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

Brittany Woody



Subscribed and sworn before me this 4th day of January, 2021.

Reid Croft Notary Public

My Commission Expires August 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 depprivacvofficer@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: Mason Dixon Farms LLC

Address: PO Box 360911

Melbourne, FL 32936

Name: Zachary Blair

Address: 3 Arcadian AC

Glen Dale, WV 26038

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: Consolidation Coal Company

Address: 1000 Consol Energy Drive

Canonsburg, PA 15317

COAL OPERATOR

Name: _____

Address: _____

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

Name: See Attachment 13A

Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: _____

Address: _____

*Please attach additional forms if necessary

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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

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Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

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WW-6A
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API NO. 47- 051 - 02388
OPERATOR WELL NO. OE Burge MSH 5H
Well Pad Name: OE Burge MS pad

Notice is hereby given by:

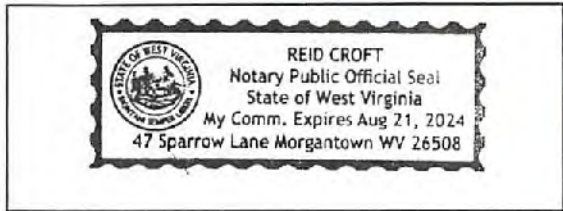
Well Operator: SWN Production Co., LLC
Telephone: 304-864-1610
Email: Brittany_Woody@swn.com

Brittany Woody

Address: 1300 Fort Pierpont Dr., Suite 201
Morgantown, WV 25508
Facsimile: 304-864-1690

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 4th day of Jan, 2021.

Reid Croft Notary Public

My Commission Expires August 21, 2024

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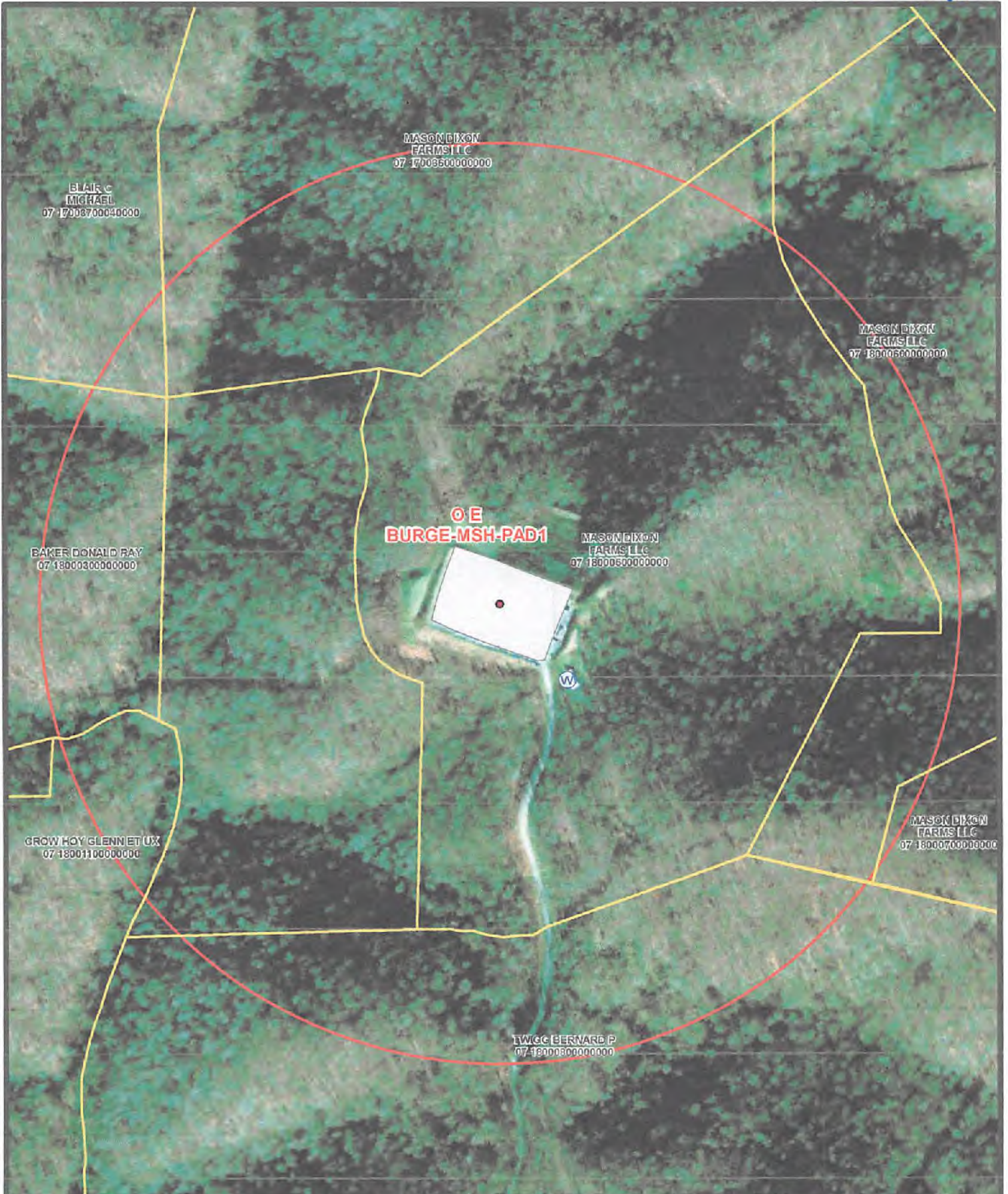
07 18000500000000	MASON DIXON FARMS LLC	PO BOX 360911	MELBOURNE, FL 32936	1
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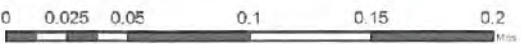
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 1 in = 417 ft


Coordinate System: NAD 1983 UTM Zone 17N
 Units: Meter

 Spring  Parcel
 Water Well  1500' Buffer
 Pond

Coordinates: 39.750913, -80.631905

Water Purveyor Map
 Well Pad: OE Burge
 County: MSH


 08/27/2021 *R⁺ V⁺*

Date: 11/10/2020 Author: willisb

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: 11/2/2020 **Date of Planned Entry:** 11/9/2020

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

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

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

Notice is hereby provided to:

SURFACE OWNER(s)

Name: Mason Dixon Farms, LLC
Address: PO Box 380911
Melbourne, FL 32936
Name: Zachary Blair
Address: 3 Arcadian AC
Glen Dale, WV 26038
Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: Consolidated Coal Company
Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

MINERAL OWNER(s)

Name: Greenfield Resources, LLC
Address: 7828 Silver Lake Court
Westerville, OH 43082

*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>39.750760, -80.631910</u>
County:	<u>Marshall</u>	Public Road Access:	<u>92/1</u>
District:	<u>Liberty</u>	Watershed:	<u>Laurel Run</u>
Quadrangle:	<u>Glen Easton</u>	Generally used farm name:	<u>Mason Dixon Farms, LLC</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 25508
Facsimile: 304-884-1690

JUL 20 2021

Office of Oil and Gas
WV Department of
Environmental Protection

Oil and Gas Privacy Notice:

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

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

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

Date of Notice: 11/2/2020 **Date of Planned Entry:** 11/9/2020

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

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

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

Notice is hereby provided to:

SURFACE OWNER(s)

Name: _____
Address: _____

Name: _____
Address: _____

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: _____
Address: _____

MINERAL OWNER(s)

Name: Brenda Sue Glitings
Address: 489 Rock Lick Road
Cameron, WV 26033

²please 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>39.750760, -80.631910</u>
County:	<u>Marshall</u>	Public Road Access:	<u>92/1</u>
District:	<u>Liberty</u>	Watershed:	<u>Laurel Run</u>
Quadrangle:	<u>Glen Easton</u>	Generally used farm name:	<u>Mason Dixon Farms, LLC</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: Brillany_Woody@swn.com

Address: 1309 Fort Pierpont Dr., Suite 201
Morgantown, WV 26508
Facsimile: 304-884-1690

RECEIVED
Office of Oil and Gas

JUL 20 2021

West Virginia 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.

08/27/2021

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

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

Date of Notice: 11/2/2020 **Date of Planned Entry:** 11/9/2020

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

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

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

Notice is hereby provided to:

SURFACE OWNER(s)

Name: _____
Address: _____

Name: _____
Address: _____

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: _____
Address: _____

MINERAL OWNER(s)

Name: The William H. Deal Revocable Living Trust/William H. Deal, Trustee
Address: 1033 Owensboro Road
Bocsville, IN 47501

[§]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>39.750760, -80.631910</u>
County:	<u>Marshall</u>	Public Road Access:	<u>92/1</u>
District:	<u>Liberly</u>	Watershed:	<u>Laurel Run</u>
Quadrangle:	<u>Glen Easton</u>	Generally used farm name:	<u>Mason Dixon Farms, LLC</u>

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

Notice is hereby given by:

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

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

RECEIVED
Office of Oil and Gas

JUL 20 2021

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08/27/2021

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

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

Date of Notice: 11/2/2020 **Date of Planned Entry:** 11/9/2020

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

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

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

Notice is hereby provided to:

SURFACE OWNER(s)

Name: _____
Address: _____

Name: _____
Address: _____

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: _____
Address: _____

MINERAL OWNER(s)

Name: Marc Richmond Gittings
Address: 90 Leatherwood Lane
Wheeling, WV 26003

*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:

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County:	<u>Marshall</u>	Public Road Access:	<u>92/1</u>
District:	<u>Liberty</u>	Watershed:	<u>Laurel Run</u>
Quadrangle:	<u>Glen Easton</u>	Generally used farm name:	<u>Mason Dixon Farms, LLC</u>

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

Notice is hereby given by:

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

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

RECEIVED
Office of Oil and Gas
JUL 20 2021

WV Department of
Environmental Protection

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WW-6A4
(1/12)

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: 07/07/2021

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: Mason Dixon Farms LLC

Address: PO Box 360911

Malbourne, FL 32936

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>531,552.219</u>
County:	<u>Marshall</u>		Northing:	<u>4,400,174.271</u>
District:	<u>Liberty</u>	Public Road Access:	<u>CR 92/1</u>	
Quadrangle:	<u>Glen Easton</u>	Generally used farm name:	_____	
Watershed:	<u>Laurel Run</u>			

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator: SWN Production Company, LLC

Address: 1300 Fort Pierpont Dr., Suite 201

Morgantown, WV 26508

Telephone: 304-884-1675

Email: Justin_Booth@swn.com

Facsimile: _____

Authorized Representative: Justin Booth

Address: 1300 Fort Pierpont Dr., Suite 201

Morgantown, WV 26508

Telephone: 304-884-1675

Email: Justin_Booth@swn.com

Facsimile: _____

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08/27/2021

**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: 07/07/2021 **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: <u>Zachary M. Blair</u>	Name: _____
Address: <u>3 Arcadian AC</u>	Address: _____
<u>Glen Dale, WV 26038</u>	_____

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>531,552,219</u>
County: <u>Marshall</u>		Northing: <u>4,400,174,271</u>
District: <u>Liberty</u>	Public Road Access: <u>CR 92/1</u>	
Quadrangle: <u>Glen Easton</u>	Generally used farm name: _____	
Watershed: <u>Laurel Run</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: <u>SWN Production Company, LLC</u>	Authorized Representative: <u>Justin Booth</u>
Address: <u>1300 Fort Pierpont Dr., Suite 201</u>	Address: <u>1300 Fort Pierpont Dr., Suite 201</u>
<u>Morgantown, WV 26506</u>	<u>Morgantown, WV 26508</u>
Telephone: <u>304-884-1675</u>	Telephone: <u>304-884-1675</u>
Email: <u>Justin_Booth@swn.com</u>	Email: <u>Justin_Booth@swn.com</u>
Facsimile: _____	Facsimile: _____

RECEIVED
Office of Oil and Gas
JUL 20 2021
WV Dept of Environmental Protection

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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: 07/07/2021 Date Permit Application Filed: 1/19

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

- CERTIFIED MAIL RETURN RECEIPT REQUESTED
- HAND 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>Mason Dixon Farms LLC</u>	Name: _____
Address: <u>PO Box 380911</u>	Address: _____
<u>Melbourne, FL 32936</u>	_____

Notice is hereby given:

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

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>531,552.219</u>
County: <u>Marshall</u>		Northing: <u>4,400,174.271</u>
District: <u>Liberty</u>	Public Road Access: <u>CR 921</u>	
Quadrangle: <u>Glen Easton</u>	Generally used farm name: _____	
Watershed: <u>Laurel Run</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: SWN Production Company, LLC

Telephone: 304-884-1675

Email: Justin_Booth@swn.com

Address: 1300 Fort Pierpont Dr., Suite 201

Morgantown, WV 26506

Facsimile: _____

RECEIVED
Office of Oil and Gas
JUL 27 2021

Oil and Gas Privacy Notice:

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WV Department of
Environmental Protection

WW-6A5
(1/12)

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: 07/07/2021 Date Permit Application Filed: 7/1/21

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

- CERTIFIED MAIL RETURN RECEIPT REQUESTED
- HAND 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: Zachary M. Blair	Name: _____
Address: 3 Arcadian AC Glen Dale, WV 26038	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: West Virginia	UTM NAD 83	Easting: 531,552.219
County: Marshall		Northing: 4,400,174.271
District: Liberty	Public Road Access: CR 92/1	
Quadrangle: Glen Easton	Generally used farm name: _____	
Watershed: Laurel Run		

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: SWN Production Company, LLC	Address: 1300 Fort Pierpont Dr., Suite 201
Telephone: 304-834-1675	Morgantown, WV 26508
Email: Justin_Booth@swn.com	Facsimile: _____

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RECORDED
OFFICE OF OIL AND GAS
JUL 28 2021
WV DEPARTMENT OF ENVIRONMENTAL PROTECTION

08/27/2021



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways

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

Byrd E. White, III
 Secretary of Transportation

November 12, 2020

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

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

Subject: DOH Permit for the O.E. Burge Pad, Marshall County
 OE Burge MSH 5H Well site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2015-0114 issued to Southwestern Energy for access to the State Road for a well site located off Marshall County Route 92/1 SLS MP 0.10.

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

Very Truly Yours,

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

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

RECEIVED
 Office of Oil and Gas
 JUL 20 2021
 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
		Acetophenone, thiourea, formaldehyde polymer	68527-49-1
AP ONE (U.S. Well Services)	Breaker	Ammonium persulfate	7727-54-0
Bactron K-139 (Champion Technologies)	Biocide	Glutaraldehyde	111-30-8
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
		Ethanol	64-17-5
Bactron K-219 (Champion Technologies)	Biocide	Methanol	67-56-1
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
CarbONRT	Tracer	Ceramic Proppant	56402-68-4
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-C1200 (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-S1176-1S (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, Exoxygenated propoxylated	68213-24-1
		Fatty Alcohols ethoxylated	Proprietary
		Water	7732-18-5
FLOJET DRP 1130X (SWN Well Services)	Friction Reducer	Proprietary	Proprietary
FR-76 (Halliburton)	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8
		Inorganic Salt	Proprietary
GYPTRON T-390 (Champion Technologies)	Scale Inhibitor	Methanol	67-56-1
		Nonylphenol Ethoxylate	Proprietary
HAI-150E (Halliburton)	Corrosion Inhibitor	No hazardous substance	N/A
HCL (SWN Well Services)	Hydrochloric Acid	Hydrochloric Acid	7647-01-0
		Water	7732-18-5
LP-6S MC (Halliburton)	Scale Inhibitor	Organic phosphonate	Proprietary
		Ammonium Chloride	12125-02-9
OPTI-FLEX (U.S. Well Services)	Viscosifying Agent	Distillates, petroleum, hydrotreated light	64742-47-8
Plexslic 930	Friction Reducer	Copolymer of 2-propenamide	Proprietary
		Hydrotreated Distillate	64742-47-8
		Sodium Chloride	7647-14-5
		Alcohols, C12-16, Exoxygenated	68551-12-2
		Oleic Acid Diethanolamide	93-83-4
		Ammonium Chloride	12125-02-9
Plexslic 953	Friction Reducer	Petroleum Distillate	64742-47-8
		Sodium Chloride	7647-14-5
		Ammonium Chloride	12125-02-9
		N,N-bis (2-hydroxyethyl) oleamide	93-83-4
Plexslic 957	Friction Reducer	Petroleum Distillate	64742-47-8
		Ammonium Chloride	12125-02-9
		Oleic Acid Diethanolamide	93-83-4
		Alcohols, C12-16, Exoxygenated	68551-12-2
		Water	7732-18-5
WFRA-2000 (U.S. Well Services)	Anionic Friction Reducer	Hydrotreated light distillate (petroleum)	64742-47-8
		Propionic acid, polymer with propenamide	9003-06-9
Plexaid 65S NM	Scale Inhibitor	Diethylenetriamine penta (methylene phosphonic acid)	15827-30-8
Plexslic 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
		Tetakis (hydroxymethyl) phosphonium sulphate	55566-30-8
Tolcide PS50A	Biocidal product	Acrylic acid terpolymer containing carboxylate, phosphonate and sulfonate groups	397256-50-7
		Hydrotreated light petroleum distillate	64742-47-8
LD-2950	Friction Reducer	Ethoxylated alcohol	Proprietary
		Poly (oxy-1,2-ethanediyl) alpha-tridecyl-omega-hydroxy-, branched	69011-36-5
Legend LD-7750W	Scale Control	Methanol	67-56-1
		Phosphonic Acid Salt	Proprietary
MC MX 8-4743	Specialty Product	Sodium Nitrate	7631-99-4



O E BURGE MSH PAD CONSTRUCTION AND RECLAMATION PLAN AS-BUILT LIBERTY DISTRICT, MARSHALL COUNTY, WV AUGUST 2020

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- EP2.2 EVACUATION ROUTE/ PREVAILING WIND
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- WRDS.9 RECLAMATION PLAN
- WRDS.3 DETAILS
- WRDS.4 DETAILS

MODIFIED LOD #1

TOTAL DISTURBED AREA: 13.5 ACRES
ROAD DISTURBED AREA: 5.9 ACRES
PAD DISTURBED AREA: 7.6 ACRES

MODIFIED LOD #2

TOTAL DISTURBED AREA: 13.6 ACRES
ROAD DISTURBED AREA: 5.9 ACRES
PAD DISTURBED AREA: 7.7 ACRES

EXISTING WELLS:
O E BURGE MSH OH
API#47-051-01315H
(NAD83)
LAT: 39.750842
LONG: 80.631722

AT PAD
(NAD83)
LAT: 39.750399
LONG: 80.631444

CENTER OF PAD
(NAD83)
LAT: 39.750908
LONG: 80.631886

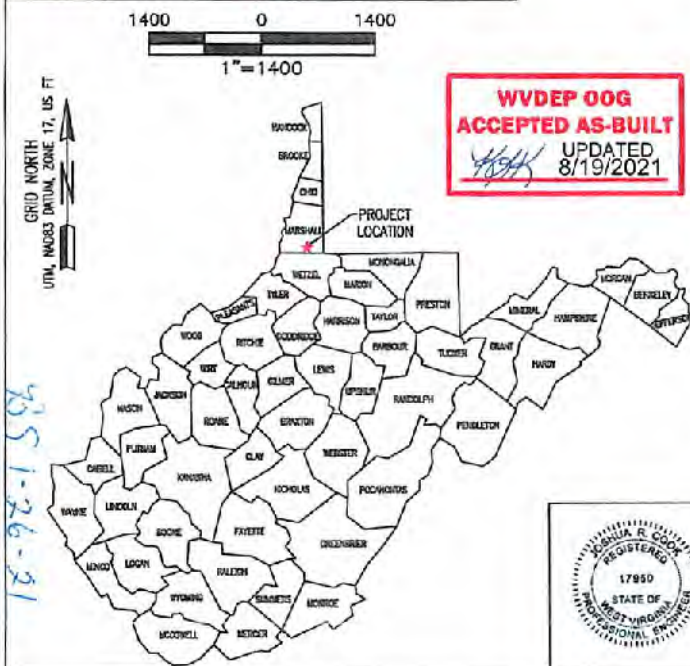
GATHERING AREA
(NAD83)
LAT: 39.730100
LONG: 80.633406

O E BURGE MSH OH
API#47-051-01323H
(NAD83)
LAT: 39.750813
LONG: 80.631633

O E BURGE MSH 501H
API#47-051-01653H
(NAD83)
LAT: 39.750843
LONG: 80.631552

ENGINEERING ESTIMATE OF QUANTITIES		
WELL SITE PAD DATA (DRILLING)		
RAMP ROAD OVER BEAM	22	CY
ACCESS ROAD DRAIN (DRILLING)		
CRUSHER RUN	300	TON
GRADING DITCHES AND ROAD	1	EA
CLEAN CULVERTS	7	EA
INSTALL CULVERTS @ ST. 30+50	1	EA
WELL SITE PAD DATA (RECLAMATION)		
REMOVE SUMP	2	EA
BREAK BEAM	2	EA
DISCHARGE CHANNELS		
RIPRAP	60	TON
GR		
EROSION CONTROL FABRIC	90	SY
SPREAD TOPS SPREAD TOPSOIL	2280	CY
REINFORCED SILT FENCE	1500	FT
SEED & MULCH	0.5	AC

**WVDEP OOG
ACCEPTED AS-BUILT
UPDATED
8/19/2021**




NOTE: ONE DWELLING WAS FOUND WITHIN 625' FROM THE CENTER OF THE PAD;
(1) BEARS 544E A DISTANCE OF 293'.
(2) ONE WATER WELL WAS FOUND BEARING S27E A DISTANCE OF 251'.

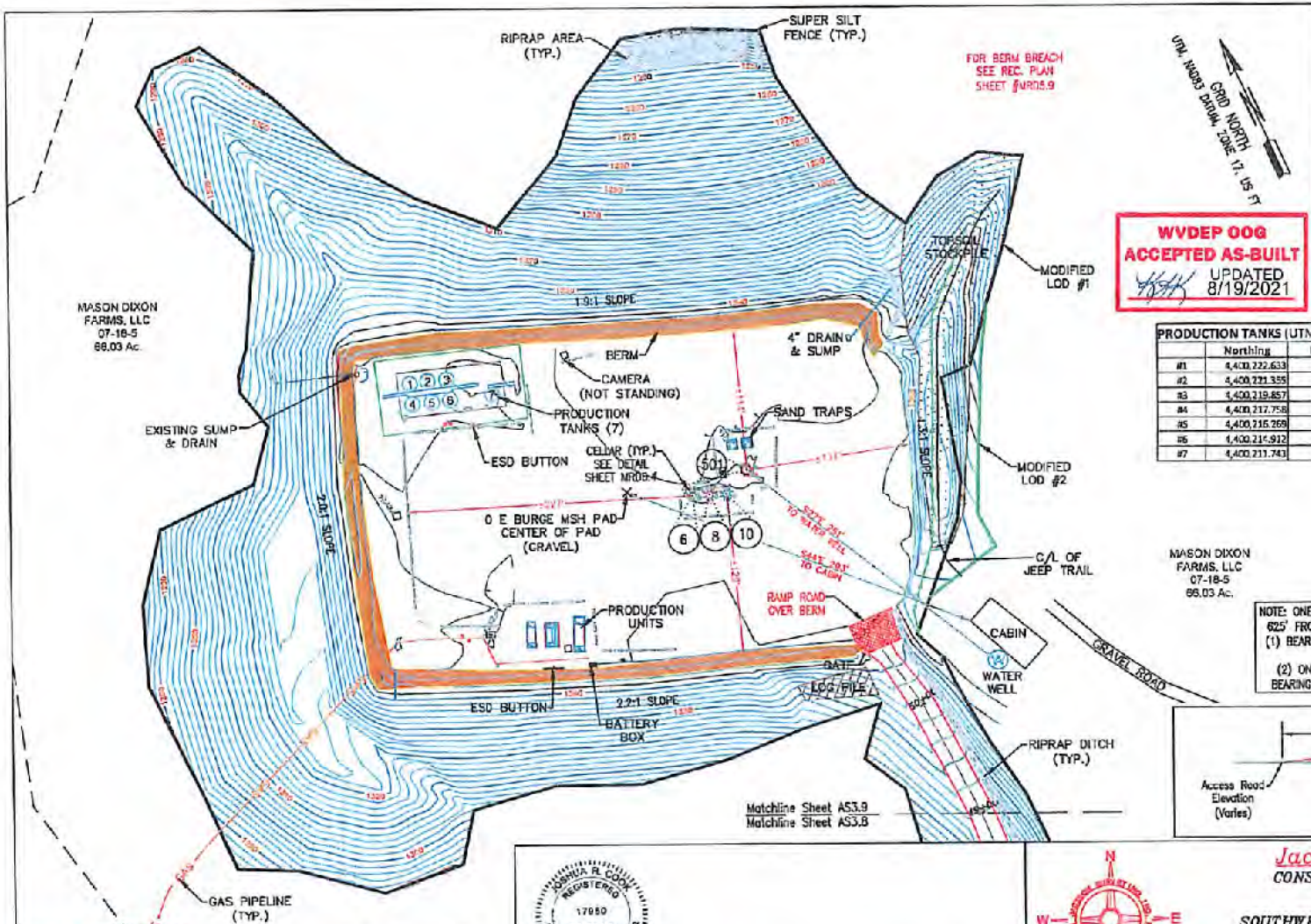
North Central Engineering, LLC
Joshua Cook, RPE
703 Sup. 625
Bridgport, WV 26330
Cell: 764-299-1583
E-Mail: jcook@NorthCentralEngineering.com

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swn ^{RPE} ^{V+} ⁰
Production Company™


Joshua R. Cook RPE 17950
08-28-2020
DATE


Jackson Surveying Inc.
TITLE SHEET
TS.1
SOUTHWESTERN PRODUCTION COMPANY LLC
O E BURGE MSH PAD
LIBERTY DISTRICT, MARSHALL COUNTY, WV
AUGUST 26, 2020
677 W. Main St.
Clerksburg, WV 26301
304-621-5651



- LEGEND -

- EDGE ACCESS ROAD
- PUBLIC/Private ROAD
- MODIFIED LOD #1
- MODIFIED LOD #2
- CHAIN LINK FENCE
- DITCH/DRAIN
- PROPERTY LINES
- CL ACCESS ROAD
- CONTOUR MAJOR ASBUILT
- CONTOUR MINOR ASBUILT
- FENCE

RED TEXT INDICATES ITEMS TO BE CONSTRUCTED PRIOR TO DRILLING ACTIVITY

REVISION	DATE

**WVDEP OOG
ACCEPTED AS-BUILT**
UPDATED
8/19/2021

PRODUCTION TANKS (UTM METERS)

	Northing	Easting
#1	4,400,222.639	531,429,249
#2	4,400,221.325	531,523,457
#3	4,400,218.857	531,527,796
#4	4,400,217.758	531,427,743
#5	4,400,216.269	531,522,152
#6	4,400,215.932	531,526,465
#7	4,400,211.743	531,516,411

COORDINATES:

SITE ENTRANCE (NAD83)
LAT: 39.738103
LONG: 80.633717

AT PAD (NAD83)
LAT: 39.750369
LONG: 80.631441

CENTER OF PAD (NAD83)
LAT: 39.750908
LONG: 80.631886

GATHERING AREA (NAD83)
LAT: 39.738160
LONG: 80.633406

EXISTING WELLS:

O E BURGE MSH BH
AP#47-051-01291H
(NAD83)
LAT: 39.750842
LONG: 80.631722

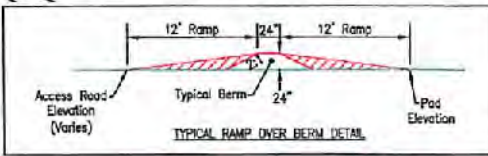
O E BURGE MSH BH
(NAD83)
LAT: 39.750628
LONG: 80.631677

O E BURGE MSH 10H
AP#47-051-01323H
(NAD83)
LAT: 39.750813
LONG: 80.631633

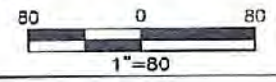
O E BURGE MSH 501H
(NAD83)
LAT: 39.750843
LONG: 80.631552

NOTE: ONE DWELLING WAS FOUND WITHIN 625' FROM THE CENTER OF THE PAD;
(1) BEARS S44E A DISTANCE OF 283'.

(2) ONE WATER WELL WAS FOUND BEARING S27E A DISTANCE OF 251'.



SWN
Production Company™

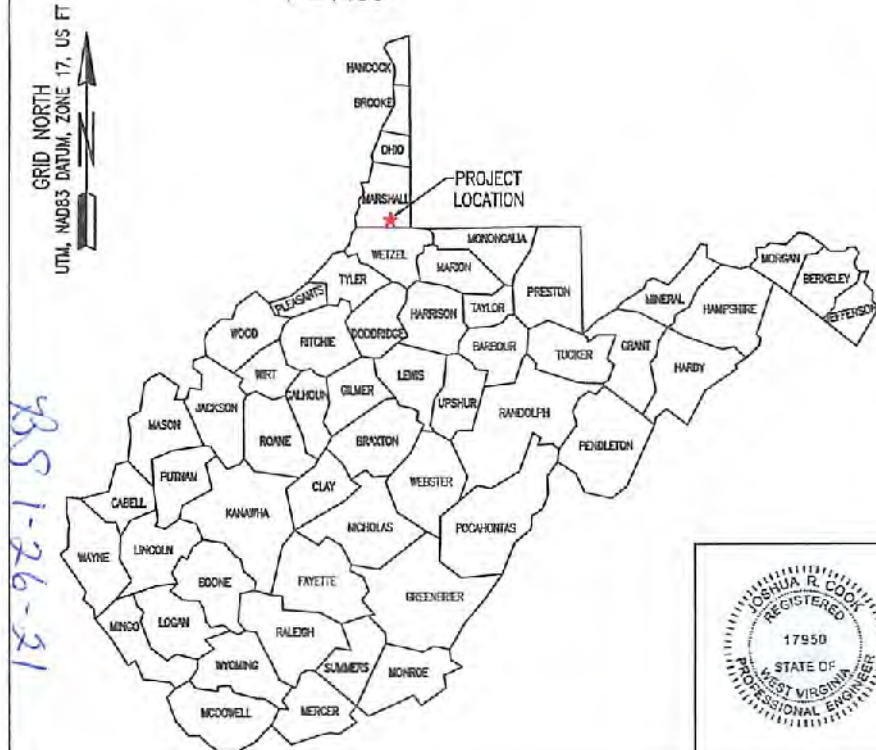
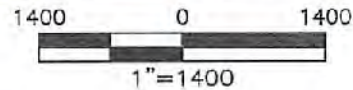


Joshua R. Cook RPE 17950:

DATE: 08-18-2020



Jackson Surveying Inc.
CONSTRUCTION AND RECLAMATION
ASBUILT
AS3.9
SOUTHWESTERN PRODUCTION COMPANY LLC.
O E BURGE MSH PAD
LIBERTY DISTRICT, MARSHALL COUNTY, WV
AUGUST 28, 2020



O E BURGE MSH PAD CONSTRUCTION AND RECLAMATION PLAN AS-BUILT LIBERTY DISTRICT, MARSHALL COUNTY, WV AUGUST 2020

RECEIVED
Office of Oil and Gas
JUL 20 2021
WV Department of
Environmental Protection

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PAD DISTURBED AREA: 7.7 ACRES

EXISTING WELLS:
O E BURGE MSH 8H
API:47-051-01315H
(NAD83)
LAT: 39.750842
LONG: 80.631722

O E BURGE MSH 8H
API:47-051-01291H
(NAD83)
LAT: 39.750828
LONG: 80.631677

O E BURGE MSH 10H
API:47-051-01323H
(NAD83)
LAT: 39.750813
LONG: 80.631633

O E BURGE MSH 501H
API:47-051-01853H
(NAD83)
LAT: 39.750843
LONG: 80.631552

COORDINATES:
SITE ENTRANCE
(NAD83)
LAT: 39.738103
LONG: 80.633717

AT PAD
(NAD83)
LAT: 39.750399
LONG: 80.631441

CENTER OF PAD
(NAD83)
LAT: 39.750903
LONG: 80.631886

GATHERING AREA
(NAD83)
LAT: 39.738160
LONG: 80.633406

ENGINEERING ESTIMATE OF QUANTITIES

WELL SITE PAD DATA (DRILLING)		
RAMP ROAD OVER BERM	22	CY
ACCESS ROAD DATA (DRILLING)		
CRUSHER RUN	100	TON
GRADING DITCHES AND ROAD	1	EA
CLEAN CULVERTS	7	EA
INSTALL CULVERTS @ ST. 30+50	1	EA
WELL SITE PAD DATA (RECLAMATION)		
REMOVE SUMP	2	EA
BREACH BERM	2	EA
DISCHARGE CHANNEL(S)		
RIPRAP	60	TON
OR		
EROSION CONTROL FABRIC	90	SY
SPREAD TOPS/SPREAD TOPSOIL	2280	CY
REINFORCED Silt FENCE	1500	FT
SEED & MULCH	0.5	AC

REVISION	DATE

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www.WV811.com

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North Central Engineering, LLC

Joshua Cook, RPE
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Bridgeport, WV 26330
Cell: 504-299-1583
E-Mail:
jcook@NorthCentralEngineering.com

SWN ^{R_L}/_A ^V/₊
Production Company™



Joshua R. Cook RPE 17950:

08-26-2020
DATE:



577 W. Main St.
Clarksburg, Wv 26301
304-623-5851

Jackson Surveying Inc.

TITLE SHEET
TS.1

SOUTHWESTERN PRODUCTION COMPANY LLC.
O E BURGE MSH PAD
LIBERTY DISTRICT, MARSHALL COUNTY, WV
AUGUST 26, 2020

4705102388