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west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Tuesday, December 3, 2024  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC  
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit Modification Approval for MICHAEL SOUTHWORTH MSH 47-051-02523-00-00

**Extended Lateral Length**

SWN PRODUCTION COMPANY, LLC

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.

A blue ink signature of James A. Martin, written in a cursive style.

James A. Martin  
Chief

Operator's Well Number: MICHAEL SOUTHWORTH MSH 410H  
Farm Name: BARRY A. & KIMBERLY S. LITMAN  
U.S. WELL NUMBER: 47-051-02523-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 12/3/2024

Promoting a healthy environment.

12/06/2024

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

1) Well Operator: SWN Production Co., LLC 494512924 051-Marshall 6-Sandhi 648-Valley Grove  
Operator ID County District Quadrangle

2) Operator's Well Number: Michael Southworth MSH 410H Well Pad Name: Michael Southworth MSH Pad

3) Farm Name/Surface Owner: Barry A. & Kimberly S. Litman Public Road Access: Walnut Grove Road

4) Elevation, current ground: 1271' Elevation, proposed post-construction: 1271'

5) Well Type (a) Gas  Oil  Underground Storage

Other

(b) If Gas Shallow  Deep

Horizontal

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Target Formation- Marcellus, Down-Dip well to the South, Target Top TVD- 6542', Target Base TVD- 6594', Anticipated Thickness- 52', Associated Pressure- 4286

8) Proposed Total Vertical Depth: 6574'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 21129'

11) Proposed Horizontal Leg Length: 12453.02'

12) Approximate Fresh Water Strata Depths: 632'

13) Method to Determine Fresh Water Depths: Nearby watwe well (Edith Folmar)

14) Approximate Saltwater Depths: 1403' Salinity Profile on BW Edge pad

15) Approximate Coal Seam Depths: 734'

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: Ohio County Coal Mine  
Depth: 734'  
Seam: Pittsburgh  
Owner: Ohio County Coal Resources/ACNR Inc.

*Stik Goro  
STRADER WORK  
4/17/2024*

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#	136'	136'	CTS
Fresh Water	13 3/8"	New	J-55	54.4#	764'	764'	879 sx/CTS
Coal	See	Surface	Casing				
Intermediate	9 5/8"	New	J-55	36#	2011'	2011'	773 sx/CTS
Production	5 1/2"	New	P-110 HP	20#	21129'	21129'	Tail 3854cu/ 100' inside Intermediate
Tubing							
Liners							

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	30"	0.25	2120	81	Class A	1.20/30% Excess
Fresh Water	13 3/8"	17.5"	0.330	1730	633	Class A	1.20/30% Excess
Coal	See	Surface	Casing				
Intermediate	9 5/8"	12 1/4"	0.352	3520	1768	Class A	1.19/40% Excess
Production	5 1/2"	8 3/4"-8 1/2"	0.361	14360	10500	Class A	1.19/10-15% Excess
Tubing							
Liners							

**PACKERS**

Kind:				
Sizes:				
Depths Set:				

*St L Lewis*  
 STRADER/GROCK  
 4/17/2024

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- 12,500 psi @ 100 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 16.88

22) Area to be disturbed for well pad only, less access road (acres): 9.67

23) Describe centralizer placement for each casing string:

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

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

See Attachment \*\*\*

25) Proposed borehole conditioning procedures:

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

\*Note: Attach additional sheets as needed.

# Southwestern Energy Company

# Proposed Drilling Program

**Well:** MICHAEL SOUTHWORTH MSH 410H  
**Field:** PANHANDLE FIELD WET  
**County:** MARSHALL  
**SHL (NAD83):** 40.012789 Latitude -80.614784 Longitude  
**BHL (NAD83):** 39.972502 Latitude -80.583948 Longitude  
**KB Elev:** 1,298 ft MSL **KB Height:** 26 ft AGL **GL Elev:** 1,272 ft MSL

**Drilling Rig:** SDC 41  
**Formation:** Marcellus Shale  
**State:** WV



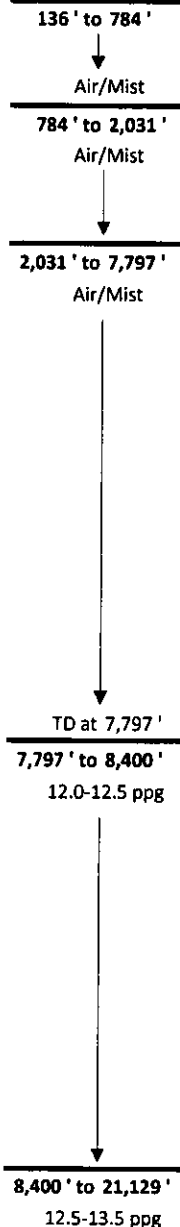
NO COAL VOID EXPECTED

PROD TOC @ 2,011' MD

TUBULAR DETAIL					
Casing String	Casing Size (in)	Weight (Min)	Grade (Min)	Planned Interval	
				From	To
Conductor	20	94.0 #	J-55	0'	136'
Surface/Coal	13.375	54.4 #	J-55	0'	764'
Intermediate	9.625	36.0 #	J-55	0'	2,011'
Production	5.5	20.0 #	P-110 HP	0'	21,129'

### CEMENT DETAIL

	Sacks	Class	Density
Conductor	173	A	19.3
Surface	879	A	15.6
Intermediate	773	A	15.6
Production	3864	A	14.5-15.0



KOP at 7,797' MD

Freshwater Depth - 632' TVD  
 Coal Depth - 734' TVD  
 Saltwater Depth - 1,403' TVD  
 TVD - 6,574'  
 TMD - 21,129'

6,474' TVD Target Center

TD at 21,129' MD  
 6,574' TVD

LP at 8,400' MD  
 SHL Onondaga 6,495' TVD

Onondaga 6,595' TVD

Created by: Colin Kolker on 07/24/2024

*Strader Gower*

7/24/2024

12/06/2024

JACKSON SURVEYING  
 INC.  
 2413 EAST PIKE ST. # 112  
 Clarksburg, WV 26302  
 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.

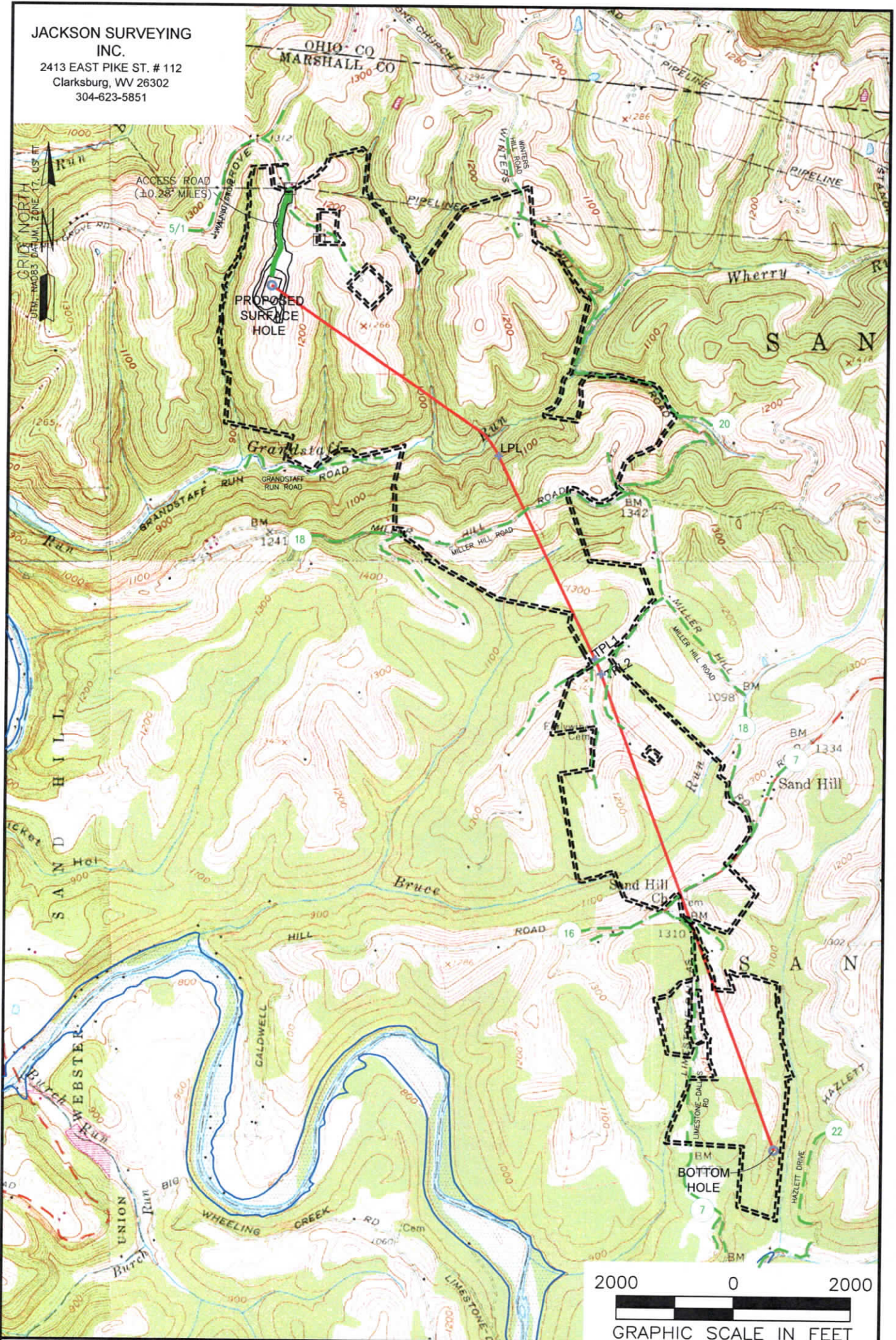
**LEGEND:**

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

<b>WELL OPERATOR:</b> SWN PRODUCTION COMPANY, LLC	<b>WELL (FARM) NAME:</b> MICHAEL SOUTHWORTH MSH	<b>WELL #</b> 410H	<b>SERIAL #</b>
<b>ADDRESS:</b> 1300 FORT PIERPONT ROAD, SUITE 200 MORGANTOWN, WV 26508	<b>COUNTY - CODE</b> MARSHALL - 051	<b>DISTRICT:</b> SANDHILL	
<b>SURFACE OWNER:</b> BARRY A. & KIMBERLY S. LITMAN	<b>USGS 7 1/2 QUADRANGLE MAP NAME</b> WILEYVILLE, WV		

API	Operator	Status	Latitude	Longitude	Vertical TD	Producing Formation	Producing Zones Not Perforated
051-00558-P	WEST VIRGINIA LAND RESOURCES, INC	Plugged	39.983538	-80.589374	1,781'	N/A	
051-00538-A	Unknown	Abandoned	39.982666	-80.590667	2,368'	2ND Salt Sand	
069-00247	SWN PRODUCTION COMPANY, LLC	Active	40.029949	-80.608026	6,426'	Marcellus	

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**LEGEND:**

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- LPL\* LANDING POINT LOCATION
- FLOOD PLAIN
- ACCESS ROAD
- PUBLIC ROAD
- LEASE BOUNDARY
- PROPOSED PATH

12/06/2024

<b>WELL OPERATOR:</b> SWN PRODUCTION COMPANY, LLC	<b>WELL (FARM) NAME:</b> MICHAEL SOUTHWORTH MSH	<b>WELL #</b> 410H	<b>SERIAL #</b>
<b>ADDRESS:</b> 1300 FORT PIERPONT ROAD, SUITE 200 MORGANTOWN, WV 26508	<b>COUNTY - CODE:</b> MARSHALL - 051	<b>DISTRICT;</b> SANDHILL	
<b>SURFACE OWNER:</b> BARRY A. & KIMBERLY S. LITMAN	<b>USGS 7 1/2 QUADRANGLE MAP NAME</b> WILEYVILLE, WV		



Latitude: 40°02'30"

SURFACE HOLE 8,806'

Latitude: 40°00'00"

BOTTOM HOLE 172'

JACKSON SURVEYING INC. 2413 EAST PIKE ST. # 112 Clarksburg, WV 26302 304-623-5851

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

SURFACE HOLE LOCATION (SHL):

UTM (NAD83, ZONE 17, METERS): NORTHING: 4,429,247.784 EASTING: 532,875.792

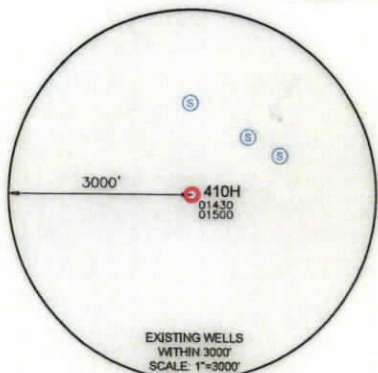
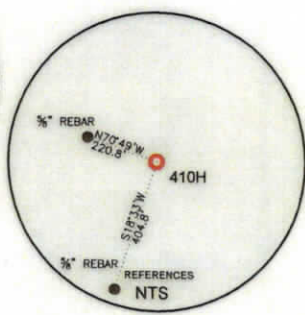
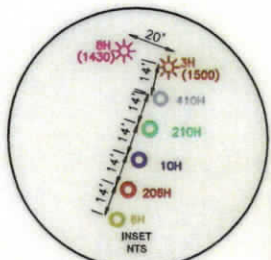
LANDING POINT (LPL):

UTM (NAD83, ZONE 17, METERS): NORTHING: 4,428,375.648 EASTING: 534,065.014

BOTTOM HOLE LOCATION (BHL):

UTM (NAD83, ZONE 17, METERS): NORTHING: 4,424,788.136 EASTING: 535,528.398

Table with columns: LINE, BEARING, DISTANCE, DESCRIPTION, MONUMENT. Contains data for lines L1, L2, L3, L4.



Longitude: 80°35'00" Longitude: 80°35'00"

WELL RESTRICTIONS

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

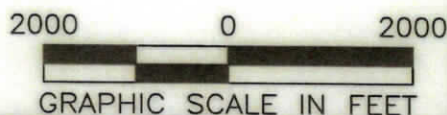
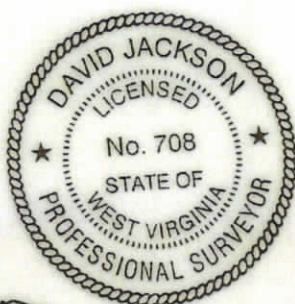
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4. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

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

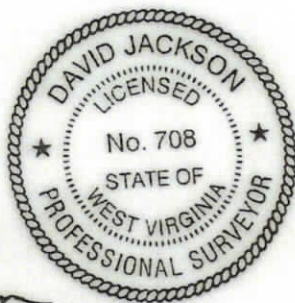
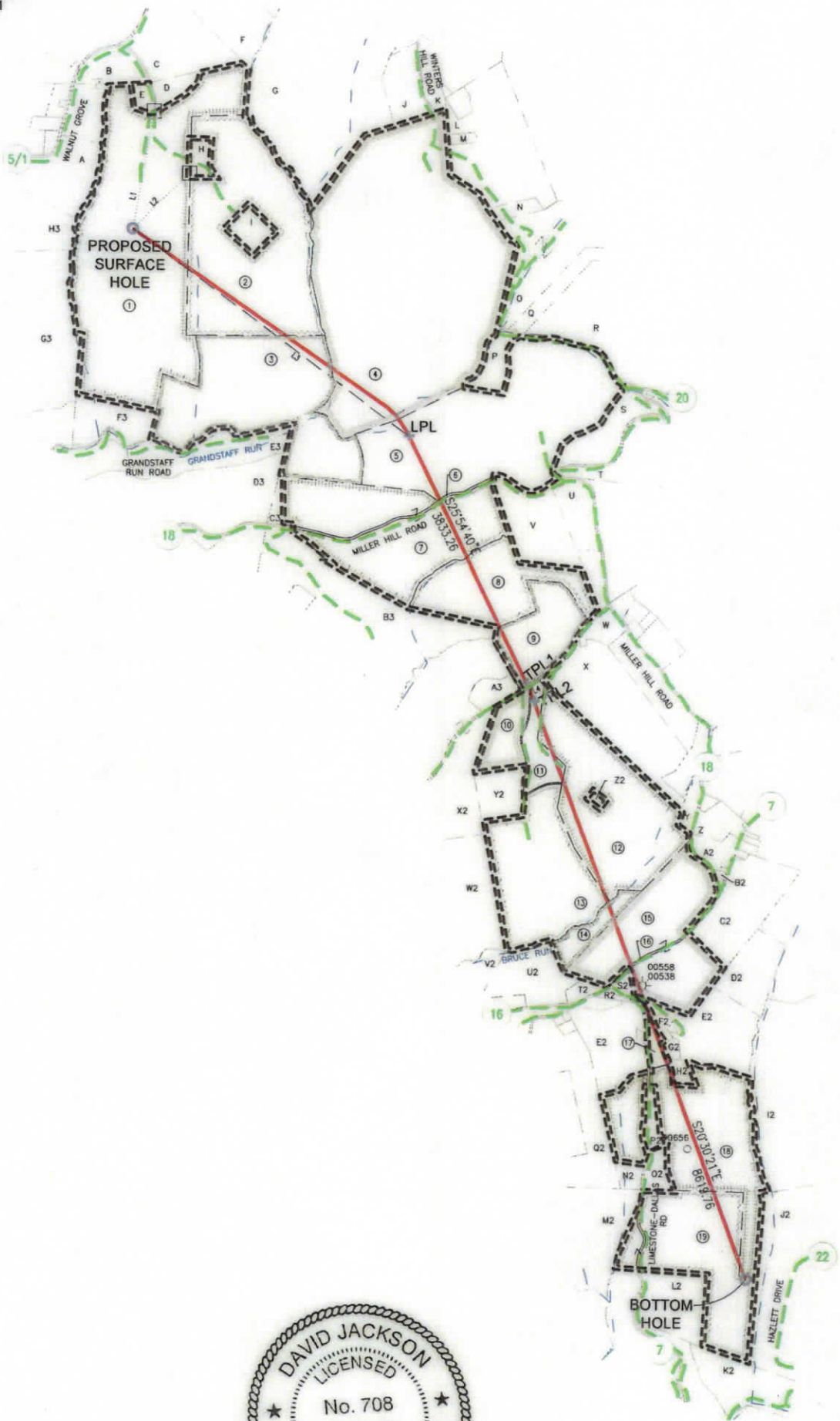
Table with well information: (+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS, WVDPE OFFICE OF OIL & GAS, CHARLESTON, WV 25034, MINIMUM DEGREE OF ACCURACY: 1/200, PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT), OPERATOR'S WELL #: 410H, API WELL #: 47 051 D2523, STATE COUNTY PERMIT.

WELL TYPE: OIL [ ] WASTE DISPOSAL [ ] PRODUCTION [X] DEEP [ ] GAS [X] LIQUID INJECTION [ ] STORAGE [ ] SHALLOW [X]
WATERSHED: GRANDSTAFF RUN OF WHEELING CREEK (HUC-10) ELEVATION: 1271.0'
DISTRICT: SANDHILL COUNTY: MARSHALL QUADRANGLE: VALLEY GROVE, WV
SURFACE OWNER: BARRY A. & KIMBERLY S. LITMAN ACREAGE: ±159.776
OIL & GAS ROYALTY OWNER: BARRY A. & KIMBERLY S. LITMAN ACREAGE: ±159.776
DRILL [X] DRILL DEEPER [ ] REDRILL [ ] FRACTURE OR STIMULATE [X] PLUG OFF OLD FORMATION [ ] PERFORATE NEW FORMATION [ ]
CONVERT [ ] PLUG & ABANDON [ ] CLEAN OUT & REPLUG [ ] OTHER CHANGE [ ] (SPECIFY)
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 6,574 TVD 21,129 TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY
ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200 ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200
CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND: PROPOSED SURFACE HOLE / BOTTOM HOLE, EXISTING / PRODUCING WELLHEAD, LPL: LANDING POINT LOCATION, EXISTING WATER WELL, EXISTING SPRING, SURVEYED BOUNDARY, DRILLING UNIT, LEASE BOUNDARY, PROPOSED PATH, REVISIONS, DATE: 04-05-2024, DRAWN BY: N. MANO, SCALE: 1" = 2000', DRAWING NO., WELL LOCATION PLAT

JACKSON SURVEYING  
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 2413 EAST PIKE ST. # 112  
 Clarksburg, WV 26302  
 304-623-5851



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*



REVISIONS:	COMPANY:			DATE: 04-05-2024
				DRAWN BY: N. MANO
	OPERATOR'S	MICHAEL SOUTHWORTH MSH		SCALE: N/A
	WELL #:	410H		DRAWING NO:
	DISTRICT:	COUNTY:	STATE:	WELL LOCATION PLAT 2
	SANDHILL	MARSHALL	WV	

JACKSON SURVEYING  
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ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	EDGE WILLIAM F JR - TOD ET AL	12-2-16
B	LITMAN JAMES M & LUCY A	12-2-16.1
C	VELLENOWETH SCOTT U ET UX	12-2-1.1
D	LITMAN BARRY A	12-2-10.2
E	RADCLIFFE JOHN D & ANNA M	12-2-10.1
F	BLATT THERESA L	12-2-23
G	BAIRD FAMILY TRUST	12-2-2
H	GREGORY JOHN W ET UX	12-2-9.1
I	REINEKE RICHARD S	12-2-9.2
J	MCFARLAND DANIEL W & VICKI L	12-2-24
K	MCFARLAND DANIEL W JR	12-2-4.1
L	HUNTER RODNEY J	12-3-14
M	HUNTER MARILYN DARLENE	12-3-14.2
N	MCFARLAND BRIAN MATTHEW	12-3-12.1
O	GANTZER GREGORY	12-3-12
P	PARKER PETER	12-2-6
Q	GANTZER GREGORY	12-3-11.1
R	MCVICKER R G JR	12-3-11
S	TOTH JOHN J SR & ALICE J REVOCABLE TRUST	12-8-11
T	TOTH JOHN J SR & ALICE J REVOCABLE TRUST	12-8-12
U	GODDARD THERESA M	12-8-9
V	GODDARD THERESA M	12-8-8
W	SCHULTZ CHARLES E & CLAUDIA M - TOD	12-8-29.1
X	SCHULTZ CHARLES E & CLAUDIA M - TOD	12-8-29
Y	FONNER TRAVIS R & STACEY L	12-8-26
Z	STORCH LOIS M	12-8-25
A2	WILSON TERRY WAYNE	12-8-24
B2	MCGINNIS ROY EUGENE EST -MCGINNIS TRAVIS	12-8-23
C2	STORCH LOIS M	12-11-12.2
D2	STORCH JOSEPH WILLIAM ET UX	12-11-13
E2	KLAGES MARY ANN	12-11-10
F2	KLAGES RONALD N	12-11-10.3
G2	HAZLET KELLI	12-11-10.1
H2	HILLBERRY BRANDON	12-11-9.4
I2	ULLOM BRIAN KEITH & SARAH ANN	12-11-14.3
J2	STRAWN JENNIFER	12-11-14.2
K2	WHEELING CREEK WATERSHED COMM	12-16-22
L2	CONSOL LAND DEVELOPMENT CO	12-16-18
M2	THOMAS RICHARD LEE BARTON	12-11-16
N2	HILLBERRY PAUL E JR	12-11-9.3
O2	LOUGHERY JAMES P JR & BROCK ROBIN M	12-11-9.2
P2	HOWARD JOYCE	12-11-9.1
Q2	GRAY DONALD G - TOD & GRAY WYATT MATTHEW	12-11-8
R2	M E CHURCH	12-11-17
S2	M E CHURCH TRUSTEES	12-11-11
T2	GRAY WYATT MATTHEW	12-11-8.6
U2	GRAY DONALD G - TOD & GRAY WYATT MATTHEW	12-11-8
V2	TEMPLE TERRY L & BEVERLY J -TOD	12-11-4
W2	TOLAND WILLIAM EUGENE ET AL	12-8-33
X2	TOLAND MARGARET	12-8-32
Y2	WINTERS BEVERLY DIANE	12-8-31.2
Z2	KENT PERRY L	12-8-30.1
A3	TOLAND CARRIE M	12-8-33.1
B3	RICHEY RANDY ET UX	12-8-35
C3	TOTH JOHN J SR & ALICE - TRUST	12-8-4.1
D3	PORTER CARLA S	12-9-13
E3	G F P CORP	12-2-7
F3	G F P CORP	12-2-12
G3	WV BRIGHTMONT LLC	12-2-14
H3	EDGE WILLIAM F JR - TOD ET AL	12-2-15

WELL BORE TRACTS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	LITMAN BARRY A & KIMBERLY S (S/R)	12-2-10
2	SURFACE OWNER (S)	TAX PARCEL
3	REINEKE RICHARD S (S)	12-2-9
4	TDL&G LLC (S)	12-2-8
5	TUBAUGH NORMA HUNTER ET AL (S)	12-2-5
6	TOTH JOHN J SR & ALICE J REVOCABLE TRUST (S)	12-8-1
7	W VA DEPT OF HIGHWAYS (S)	Miller Hill Rd
8	TOTH JOHN J SR & ALICE - TRUST (S)	12-8-4
9	CORNELL SALLY SEIBERT & ROBERT (S)	12-8-5
10	SCHULTZ CHARLES E & CLAUDIA M - TOD (S)	12-8-6
11	JOHNSON LONI M & JAMES A (S)	12-8-31.1
12	ALAMINSKI LUCINDA RUTH (S)	12-8-31.3
13	GRAY ZANDE C (S)	12-8-30
14	WINTERS BEVERLY DIANE (S)	12-11-6
15	STORCH JOSEPH WILLIAM ET UX (S)	12-11-7
16	STORCH JOSEPH WILLIAM ET UX (S)	12-11-12
17	W VA DEPT OF HIGHWAYS (S)	Sand Hill Rd
18	KEYSER MARY ANN (S)	12-11-10.4
19	HILLBERRY GARRY L (S)	12-11-9
20	JUNKINS RONALD D JR ET AL (S)	12-11-15

\*Highlighted Parcels may be impacted during drilling.

REVISIONS:	COMPANY:	 		DATE: 04-05-2024
	OPERATOR'S	MICHAEL SOUTHWORTH MSH		DRAWN BY: N. MANO
	WELL #:	410H		SCALE: N/A
	DISTRICT:	COUNTY:	STATE:	DRAWING NO:
	SANDHILL	MARSHALL	WV	WELL LOCATION PLAT 3

**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"				

**\*Potentially Impacted Parcels - Parcels that may be impacted during drilling.**

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

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

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

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

Well Operator: SWN Production Company, LLC  
 By: Andrew M. Smith *Andrew M. Smith*  
 Its: Landman

EXHIBIT "A"

Michael Southworth MSH 410H

Marshall County, West Virginia

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

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	Book/Page	% Interest Not Leased by SWN
1	12-2-10	728963/005	Salvation Army	Chesapeake Appalachia, L.L.C.	18.00%	723/10	0.00%
			Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		27/166	
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
			Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
		725102/001	Robert B. Elliott, a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	676/179	
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC	33/110		
		728963/001	Mable L. Riggle, a widow	Chesapeake Appalachia, L.L.C.	18.00%	722/602	
			Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		25/582	
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
			Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
		728963/003	Gregory Williams, single man	Chesapeake Appalachia, L.L.C.	18.00%	723/376	
			Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		27/166	
Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110				
Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424				
728963/002	Elm Grove United Methodist Church	Chesapeake Appalachia, L.L.C.	18.00%	722/606			
	Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		27/166			
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110			

EXHIBIT "A"

Michael Southworth MSH 410H

Marshall County, West Virginia

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Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	Book/Page	% Interest Not Leased by SWN
1 (cont.)			Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
		728963/004	Dolores E. Williams, divorced and not remarried	Chesapeake Appalachia, L.L.C.	18.00%	723/382	0.00%
			Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		27/166	
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
			Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
2	12-2-9	724960/000	Richard S. Reineke and Charlene R. Reineke, his wife	Chesapeake Appalachia, L.L.C.	18.00%	676/341	0.00%
			Chesapeake Appalachia, L.L.C.	Statoilhydro USA Onshore Properties Inc.		21/565	
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
			Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
3	12-2-8	730186/000	John W. Gregory and Donna R. Gregory, his wife	Great Lakes Energy Partners, L.L.C.	12.50%	653/367	0.00%
			Great Lakes Energy Partners, L.L.C.	Range Resources - Appalachia, LLC		19/443	
			Range Resources - Appalachia, LLC	Chesapeake Appalachia, L.L.C.		23/368	
			Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		24/363	
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
			Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	

EXHIBIT "A"

Michael Southworth MSH 410H

Marshall County, West Virginia

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

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	Book/Page	% Interest Not Leased by SWN
4	12-2-5	724871/000	Norma Tubaugh, wife, Dawnisa Tubaugh, daughter, Clarence W. Tubaugh, son, and Gary W. Glessner, grandson	Chesapeake Appalachia, L.L.C.	12.50%	673/538	0.00%
			Chesapeake Appalachia, L.L.C.	Statoilhydro USA Onshore Properties Inc.		675/279	
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
			Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
5	12-8-1	Pending	Sandhill Land Ventures, LP	SWN Production Company, LLC	18.00%	1178/52	0.00%
6	Miller Hill Road	Pending	West Virginia Department of Transportation, Division of Highways	SWN Production Company, LLC	20.00%	1187/293	0.00%
7	12-8-4	727778/000	John Joseph Toth, Sr., a/k/a John J. Toth Sr. and Alice Joann Toth, husband and wife	Chesapeake Appalachia, L.L.C.	18.75%	710/390	0.00%
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
8	12-8-5	732584/000	Sally Seibert Cornell and Robert Cornell, her husband	NPAR, LLC	18.75%	700/464	0.00%
			NPAR, LLC	Chesapeake Appalachia, L.L.C. and Statoil USA Onshore Properties Inc.		25/637	
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
			Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
9	12-8-6	Pending	Charles E. Schultz and Claudia M. Schultz, husband and wife	SWN Production Company, LLC	18.00%	1183/79	0.00%
10	12-8-31.1	745245/000	Shelley Klamut f/k/a Shelley Edge and f/k/a Shelly Edge and Nicholas P. Klamut, her husband	SWN Production Company, LLC	18.00%	875/469	0.00%
11	12-8-31.3	751394/000	Bounty Minerals, LLC	TH Exploration, LLC	18.00%	965/301	0.00%
			TH Exploration, LLC	American Petroleum Partners Operating, LLC		43/497	
			High Road Resources, LLC, f/k/a American Petroleum Partners Operating, LLC	SWN Production Company, LLC		48/263	

EXHIBIT "A"

Michael Southworth MSH 410H  
Marshall County, West Virginia

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

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	Book/Page	% Interest Not Leased by SWN
12	12-8-30	Pending	Zande Claude Gray	SWN Production Company, LLC	18.00%	1162/24	0.00%
		751375/001	Howard Lynn Kernan, single	American Petroleum Partners Operating, LLC	19.00%	934/295	0.00%
			High Road Resources, LLC, f/k/a American Petroleum Partners Operating, LLC	SWN Production Company, LLC		48/263	
13	12-11-6	750019/000	Beverly Diane Winters	American Petroleum Partners Operating, LLC	18.00%	910/27	0.00%
			American Petroleum Partners Operating, LLC	SWN Production Company, LLC		48/381	
14	12-11-7	786635/000	Golden Eagle Resources II, LLC	SWN Production Company, LLC	18.00%	1183/166	0.00%
		751127/001	Golden Eagle Resources II, LLC	American Petroleum Partners Operating, LLC	19.00%	987/329	0.00%
			High Road Resources, LLC, f/k/a American Petroleum Partners Operating, LLC	SWN Production Company, LLC		48/263	
15	12-11-12	Pending	Golden Eagle Resources II, LLC	SWN Production Company, LLC	18.00%	1183/166	0.00%
16	Sand Hill Road	Pending	West Virginia Department of Transportation, Division of Highways	SWN Production Company, LLC	20.00%	1187/290	0.00%
17	12-11-10.4	Pending	APP Minerals LLC	American Petroleum Partners Operating, LLC	19.00%	1091/443	0.00%
			High Road Resources, LLC, f/k/a American Petroleum Partners Operating, LLC	TH Exploration, LLC		49/249	
			EQT TGH Exploration, LLC f/k/a TH Exploration, LLC	SWN Production Company, LLC		1202/119	
18	12-11-9	Pending	Joyce Howard, married, dealing in her separate property	SWN Production Company, LLC	18.00%	1162/117	0.00%
		Pending	Garry L. Hillberry, married, dealing in his separate property	SWN Production Company, LLC	18.00%	1162/123	0.00%



EXHIBIT "A"

Michael Southworth MSH 410H  
Marshall County, West Virginia

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

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	Book/Page	% Interest Not Leased by SWN
19	12-11-15	733650/000	Ronald D. Junkins Jr., a single man and Kevin Junkins a married man dealing in his sole and saperate property	TriEnergy Holdings, LLC	16.00%	717/474	0.00%
			TriEnergy Holdings, LLC	NPAR, LLC		24/430	
			NPAR, LLC	Chevron U.S.A. Inc.		756/332	
			Chevron U.S.A. Inc.	Chesapeake Appalachia, L.L.C.		30/532	
		Pending	Wayne Eugene Junkins, single, and Mary L. Junkins, now known as Mary L. Shinkrow, widow	Noble Energy, Inc.	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC	33/110
					Noble Energy, Inc.	HG Energy II Appalachia, LLC	39/1
					HG Energy II Appalachia, LLC	SWN Production Company, LLC	52/657
E2	12-11-10	Pending	APP Minerals LLC	American Petroleum Partners Operating, LLC	19.00%	1091/443	0.00%
			High Road Resources, LLC, f/k/a American Petroleum Partners Operating, LLC	TH Exploration, LLC		49/249	
			EQT TGHl Exploration, LLC f/k/a TH Exploration, LLC	SWN Production Company, LLC		1202/119	
G2	12-11-10.1	751351/000	APP Minerals LLC	American Petroleum Partners Operating, LLC	19.00%	1091/443	0.00%
			High Road Resources, LLC, f/k/a American Petroleum Partners Operating, LLC	SWN Production Company, LLC		48/263	
H2	12-11-9.4	Pending	Garry L. Hillberry, married, dealing in his separate property	SWN Production Company, LLC	18.00%	1163/208	0.00%
		Pending	Joyce Howard, married, dealing in her separate property	SWN Production Company, LLC		1173/1	

\*Potentially Impacted Parcels - Parcels that may be impacted during drilling.

End of Exhibit "A"

October 28, 2024

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

**RE:** SWN's proposed New Well: Michael Southworth MSH 410H in Marshall County, West Virginia, Drilling under Walnut Grove Road, Miller Hill Road, Pappy Lane, Haven Lane, Caldwell Hill Road, Hillberry Lane, and Sand Hill Road.

Dear Mr. Brewer:

SWN Production Company, LLC ("SWN") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to SWN's right to drill under Walnut Grove Road, Miller Hill Road, Pappy Lane, Haven Lane, Caldwell Hill Road, Hillberry Lane, and Sand Hill Road. Please be advised that SWN has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Thank you.

Sincerely,



Andrew M. Smith, RPL  
Landman  
SWN Production Company, LLC

RECEIVED  
Office Of Oil and Gas

NOV 21 2024

WV Department of  
Environmental Protection

