



west virginia department of environmental protection

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

Jim Justice , Governor  
Austin Caperton , Cabinet Secretary  
www.dep.wv.gov

Friday, November 17, 2017  
WELL WORK PERMIT  
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC  
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit approval for DANIEL DURIG WTZ 210H  
47-103-03205-00-00

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: DANIEL DURIG WTZ 210H  
Farm Name: ARTHUR DURIG (LIFE ESTATE), DANIEL DURIG (REMAINDER)  
U.S. WELL NUMBER: 47-103-03205-00-00  
Horizontal 6A / New Drill  
Date Issued: 11/17/2017

Promoting a healthy environment.

11/17/2017

# PERMIT CONDITIONS

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

## CONDITIONS

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

## PERMIT CONDITIONS

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

WW-6B  
(04/15)

API NO. 47-103 -  
OPERATOR WELL NO. Daniel Durig Wtz 210H  
Well Pad Name: Daniel Durig Wtz Pad

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

1) Well Operator: SWN Production Co., LLC 494512924 103- Wetzel 12-Proctor 681-Wileyville  
Operator ID County District Quadrangle

2) Operator's Well Number: Daniel Durig Wtz 210H Well Pad Name: Daniel Durig Wtz Pad

3) Farm Name/Surface Owner: Daniel Durig Public Road Access: Macedonia Ridge Road

4) Elevation, current ground: 1400.9' Elevation, proposed post-construction: 1400.9'

5) Well Type (a) Gas x Oil Underground Storage

Other

(b) If Gas Shallow x Deep

Horizontal x

7/18/2017 dmh

6) Existing Pad: Yes or No yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):

Target Formation- Marcellus, Target Top TVD- 7463', Target Base TVD-7501', Anticipated Thickness- 38', Associated Pressure- 4863

8) Proposed Total Vertical Depth: 7482'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 18007'

11) Proposed Horizontal Leg Length: 5366.18'

12) Approximate Fresh Water Strata Depths: 427'

13) Method to Determine Fresh Water Depths: Determined by salinity profile on Daniel Durig 5H, nearby water wells and transmissive zones

14) Approximate Saltwater Depths: 1664'

15) Approximate Coal Seam Depths: 1155'

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 x

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

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WW-6B  
(04/15)

047-103-03205  
 API NO. 47- 103 -  
 OPERATOR WELL NO. Daniel Durig WTZ 210H  
 Well Pad Name: Daniel Durig WTZ Pad

18)

**CASING AND TUBING PROGRAM**

7/18/2017 dmh

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft./CTS)
Conductor	20"	New	H-40	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	H-40	48#	527'	527'	502 sx/CTS
Coal	9 5/8"	New	J-55	36#	2710'	2710'	2710 sx/CTS
Intermediate	7"	New	J-55	20#	If Needed	If Needed	If Needed/As Needed
Production	5 1/2"	New	HCP-110	20#	18007'	18007'	Lead 643sz tall 2500sz/100' inside trng
Tubing	2 3/8"	New	HCP-110	4.7#	Approx. 7230'	Approx. 7230'	
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	1.19/50% Excess
Fresh Water	13 3/8"	17.5"	0.380	2740	633	Class A	1.19/50% Excess
Coal	9 5/8"	12 1/4"	0.395	3950	1768	Class A	1.19/50% Excess
Intermediate	7"	8 3/4"	0.317	4360	3250	Class A	1.20/15% Excess
Production	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/15% Excess
Tubing	2 3/8"	4.778"	0.190				
Liners							

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**PACKERS**

Kind:				
Sizes:				
Depths Set:				

WW-6B  
(10/14)

API NO. 47- 103 -

OPERATOR WELL NO. Daniel Durig Wtz 205H

Well Pad Name: Daniel Durig Wtz 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. Run casing not less than 20' below void nor more than 50' below void. (\*If freshwater is encountered deeper than anticipated it must be protected, set casing 50' below and cts.)

DmH  
4-15-17

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

Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This will be performed in stages with the plug and perf method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. The well is produced through surface facilities consisting of high pressure production unites, vertical separation units, water and oil storage tanks. Max press and anticipated max rate- 9000 lbs @ 80 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 8.1

22) Area to be disturbed for well pad only, less access road (acres): 3.9

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.

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\*Note: Attach additional sheets as needed.

## Schlumberger Cement Additives

	Product Name	Product Use	Chemical Name	CAS Number
Surface	S001	accelerator	calcium chloride	10043-52-4
Intermediate	S001	accelerator	calcium chloride	10043-52-4
Kick Off Plug	D080	dispersant	sodium polynaphthalene sulfonate	9008-63-3
	D801	retarder	aromatic polymer derivative	proprietary
	D047	antifoam	polypropylene glycol	25322-69-4
Production-Lead	D167	fluid loss	aliphatic amide polymer	proprietary
	D154	extender	non-crystalline silica	7631-86-9
	D400	gas migration	boric acid	10043-35-3
			polypropylene glycol	25322-69-4
	D045	antifoam	fullers earth (attapulgite)	8031-18-3
			chrystalline silica	14808-60-7
	D201	retarder	metal oxide	proprietary
	D202	dispersant	formaldehyde (impurity)	proprietary
Production-Tail			polypropylene glycol	25322-69-4
	D046	antifoam	fullers earth (attapulgite)	8031-18-3
	D167	fluid loss	aliphatic amide polymer	proprietary
	D065	dispersant	sodium polynaphthalene sulfonate	9008-63-3
			sodium sulfate	7757-82-6
			chrystalline silica	14808-60-7
	D201	retarder	metal oxide	proprietary
	D153	anti-settling	chrystalline silica	14808-60-7

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6-15-17

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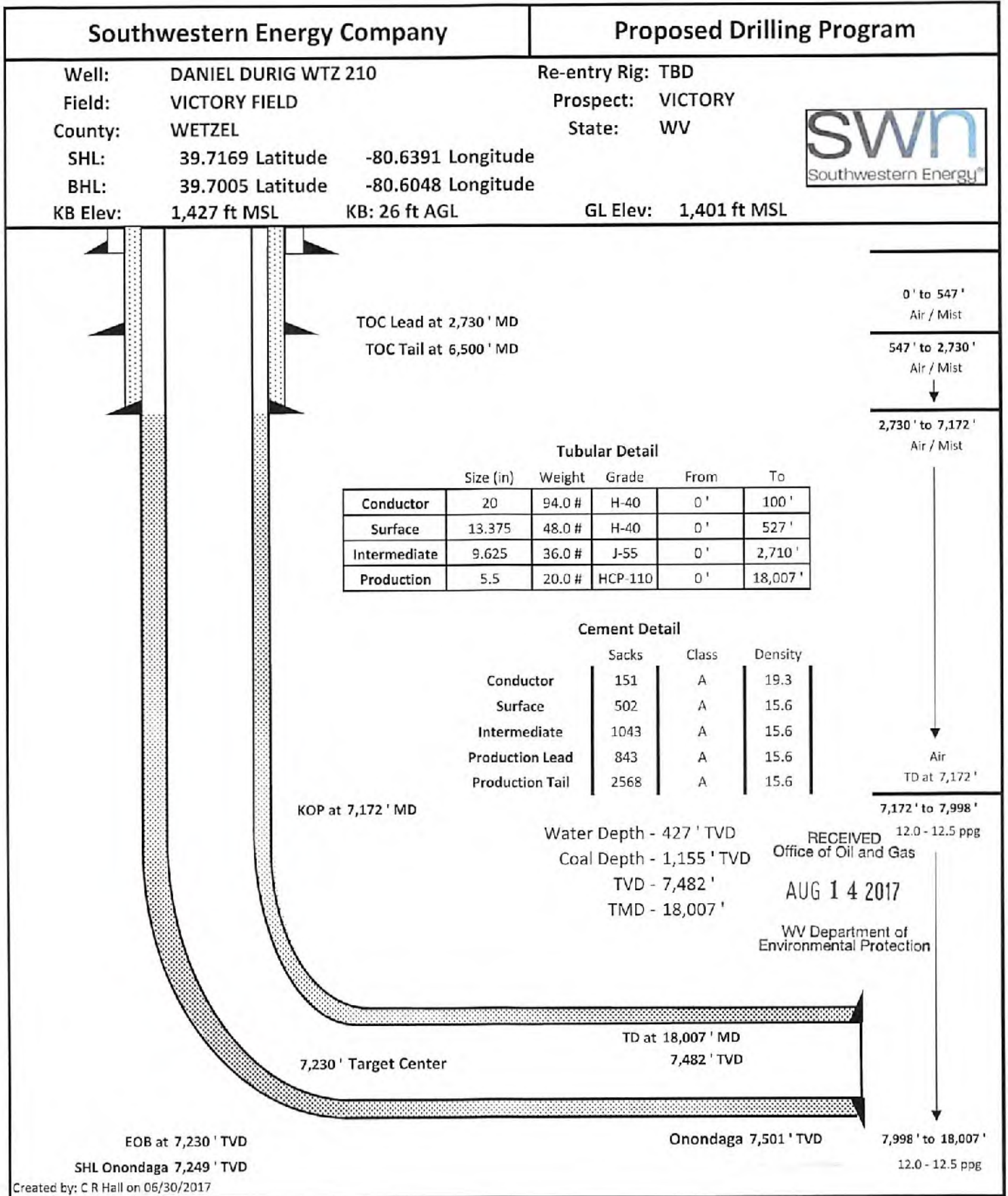
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047-103-03205

API	Operator	Status	Latitude	Longitude	Vertical TD	Producing Formation	Producing Zones Not Perforated	Men On The Ground
103-00450	COLUMBIA GAS (FORMERLY MANUFACTURERS LIGHT & HEAT)	ACTIVE	****	****	2464	BIG INJUN		where the wells were "supposed to be" and nothing was located
103-73306	UNKNOWN	UNKNOWN			UNKNOWN	UNKNOWN		where the wells were "supposed to be" and nothing was located
103-01158	A E & M BISSETT	ABANDONED			UNKNOWN	UNKNOWN		where the wells were "supposed to be" and nothing was located
103-30282	L A DILLENGER	ABANDONED			UNKNOWN	UNKNOWN		where the wells were "supposed to be" and nothing was located

11/17/2017





WW-9  
(4/16)

API Number 47 - 103

Operator's Well No. Daniel Durig WTZ 210H

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name SWN Production Company, LLC OP Code 494512924

Watershed (HUC 10) Laurel Run Quadrangle Wileyville

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

Will a pit be used? Yes  No

If so, please describe anticipated pit waste: closed loop system in place at this time- cuttings will be taken to a permitted landfill

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 \_\_\_\_\_ )
- Reuse (at API Number \_\_\_\_\_ at next anticipated well, API # will be included with the WR-34/DDMR &/or permit addendum \_\_\_\_\_ )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain flow back fluids will be put in steel tanks and reused or taken to a permitted disposal facility)

DH  
6-15-17

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

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. air drill to KOP, fluid drill with SOBM from KOP RECEIVED  
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-If oil based, what type? Synthetic, petroleum, etc. synthetic oil base

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Additives to be used in drilling medium? see attached sheets

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

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

-Landfill or offsite name/permit number? meadow SWF-1032, BS grading SWF-4902, Northwestern SWF-1025, Short Creek 1034/WV0109517/CID25726, Carbon Limestone 25726-CID20723

Arden Landfill 10072, American U2-12954, Country Wide 38390/CID38390, Pine Grove 13688

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 [Signature]

Company Official (Typed Name) Dee Southall

Company Official Title Regulatory Supervisor

Subscribed and sworn before me this 30th day of May

Brittany R Woody

My commission expires 11/17/2017



11/17/2017

Form WW-9

Operator's Well No. Daniel Durig WTZ 210H

**SWN Production Company, LLC**

Proposed Revegetation Treatment: Acres Disturbed 8.1 Prevegetation pH \_\_\_\_\_

Lime as determined by pH test; min. 2 Tons/acre or to correct to pH 3.9

Fertilizer type 10-20-20

Fertilizer amount 600 lbs/acre

Mulch Hay/Straw 2.5 Tons/acre

Seed Mixtures

**Temporary**

**Permanent**

Seed Type lbs/acre

Seed Type lbs/acre

**\*\*See Attachment**

**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.

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Plan Approved by: 

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Environmental Protection

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

Title: oil and gas inspector Date: 6-15-17

Field Reviewed?  Yes  No

## Drilling Mediums

Synthetic Oil

Brine

Barite

Calcium Chloride

Lime

Organophilic Bentonite

Primary and Secondary Emulsifiers

Gilsonite

Calcium Carbonate

Friction Reducers

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# WVD Seeding Specification



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%
Birdfoot 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 OR	50%
Organic Perennial Ryegrass	50%
Organic Red or White Clover	50%
Apply @ 100lbs per acre April 16th- Oct. 14th	
Apply @ 200lbs per acre Oct. 15th- April 15th	
Organic Fertilizer @ 200lbs per Acre	Pelletized Lime @ 2 Tons per Acre

## WETLANDS (delineated as jurisdictional wetlands)

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

SOIL AMENDMENTS	
10-20-20 Fertilizer	*Apply @ 500lbs per Acre
Pelletized Lime	Apply @ 2 Tons per Acre
*unless otherwise dictated by soil test results	
<b>Seeding Calculation Information:</b> 1452' of 30' ROW/LOD is One Acre 871' of 50' ROW/LOD is One Acre 622' of 70' ROW/LOD is One Acre	
<b>Synopsis:</b> 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).	
<b>Special Considerations:</b> 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.	

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# MARCELLUS WELL DRILLING PROCEDURES AND WELL SITE SAFETY PLAN



SWN Production Company, LLC  
179 Innovation Drive  
Jane Lew, West Virginia 26378

**API NO. 47-XXX-XXXXX**  
**WELL NAME: Daniel Durig WTZ 210H**  
**Wileyville QUAD**  
**Proctor DISTRICT**  
**Wetzel COUNTY, WEST VIRGINIA**

Submitted by:

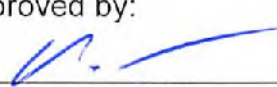
  
Dee Southall

Date: 5/30/2017

Title: Regulatory Supervisor

SWN Production Co., LLC

Approved by:

  
Title: Oil & Gas Inspector

Date: 6-15-17

Approved by:

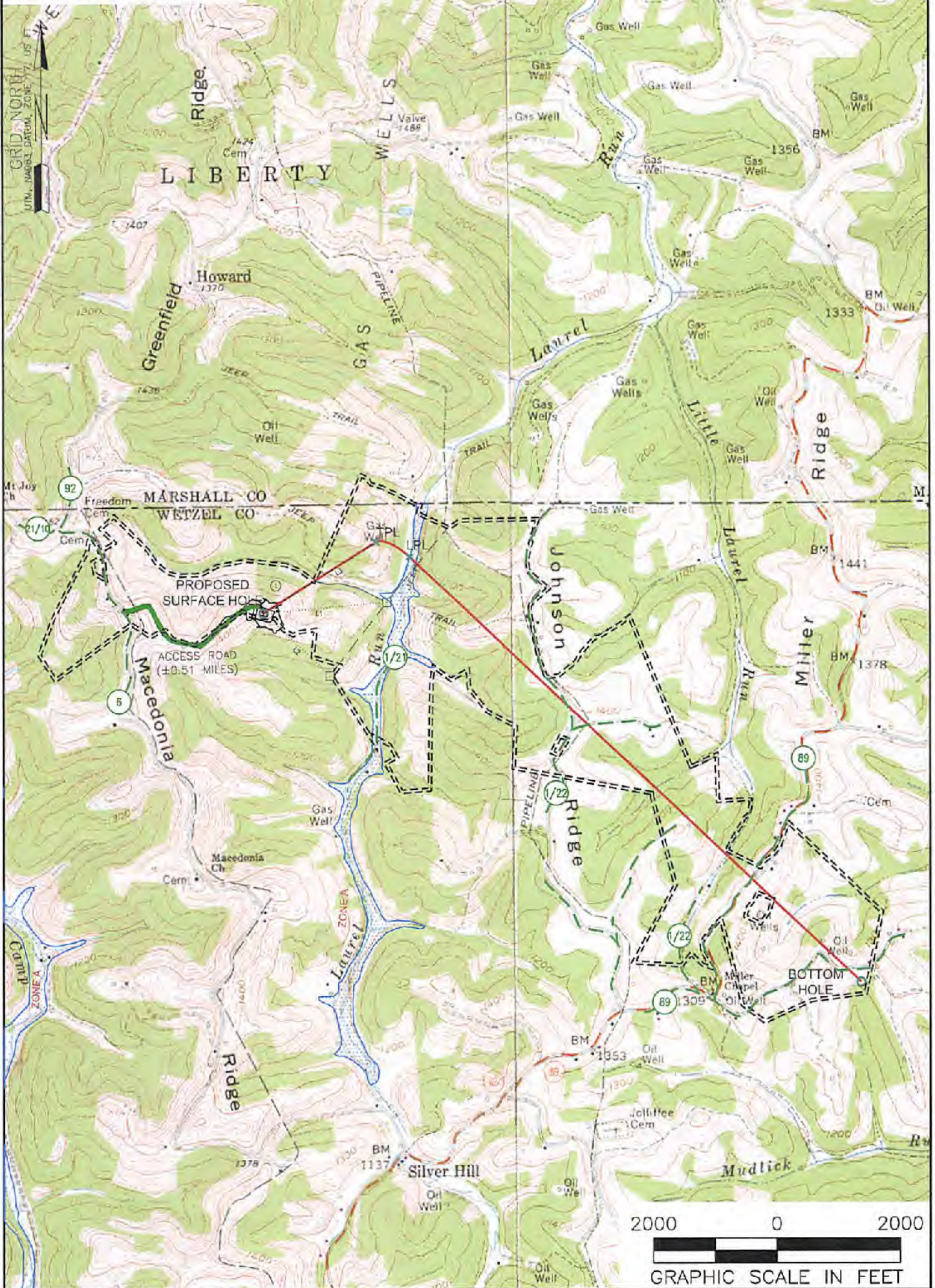
Title: \_\_\_\_\_

Date: \_\_\_\_\_

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**JACKSON SURVEYING  
INC.**  
P.O. Box 1460  
677 W. Main St.  
Clarksburg, WV 26302  
304-823-5851



**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.
- 3.
4. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

**LEGEND:**

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

11/17/2017



WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: DANIEL DURIG WTZ	WELL # 210H	SERIAL #
ADDRESS: P.O. BOX 1300 JANE LEW, WV 26378	COUNTY - CODE WETZEL - 103	DISTRICT; PROCTOR	
SURFACE OWNER: DANIEL DURIG	USGS 7 1/2 QUADRANGLE MAP NAME WILEYVILLE, WV		

**JACKSON SURVEYING  
INC.**

P.O. Box 1460  
677 W. Main St.  
Clarksburg, WV 26302  
304-623-5851

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS			
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	ARTHUR DURIG (LIFE ESTATE) & DANIEL DURIG (REMAINDERMAN) (S/R)	12-05-06	151.58
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
2	FRED S. WILKERSON (S)	01-01-01	50.0
3	MASON DIXON FARMS, LLC (S)	01-01-02	100.1
4	ROBERT R. REYNOLDS & DONNA D. REYNOLDS (S)	01-01-03	82.625
5	MARTIN R. WHITEMAN & LISA K. WHITEMAN (S)	01-04-04	46.00
6	MARTIN R. WHITEMAN & LISA K. WHITEMAN (S)	01-04-06	80.0
7	MARTIN R. WHITEMAN & LISA K. WHITEMAN (S)	01-04-07	16.40
8	VENCIN HARLAN (S)	01-04-09	33.48125
9	VENCIN HARLAN (S)	01-04-11	9.25
10	VENCIN LEROY HARLAN, L/E, SUSAN L. THOMAS & JOHN F. THOMAS, JR. (S)	01-04-12	7.26875
11	VENCIN LEROY HARLAN, L/E, SUSAN L. THOMAS & JOHN F. THOMAS, JR. (S)	01-04-25	30.0
12	SUSAN MILLER (S)	01-05-12	45.32
13	SUSAN MILLER (S)	01-05-13	80.0

ADJOINING OWNERS TABLE			
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	MASON DIXON FARMS, LLC	12-05-04	48.875
B	ARTHUR DURIG, LIFE ESTATE, & DANIEL DURIG, REMAINDERMAN	12-05-05	10.0
C	SUSAN MILLER	01-04-54	2.05
D	RODGER S. LONG	01-04-35.2	13.36625
E	STEVE LONG	01-04-35	34.25
F	DENNIS M. LONG & MELBA LONG	01-04-35.3	0.456

REVISIONS:	COMPANY:	 		R <sup>2</sup> → V <sup>+</sup> 11/17/2017
	OPERATOR'S	DANIEL DURIG		DATE: 07-28-2017
	WELL #:	210H		DRAWN BY: N. MANO
	DISTRICT:	COUNTY:	STATE:	SCALE: N/A
	PROCTOR	WETZEL	WV	DRAWING NO:
				WELL LOCATION PLAT 2



Latitude: 39°45'00" (SURFACE HOLE) SURFACE HOLE 3951'

Latitude: 39°42'30" (BOTTOM HOLE)

BOTTOM HOLE 6028'

JACKSON SURVEYING INC.

P.O. Box 1460
677 W. Main St.
Clarksburg, WV 26302
304-623-5851

Table with 2 columns: Location Name and UTM Coordinates (NORTHING, EASTING). Rows include Surface Hole Location (SHL), Turning Point Location (TPL), Landing Point Location (LPL), and Bottom Hole Location (BHL).

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

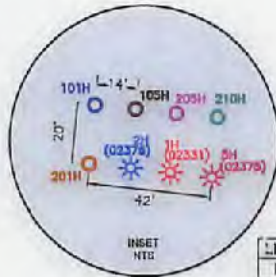


Table with 5 columns: LINE, BEARING, DISTANCE, DESCRIPTION, MONUMENT. Contains data for lines L1 through L4.



WELL RESTRICTIONS

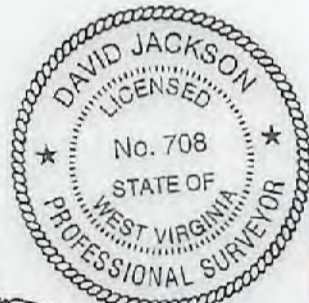
- 1. NO OCCUPIED DWELLINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
2. NO AGRICULTURE BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
3. WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF PROPOSED WELL.
4. PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS 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.

NOTES ON SURVEY

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



2000 0 2000

GRAPHIC SCALE IN FEET

COMPANY: SWN SWN
Production Company, LLC Production Company™

(+) 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)

DANIEL DURIG WTZ
OPERATOR'S WELL #: 210H
API WELL #: 47 103 03205
STATE COUNTY PERMIT

WELL TYPE: OIL [ ] WASTE DISPOSAL [ ] PRODUCTION [x] DEEP [ ] GAS [x] LIQUID INJECTION [ ] STORAGE [ ] SHALLOW [x]
WATERSHED: LAUREL RUN (HUC-10 FISH CREEK) ELEVATION: 1400.9'
DISTRICT: PROCTOR COUNTY: WETZEL QUADRANGLE: WILEYVILLE, WV
SURFACE OWNER: ARTHUR DURIG (LIFE ESTATE), DANIEL DURIG (REMAINDERMAN) ACREAGE: ±151.58
OIL & GAS ROYALTY OWNER: O.C. YOHO AND MARY YOHO, ARTHUR T. DURIG (LIFE ESTATE), DANIEL DURIG (REMAINDERMAN) ACREAGE: ±151.58
DRILL [x] DRILL DEEPER [ ] REDRILL [ ] FRACTURE OR STIMULATE [x] PLUG OFF OLD FORMATION [ ] PERFORATE NEW FORMATION [x]
CONVERT [ ] PLUG & ABANDON [ ] CLEAN OUT & REPLUG [ ] OTHER CHANGE [ ] (SPECIFY)
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,482 TVD 18,007 TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: DEE SOUTHALL
ADDRESS: P.O. BOX 1300 ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378 CITY: JANE LEW STATE: WV ZIP CODE: 26378

Table with 2 columns: Legend and Revisions. Legend includes Proposed Surface Hole / Bottom Hole, Existing / Producing Wellhead, Landing Point Location, Existing Water Well, Existing Spring, Surveyed Boundary, Drilling Unit, Lease Boundary, Proposed Path. Revisions table includes Date: 07-28-2017, Drawn By: N. Mano, Scale: 1" = 2000', Drawing No., Well Location Plat.

WW-6A1  
(5/13)

Operator's Well No. Daniel Durig WTZ 210H

**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
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WV Department of  
Environmental Protection

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

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

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

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

Well Operator: SWN Production Company, LLC

By: \_\_\_\_\_

Its: \_\_\_\_\_

Staff Landman

Gary Nuckolls

EXHIBIT "A"  
 Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WV-60.1, by SWN Production Company, LLC, Operator  
 Daniel Durlig, 210H  
 Mineral County, West Virginia

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#	TMP	LEASE #	LESSOR	LESSEE	ROYALTY	BU/PG	SURFACE OWNER	Book/Page Must describe the Parcel	DEEDED ACREAGE	LEASED ACREAGE
1	12-5-5	724719-000	O. C. Vedio and Mary Vedio, his wife (Arthur Durlig, life Estate; Daniel Durlig, Remainderman)	Manufacturers Light and Heat Company	12.50%	45X/235	Arthur Durlig, life Estate; Daniel Durlig, Remainderman	442/701	151,580,000	151,580,000
			Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC	Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC		269/164 84A/129 402/446				
2	1-1-1	724702-001	Wayne Korihaus, a single man Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Fred S. Wilkerson	360/596	50,000,000	50,000,000
2	1-1-1	724702-002	Donald Korihaus, a single man Chesapeake Appalachia, LLC	Chesapeake Appalachia, LLC	12.50%	93V/937	Fred S. Wilkerson	360/596	50,000,000	50,000,000
2	1-1-1	724702-003	Terry Brooks, a married man dealing in his sole and separate property Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	94A/204	Fred S. Wilkerson	360/596	50,000,000	50,000,000
2	1-1-1	724702-004	Eula L. Church, a single woman Chesapeake Appalachia, LLC	Chesapeake Appalachia, LLC	12.50%	94A/201	Fred S. Wilkerson	440/506	50,000,000	50,000,000
2	1-1-1	724702-005	Fred S. Wilkerson, a married man dealing in his sole and separate property Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	94A/547	Fred S. Wilkerson	360/596	50,000,000	50,000,000
3	1-1-2	724033-000	Elis D. Miller and Hope Miller, his wife (Miriam Knowles, Gal I. Miller) Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC	SWN Production Company, LLC Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC	12.50%	44A/474 269/164 84A/129 402/446	Malson Dixon Farm, L.L.C.	399/222	100,100,000	100,100,000
4	1-1-3	724410-000	L. N. Pyles and Lisa B. Pyles, his wife (George H. Pyles)	Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC	12.50%	45A/157	Robert R. Reynolds and Donna D. Reynolds, husband and wife, and unto the survivor of them	428/379	82,625,000	82,625,000
5	1-4-4	744817-000	W. H. Hinkle and Leona B. Hinkle, his wife (Stone Hill Mineral Holdings, LLC; MACUP, LLC; Mineral Acquisition Company, LP) Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC	SWN Production Company, LLC Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, LLC	12.50%	45A/392 269/164 84A/129 402/446	Martin R. Whiteman and Lisa K. Whiteman	369/112	46,000,000	46,000,000
6	1-4-6	724767-001	Nancy S. Warmuth, a widow Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	94A/777	Martin R. Whiteman and Lisa K. Whiteman	369/112	80,000,000	80,000,000
6	1-4-6	724767-002	Jolia A. Cain, a widow Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	94A/774	Martin R. Whiteman and Lisa K. Whiteman	369/112	80,000,000	80,000,000
6	1-4-6	724767-003	John C. Richards and Sonia M. Richards, his wife Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	94A/807	Martin R. Whiteman and Lisa K. Whiteman	369/112	80,000,000	80,000,000

EXHIBIT "A"  
 Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WV-6A1, by SWN Production Company, LLC, Operator  
 Daniel Durg 210H  
 Wetzel County, West Virginia

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7	1-1-7	744487-000	W. H. Finkle and Leona B. Finkle, his wife (Stone Hill Mineral Holdings, LLC, MNCUP, LLC, Mineral Acquisition Company, LP) Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Columbia Natural Resources, LLC Chesapeake Appalachia, LLC	Manufacturers Light and Heat Company	12.50%	45A/792	269/164 874/129 402/446	293/631	33,481,250	16,400,000	16,400,000
8	1-1-9	723919-001	Chesapeake Appalachia, LLC (Stone Hill Mineral Holdings, LLC)	SWN Production Company, LLC	12.50%	157A/540	157A/540	293/631	33,481,250	33,481,250	33,481,250
8	1-1-9	723816-000	Denise M. Ramsey, a single woman	Chesapeake Appalachia, LLC	12.50%	110A/219	110A/219	293/631	33,481,250	33,481,250	33,481,250
8	1-1-9	723837-001	Chesapeake Appalachia, LLC Dean A. Blake, a married man dealing in his sole and separate property	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	157A/540 89A/713	89A/713	293/631	33,481,250	33,481,250	33,481,250
8	1-1-9	723897-002	Chesapeake Appalachia, LLC Robert K. Miller, a/K/a Robert Miller and Susan Miller, his wife (Susan Miller)	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	157A/540 90A/7	90A/7	293/631	33,481,250	33,481,250	33,481,250
8	1-1-9	723837-003	Chesapeake Appalachia, LLC Rosemary Miller, f/K/a Rosemary Helop, a single woman (Rosemary Miller, life estate; Susan Miller, Remainderman)	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	157A/540 89A/716	89A/716	293/631	33,481,250	33,481,250	33,481,250
8	1-1-9	723837-004	Chesapeake Appalachia, LLC Evelyn Faye Spenser, a/K/a Faye Spenser, a married woman (Susan Miller)	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	157A/540 90A/4	90A/4	293/631	33,481,250	33,481,250	33,481,250
8	1-1-9	723837-005	Chesapeake Appalachia, LLC Shiben Estate, Inc, a West Virginia corporation	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	157A/540 102A/56	102A/56	293/631	33,481,250	33,481,250	33,481,250
8	1-1-9	723837-006	Chesapeake Appalachia, LLC Carl R. Miller, a/K/a Richard Miller (Mickie L. Byrd)	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	103A/571	103A/571	293/631	33,481,250	33,481,250	33,481,250
8	1-1-9	723837-007	Chesapeake Appalachia, LLC Donna R. Miller, a/K/a Donna Miller Comiso, a/K/a Donna R. Diemio and John Kevin Diemio, her husband	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	104A/751	104A/751	293/631	33,481,250	33,481,250	33,481,250
8	1-1-9	723837-008	Chesapeake Appalachia, LLC Margaret E. Miller-Rice, a/K/a Margaret E. Miller, and Michael D. Rice, her husband	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	104A/992	104A/992	293/631	33,481,250	33,481,250	33,481,250
8	1-1-9	723837-009	Chesapeake Appalachia, LLC Josephine K. Crane (Loretta J. Mitchell)	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	104A/248	104A/248	293/631	33,481,250	33,481,250	33,481,250
8	1-1-9	723837-010	Chesapeake Appalachia, LLC Nila L. Snider, a single woman (Julie Dawn Snider, Scott Eric Snider, Brent Alan Snider, Bryan Glen Snider, Kimela Ann Matthews)	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	106A/745	106A/745	293/631	33,481,250	33,481,250	33,481,250
8	1-1-9	723837-011	Chesapeake Appalachia, LLC Shirley Terck, a/K/a Shirley Hattinmumy Terck, a widow	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	106A/748	106A/748	293/631	33,481,250	33,481,250	33,481,250
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	157A/540				

EXHIBIT "A"  
 Attached to and made a part of the State of West Virginia Oil and Gas Permit Term, WV-561, by SWN Production Company, LLC, Operator  
 Daniel Dierig 210H  
 West Virginia  
 West County, West Virginia

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8	1-4-9	723837-012	Laverne Rogerson, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/540	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-013	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-013	Kodie Ramsey Wife, a widow (former wife)	Chesapeake Appalachia, LLC	12.50%	107A/540	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-014	Hilda V. Davies, a widow	SWN Production Company, LLC	12.50%	157A/540	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-015	Sherry Jean Ramsey, a single woman	Chesapeake Appalachia, LLC	12.50%	107A/540	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-016	Quentin A. Yocum, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/540	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-017	Nora Romanoski, a widow (Unknown Heirs or Assigns of Nora Romanoski)	Chesapeake Appalachia, LLC	12.50%	107A/540	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-018	Stanley D. Jackson, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/540	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-019	Ethel Faye Miller, a widow (Janet Reid, Norma Shelton)	Chesapeake Appalachia, LLC	12.50%	107A/540	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-020	Terrill R. Ramsey, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/588	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-021	Elden W. Jackson, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/523	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-022	Fa Lee Ramsey, a widow (Verneta Toy Cunningham, Favoral Everett Toy France Eugene Toy, Dr. Sy L. Middleton)	Chesapeake Appalachia, LLC	12.50%	107A/519	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-025	Brett Berstford, a single man	Chesapeake Appalachia, LLC	12.50%	107A/586	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-026	Chris Berstford, aka Lt. Chris Berstford, a single man	Chesapeake Appalachia, LLC	12.50%	108A/289	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-035	Grace Yono, a widow (Black Gold Group, Tonya Mulloni)	Chesapeake Appalachia, LLC	12.50%	109A/697	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-039	Robert D. Ramsey, Jr., a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/827	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-040	Dean R. Ramsey, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/830	Vendor Harten	293/691	33,481,250	33,481,250
8	1-4-9	723837-041	Kathy Skaggs, a single woman	Chesapeake Appalachia, LLC	12.50%	108A/550	Vendor Harten	293/691	33,481,250	33,481,250

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, W.V. 60-L, by SWN Production Company, LLC, Original  
 Daniel Dunge 210H  
 West Virginia  
 West Virginia

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8	1-4-9	723837-042	Dean D. Ramsey, JR., a single man (Patricia J. Ramsey)	Chesapeake Appalachia, LLC	12.50%	108A/547	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-043	Darrell Ramsey, SR., a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	108A/541	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-044	Bradley Long, a single man	Chesapeake Appalachia, LLC	12.50%	108A/556	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-045	Grace Long, a widow (Grace Long (Gowert; Bradley Long and Nicole Black (Remaindermen))	Chesapeake Appalachia, LLC	12.50%	108A/559	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-046	Nicole Black, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	108A/553	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-047	Mark Vincent, a single man	Chesapeake Appalachia, LLC	12.50%	108A/586	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-048	Dorothy Degeonov, a married woman dealing in her sole and separate property (Louis Degeonov)	Chesapeake Appalachia, LLC	12.50%	109A/842	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-049	Randy Ramsey, JR., a single man	Chesapeake Appalachia, LLC	12.50%	109A/860	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-050	Taman Warner, a married woman dealing in her sole and separate property (Three Gold Resources)	Chesapeake Appalachia, LLC	12.50%	114A/285	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-051	Reba Joan Carpenter, (N/A) Reba Joann Matthews, a/K/a Reba Joan Matthews, a single woman (Verna Jo Jones)	Chesapeake Appalachia, LLC	12.50%	109A/863	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-052	Sharon L. Morris, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	115A/7150	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-053	Donita M. Wells, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	115A/7153	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-054	Reba J. Boss, a single woman	Chesapeake Appalachia, LLC	12.50%	110A/935	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-055	Kristan P. Jones, a single woman	Chesapeake Appalachia, LLC	12.50%	109A/720	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-056	Kevin M. Jones, a single man	Chesapeake Appalachia, LLC	12.50%	108A/990	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-057	James L. Hayes, a single man (Chesapeake Appalachia, LLC)	Chesapeake Appalachia, LLC	12.50%	110A/290	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-058	Julianne E. Hiss, a single woman	Chesapeake Appalachia, LLC	12.50%	110A/275	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-059	William Long, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	110A/284	157A/540	Venoh Harlan	293/631	33,481,250	33,481,250

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WV-651, by SWN Production Company, LLC, Operator  
 Daniel Durig 210H  
 Wetzel County, West Virginia

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8	1-4-9	723837-060	USA J. Mounrtz, a single woman	Chesapeake Appalachia, LLC	12.50%	115A/147	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-061	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	110A/281	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-062	Herbert Long, JR, a single man	Chesapeake Appalachia, LLC	12.50%	157A/540	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-063	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	110A/287	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-064	Virginia Brown, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	157A/540	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-065	Charles Thomas Long, SR, a single man	Chesapeake Appalachia, LLC	12.50%	110A/278	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-066	Katherine Smith, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	157A/540	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-067	Rebecca L. Blair, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	110A/213	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-068	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-069	Keith Haynes, a single man	Chesapeake Appalachia, LLC	12.50%	110A/216	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-070	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-071	Wilbert R. Haynes, a single man	Chesapeake Appalachia, LLC	12.50%	110A/238	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-072	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-073	Brian Haynes, a single man	Chesapeake Appalachia, LLC	12.50%	111A/142	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-074	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	723837-075	Ralph E. Haynes, a single man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	110A/410	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	726606-001	Chesapeake Appalachia, LLC	SWN Production Company, LLC	16.00%	103A/320	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	744383-000	BRC Working Interest Company, LLC	Chesapeake Appalachia, LLC	12.50%	109A/270	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	744383-001	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-9	722919-001	Garnet Gas Corporation	SWN Production Company, LLC	20.00%	166A/231	Venchi Harlan	293/631	33,481,250	33,481,250
8	1-4-11	722919-002	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/515	Venchi Harlan	293/631	9,250,000	9,250,000
8	1-4-11	723836-000	(Stone Hill Mineral Holdings, LLC)	SWN Production Company, LLC	12.50%	110A/219	Venchi Harlan	293/631	9,250,000	9,250,000
8	1-4-11	723836-001	Denise M. Ramsey, a single woman	Chesapeake Appalachia, LLC	12.50%	157A/540	Venchi Harlan	293/631	9,250,000	9,250,000
8	1-4-11	723837-001	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	89A/713	Venchi Harlan	293/631	9,250,000	9,250,000
8	1-4-11	723837-002	Dean A. Blake, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	157A/540	Venchi Harlan	293/631	9,250,000	9,250,000
8	1-4-11	723837-003	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	90A/7	Venchi Harlan	293/631	9,250,000	9,250,000
8	1-4-11	723837-004	Robert K. Miller, a/k/a Robert Miller and Susan Miller, his wife (Susan Miller)	Chesapeake Appalachia, LLC	12.50%	89A/715	Venchi Harlan	293/631	9,250,000	9,250,000
8	1-4-11	723837-005	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Venchi Harlan	293/631	9,250,000	9,250,000
8	1-4-11	723837-006	Rosemary Miller, (V/a Rosemary Tedor), a single woman (Rosemary Miller life estate, Susan Miller, Remainderman)	Chesapeake Appalachia, LLC	12.50%	89A/715	Venchi Harlan	293/631	9,250,000	9,250,000
8	1-4-11	723837-007	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Venchi Harlan	293/631	9,250,000	9,250,000

EXHIBIT "A"  
 Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WV-651, by SWN Production Company, LLC Operator  
 Daniel Durig 210H  
 West Virginia  
 West Virginia

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9	1-4-11	723837-004	Evelyn Faye Spencer, a/K/a Faye Spencer, a married woman (Susan Miller)	Chesapeake Appalachia, LLC	12.50%	90A/4	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-005	Shilbey Estates, Inc, a West Virginia corporation	Chesapeake Appalachia, LLC	12.50%	102A/86	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-006	Carl R. Miller, a/K/a Richard Kuller (Kirkie L Byrd)	Chesapeake Appalachia, LLC	12.50%	103A/571	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-007	Dorrea R. Miller, a/K/a Dorra Miller-Comiso, a/K/a Dorra R. Dierno and John Kevin Dierno, her husband	Chesapeake Appalachia, LLC	12.50%	104A/251	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-008	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	104A/540	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-009	Josephine K. Crane (Loretta J. Mitchell)	Chesapeake Appalachia, LLC	12.50%	104A/248	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-010	Nilla L. Snider, a single woman (Julie Dawn Snider Scott Eric Snider Brent Alan Snider Bryan Glen Snider; Kimee Ann Matthews)	Chesapeake Appalachia, LLC	12.50%	106A/745	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-011	Shilbey Terik, a/K/a Shirley Fitzsimmons Terik, a widow	Chesapeake Appalachia, LLC	12.50%	106A/748	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-012	Loverne Rogerson, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/150	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-013	Nellie Ramsey Wise, a widow (Foster Wise)	Chesapeake Appalachia, LLC	12.50%	107A/540	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-014	Hilda V. Davery, a widow	Chesapeake Appalachia, LLC	12.50%	107A/462	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-015	Sherry Jean Ramsey, a single woman	Chesapeake Appalachia, LLC	12.50%	107A/459	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-016	Quentin A. Yocum, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/456	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-017	Nora Romanoski, a widow (Unknown Heirs or Assigns of Nora Romanoski)	Chesapeake Appalachia, LLC	12.50%	107A/453	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-018	Stanley D. Jackson, a married man dealing in the sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/567	Vendin Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-019	Ethel Faye Miller, a widow (Janet Reid; Norma Sheldon)	Chesapeake Appalachia, LLC	12.50%	107A/570	Vendin Harlan	293/631	9.250000	9.250000
				SWN Production Company, LLC		157A/540				



Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WV-6A1, by SWN Production Company, LLC, Operator  
 Daniel Burg 210H  
 Wetzel County, West Virginia

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9	1-4-11	723837-020	Terrill V. Ramsey, a married man dealing in his sole and separate property Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-021	Elden W. Jackson, a married man dealing in his sole and separate property Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	107A/923	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-022	Eval Lee Ramsey, a widow (Vernie Lov Cunningham, Edward Everett Loy, Ernest Eugene Loy, Daisy L. McClain) Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-025	Brett Berford, a single man Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	107A/836	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-026	Chris Berford, a/k/a Lt. Chris Berford, a single man Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	108A/288	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-035	Chesapeake Appalachia, LLC Grace Yoho, a widow (Black Gold Group; Tanya Mallon)	SWN Production Company, LLC	12.50%	157A/540	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-039	Robert D. Ramsey, Jr., a married man dealing in his sole and separate property Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	107A/827	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-040	Dean P. Ramsey, a married man dealing in his sole and separate property Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-041	Kathy Skaggs, a single woman Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	108A/550	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-042	Dean D. Ramsey, Jr., a single man (Patricia J. Ramsey) Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	108A/547	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-043	Darrell Ramsey, Sr., a married man dealing in his sole and separate property Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	108A/544	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-044	Bradley Long, a single man Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-045	Grace Long, a widow (Grace Long (Dower); Bradley Long and Nicole Black (Remaindermen)) Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	108A/559	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-046	Nicole Black, a married woman dealing in her sole and separate property Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	108A/553	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-047	Mark Vincent, a single man Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-048	Dorothy Degeonra, a married woman dealing in her sole and separate property (Louis Degeonra) Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	109A/642	Vernon Harlan	293/631	9.250000	9.250000
9	1-4-11	723837-049	Randy Ramsey, Jr., a single man Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	109A/860	Vernon Harlan	293/631	9.250000	9.250000

EXHIBIT "A"  
 Attached to and made a part of the State of West Virginia Oil and Gas Permit Form: SW-61, by SWN Production Company, LLC, Operator  
 Daniel Durg 210H  
 Wezel County, West Virginia

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9	1-4-11	723837-050	Timara Warner, a married woman dealing in her sole and separate property (Three Cadd Resources)	Cheapeake Appalachia, LLC	12.50%	1144/285	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-051	Robt Joan Carpenter, f/k/a Robt Joann Matthews, a/k/a Robt Joan Matthews, a single woman (Verona Jo Jones)	Cheapeake Appalachia, LLC	12.50%	1091/863	Verdon Harlan	9.250000	33.481250
9	1-4-11	723837-052	Sharon L. Morris, a married woman dealing in her sole and separate property	Cheapeake Appalachia, LLC	12.50%	1154/150	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-053	Dorita M. Wells, a married woman dealing in her sole and separate property	Cheapeake Appalachia, LLC	12.50%	1154/153	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-054	Reza J. Beso, a single woman	Cheapeake Appalachia, LLC	12.50%	1101/35	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-055	Kristin P. Jones, a single woman	Cheapeake Appalachia, LLC	12.50%	1054/20	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-056	Kevin N. Jones, a single man	Cheapeake Appalachia, LLC	12.50%	1084/990	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-057	James L. Haynes, a single man	Cheapeake Appalachia, LLC	12.50%	1104/750	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-058	Julliana E. Hiss, a single woman	Cheapeake Appalachia, LLC	12.50%	1104/275	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-059	William Long, a married man dealing in his sole and separate property	Cheapeake Appalachia, LLC	12.50%	1104/294	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-060	Isa J. Mountz, a single woman	Cheapeake Appalachia, LLC	12.50%	1154/147	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-061	Herbert Long, JR., a single man	Cheapeake Appalachia, LLC	12.50%	1104/281	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-062	Virginia Brown, a married woman dealing in her sole and separate property	Cheapeake Appalachia, LLC	12.50%	1104/287	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-063	Charles Thomas Long, SR., a single man	Cheapeake Appalachia, LLC	12.50%	1104/278	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-064	Katherine Smith, a married woman dealing in her sole and separate property	Cheapeake Appalachia, LLC	12.50%	1104/231	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-065	Rebecca L. Blair, a married woman dealing in her sole and separate property	Cheapeake Appalachia, LLC	12.50%	1104/213	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-066	Kath Haynes, a single man	Cheapeake Appalachia, LLC	12.50%	1104/216	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-067	Wilbert R. Haynes, a single man	Cheapeake Appalachia, LLC	12.50%	1104/738	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-068	Brian Haynes, a single man	Cheapeake Appalachia, LLC	12.50%	1114/142	Verdon Harlan	9.250000	9.250000
9	1-4-11	723837-069	Ralph E. Haynes, a single man dealing in his sole and separate property	Cheapeake Appalachia, LLC	12.50%	1104/410	Verdon Harlan	9.250000	9.250000

EXHIBIT "A"  
 Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WV 60-1, by SWN Production Company, LLC, Operator  
 Daniel Durig, 2104  
 West Virginia, West Virginia

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9	1-4-11	726606-001	Chesapeake Appalachia, LLC BRC Appalachian Minerals, LLC (BRC Mineral Holdings II, Somerset Minerals, OXY USA)	SWN Production Company, LLC BRC Working Interest Company, LLC	16.00%	103A/320	Vendin Harlan	293/631	9,250,000	9,250,000
9	1-4-11	744388-000	BRC Working Interest Company, LLC Chesapeake Appalachia, LLC (Stone Hill Mineral Holdings, LLC)	Chesapeake Appalachia, LLC SWN Production Company, LLC SWN Production Company, LLC	12.50%	103A/470 157A/540 166A/693	Vendin Harlan	293/631	9,250,000	9,250,000
9	1-4-11	PENDING	Garret Gas Corporation Chesapeake Appalachia, LLC (Stone Hill Mineral Holdings, LLC)	SWN Production Company, LLC SWN Production Company, LLC	20.00%	157A/656	Vendin Harlan	293/631	9,250,000	9,250,000
10	1-4-12	723886-000	Dentle M. Ramsey, a single woman Chesapeake Appalachia, LLC	Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	110A/219 157A/540	Susan L. Thomas and John F. Thomas, Jr.	428/473	7,268,750	7,268,750
10	1-4-12	723887-001	Dean A. Blake, a married man desiring to his sole and separate property Chesapeake Appalachia, LLC	Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	89A/713	Vendin Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-002	Robert K. Miller, a/k/a Robert Miller and Susan Miller, his wife (Susan Miller)	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	90A/7	Vendin Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-003	Rosemary Miller, a/k/a Rosemary Huslop, a single woman (Rosemary Miller, life estate; Susan Miller, Remaindermen)	Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	89A/716	Vendin Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-004	Evelyn Faye Spencer, a/k/a Faye Spencer, a married woman (Susan Miller)	Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	90A/4	Vendin Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-005	Silbun Estates, Inc., a West Virginia corporation Chesapeake Appalachia, LLC	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	102A/86	Vendin Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-006	Carl R. Miller, a/k/a Richard Miller (Middle L. Byrd)	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	103A/571	Vendin Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-007	Donna R. Miller, a/k/a Donna Miller, a/k/a Donna R. Diverio and John Kevin Diverio, her husband Chesapeake Appalachia, LLC	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	104A/251	Vendin Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-008	Margaret E. Miller-Rea, a/k/a Margaret E. Miller, and Michael D. Rea, her husband Chesapeake Appalachia, LLC	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	104A/982	Vendin Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-009	Josephine K. Crute (Loretta J. Mitchell)	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	104A/248	Vendin Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-010	Nita L. Sinder, a single woman (Julie Dawn Sinder; Scott Eric Sinder; Brent Alan Sinder; Bryan Glen Sinder; Kimco Von Matthews)	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	106A/745	Vendin Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				

EXHIBIT "A"  
 Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WV 6A1, by SWN Production Company, LLC, Operator  
 Daniel Dunge, 210H  
 Wayne County, West Virginia

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10	1-4-12	723837-011	Shirley Terck, a/K/a Shirley Fitzsimmons Terck, a widow	Chesapeake Appalachia, LLC	12.50%	106A/718	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-012	Laverne Rogerson, a married woman dealing in her sole and separate property	SWN Production Company, LLC	12.50%	107A/540	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-013	Nellie Ramsey Weir, a widow (Hester Wise)	SWN Production Company, LLC	12.50%	107A/540	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-014	Hilda V. Davisy, a widow	Chesapeake Appalachia, LLC	12.50%	107A/462	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-015	Sherry Jean Ramsey, a single woman	SWN Production Company, LLC	12.50%	107A/459	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-016	Quentin A. Yocum, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/456	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-017	Nora Romanoski, a widow (Unknown Heirs or Assigns of Nora Romanoski)	SWN Production Company, LLC	12.50%	107A/453	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-018	Stanley B. Jackson, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/567	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-019	Ernell Faye Miller, a widow (Janet Reid; Norma Shelton)	Chesapeake Appalachia, LLC	12.50%	107A/570	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-020	Terrill M. Ramsey, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/588	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-021	Elden W. Jackson, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/923	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-022	Fog Lee Ramsey, a widow (Vereda Loy Cunningham; Edward Everett Loy; Ernest Eugene Loy; Daley L. McIvahn)	Chesapeake Appalachia, LLC	12.50%	107A/619	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-025	Brett Berisford, a single man	Chesapeake Appalachia, LLC	12.50%	107A/636	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-026	Chris Berisford, a/K/a Lt. Chris Berisford, a single man	Chesapeake Appalachia, LLC	12.50%	108A/289	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-035	Grace Yoho, a widow (Black Gold Group; Tamya Miller)	Chesapeake Appalachia, LLC	12.50%	109A/697	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	723837-038	Robert D. Ramsey, Jr, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/827	Venchi Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750

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10	1-4-12	725837-040	Dean P. Ramsey, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	1074/830	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-041	Kathy Skiggs, a single woman	Chesapeake Appalachia, LLC	12.50%	1084/550	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-042	Dean D. Ramsey, JR, a single man (Portia J. Ramsey)	Chesapeake Appalachia, LLC	12.50%	1084/547	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-043	Darrell Ramsey, SR, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	1084/544	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-044	Bradley Long, a single man	Chesapeake Appalachia, LLC	12.50%	1084/546	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-045	Grace Long, a widow (Grace Long (Estate); Bradley Long and Nicole Black (Remaindermen))	Chesapeake Appalachia, LLC	12.50%	1084/559	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-046	Nicole Black, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	1084/553	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-047	Mark Vincent, a single man	Chesapeake Appalachia, LLC	12.50%	1084/586	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-048	Dorothy Depew, a married woman dealing in her sole and separate property (Joan Depew)	Chesapeake Appalachia, LLC	12.50%	1094/442	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-049	Randy Ramsey, Jr., a single man	Chesapeake Appalachia, LLC	12.50%	1094/860	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-050	Tamara Warner, a married woman dealing in her sole and separate property (Three Sold Resources)	Chesapeake Appalachia, LLC	12.50%	1144/285	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-051	Reba Jean Carpenter, f/k/a Reba Jean Matthews, a/k/a Reba Jean Matthews, a single woman (Yerna Jo Jones)	Chesapeake Appalachia, LLC	12.50%	1094/863	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-052	Sharon L. Morris, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	1154/150	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-053	Donita M. Wells, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	1154/153	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	725837-054	Reba J. Ross, a single woman	Chesapeake Appalachia, LLC	12.50%	1104/35	Verdell Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750

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 Wirtz County, West Virginia

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10	1-4-12	723837-055	Kristan P. Jones, a single woman	Chesapeake Appalachia, LLC	12.50%	1036/720	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-056	Kenn M. Jones, a single man	SWN Production Company, LLC	12.50%	1036/790	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-057	Jamot L. Haynes, a single man	SWN Production Company, LLC	12.50%	1104/790	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-058	Julianne E. Hiss, a single woman	SWN Production Company, LLC	12.50%	1104/775	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-059	William Long, a married man dealing in his sole and separate property	SWN Production Company, LLC	12.50%	1104/284	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-060	Lisa J. Mountz, a single woman	SWN Production Company, LLC	12.50%	1154/147	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-061	Herbert Long, Jr., a single man	SWN Production Company, LLC	12.50%	1104/281	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-062	Virginia Brown, a married woman dealing in her sole and separate property	SWN Production Company, LLC	12.50%	1104/287	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-063	Charles Thomas Long, Sr., a single man	SWN Production Company, LLC	12.50%	1104/278	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-064	Katherine Smith, a married woman dealing in her sole and separate property	SWN Production Company, LLC	12.50%	1104/231	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-065	Rebecca L. Blair, a married woman dealing in her sole and separate property	SWN Production Company, LLC	12.50%	1104/233	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-066	Keith Haynes, a single man	SWN Production Company, LLC	12.50%	1104/216	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-067	Wilbert R. Haynes, a single man	SWN Production Company, LLC	12.50%	1104/738	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-068	Brian Haynes, a single man	SWN Production Company, LLC	12.50%	1134/142	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	723837-069	Ralph E. Haynes, a single man dealing in his sole and separate property	SWN Production Company, LLC	12.50%	1104/710	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750
10	1-4-12	726606-001	(BP Mineral Holdings II; Somerset Minerals; GW USA)	BRC Working Interest Company, LLC	16.00%	1034/320	Venchi Harlan (life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268750	7,268750

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10	1-4-12	723837-000	Chesapeake Appalachia, LLC (Stone Hill Mineral Holdings, LLC)	SWN Production Company, LLC	12.50%	166A/931	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
10	1-4-12	FENNING	Garnet Gas Corporation	SWN Production Company, LLC	20.00%	193A/168	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	7,268,750	7,268,750
11	1-4-25	723837-001	Chesapeake Appalachia, LLC (Stone Hill Mineral Holdings, LLC)	SWN Production Company, LLC	12.50%	157A/656	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-000	Denise M. Ramsey, a single woman	Chesapeake Appalachia, LLC	12.50%	110A/239	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-001	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/640	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-002	Dean A. Blake, a married man decedent in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	89A/713	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-002	Robert K. Miller, a/K/a Robert Miller and Susan Miller, His wife (Susan Miller)	SWN Production Company, LLC	12.50%	90A/7	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-003	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-003	Restonery Miller, f/K/a Restonery Leodop, a single woman (Restonery Miller, life estate; Susan Miller, Remaindermen)	Chesapeake Appalachia, LLC	12.50%	89A/716	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-004	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-005	Shelton Estates, Inc., a West Virginia corporation	Chesapeake Appalachia, LLC	12.50%	102A/86	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-006	Carl R. Miller, a/K/a Richard Miller (Michelle Byrd)	SWN Production Company, LLC	12.50%	157A/640	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-007	Donna R. Miller, a/K/a Donna Miller Gombus, a/K/a Donna R. Dierio and John Kevin Dierio, her husband	Chesapeake Appalachia, LLC	12.50%	104A/251	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-008	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-008	Margaret E. Kuller, f/K/a Margaret E. Miller, and Michael D. Kull, her husband	Chesapeake Appalachia, LLC	12.50%	104A/82	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-009	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-010	Josephine K. Come (Cecilia J. Mitchell)	Chesapeake Appalachia, LLC	12.50%	104A/248	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-010	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/640	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-010	Mila L. Sinder, a single woman (Julie Dawn Sinder, Scott Eric Sinder, Brent Alan Sinder, Bryan Glen Sinder, Kimela Ann Matthews)	Chesapeake Appalachia, LLC	12.50%	106A/745	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-011	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-011	Shirley Tresek, a/K/a Shirley Fitzsimmons Tresek, a widow	Chesapeake Appalachia, LLC	12.50%	106A/748	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-012	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/540	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000
11	1-4-25	723837-012	Laverne Rogerson, a married woman decedent in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	107A/450	Vernon Harlan (the estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30,000,000	30,000,000

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11	1-4-25	723837-013	Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Nellie Ramsey Wife, a widow (Heiter Wise)	Chesapeake Appalachia, LLC	107A/640				
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540				
11	1-4-25	723837-014	Hilda V. Decker, a widow	Chesapeake Appalachia, LLC	107A/462	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540				
11	1-4-25	723837-015	Sherry Jean Ramsey, a single woman	Chesapeake Appalachia, LLC	107A/459	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540				
11	1-4-25	723837-016	Quentin A. Yocum, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	107A/456	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540				
11	1-4-25	723837-017	Nora Romanoski, a widow (Johnston heirs or Assigns of Nora Romanoski)	Chesapeake Appalachia, LLC	107A/453	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540				
11	1-4-25	723837-018	Stanley D. Jackson, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	107A/567	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540				
11	1-4-25	723837-019	Ethel Faye Miller, a widow (Janet Red; Norma Shelton)	Chesapeake Appalachia, LLC	107A/570	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	107A/588				
11	1-4-25	723837-020	Terrill N. Ramsey, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	107A/588	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	107A/923				
11	1-4-25	723837-021	Elden W. Jackson, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	107A/923	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	107A/619				
11	1-4-25	723837-022	Eva Lee Ramsey, a widow (Veneta Joy Cunningham; Edward Everett Loy; Ernest Eugene Loy; Daisy L. McQuinn)	Chesapeake Appalachia, LLC	107A/619	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	107A/836				
11	1-4-25	723837-023	Bret Berstford, a single man	Chesapeake Appalachia, LLC	107A/836	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	107A/289				
11	1-4-25	723837-026	Chris Berstford, a/K/a Lt. Chris Berstford, a single man	Chesapeake Appalachia, LLC	107A/289	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	107A/697				
11	1-4-25	723837-035	Grace Yohn, a widow (Black Gold Group; Tanya Mullin)	Chesapeake Appalachia, LLC	107A/697	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	107A/827				
11	1-4-25	723837-039	Robert D. Ramsey, Jr., a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	107A/827	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	107A/830				
11	1-4-25	723837-040	Dean P. Ramsey, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	107A/830	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	108A/550				
11	1-4-25	723837-041	Kathy Skaggs, a single woman	Chesapeake Appalachia, LLC	108A/550	Vendin Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC	157A/540				



EXHIBIT "A"  
 Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WV-60.1, by SWN Production Company, LLC, Operator  
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11	1-4-25	723837-062	Dean D. Ramsey, Jr., a single man (Partial J. Ramsey)	Chesapeake Appalachia, LLC	12.50%	1088/547	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-063	Darrell Ramsey, Sr., a married man dealing in his sole and separate property	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1088/544	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-064	Bradley Long, a single man	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1088/556	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-045	Grace Long, a widow (Grace Long (Dowry); Bradley Long and Nicole Black (Remaindermen))	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1088/559	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-046	Nicole Black, a married woman dealing in her sole and separate property	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1088/553	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-047	Mark Vincent, a single man	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1088/586	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-048	Dorothy Engstrom, a married woman dealing in her sole and separate property (Leola Engstrom)	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1058/842	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-049	Randy Ramsey, Jr., a single man	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1098/860	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-050	Tamara Warner, a married woman dealing in her sole and separate property (Three Gold Resources)	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1148/285	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-051	Reba Jean Carpenter, P/K/A Reba Jean Matthews, a single woman (Verna Jo Jones)	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1098/863	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-052	Sharon L. Morris, a married woman dealing in her sole and separate property	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1158/150	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-053	Donita M. Wells, a married woman dealing in her sole and separate property	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1158/153	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-054	Reba L. Boss, a single woman	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1108/435	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-055	Kristan P. Jones, a single woman	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1098/470	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-056	Kevin N. Jones, a single man	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	1088/490	Vernon Harlan (life estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000

**EXHIBIT "A"**  
 Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WV-6A, by SWN Production Company, LLC, Operator  
 Daniel Durg 2104  
 Wetzel County, West Virginia

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11	1-4-25	723837-057	James L. Haynes, a single man	Chesapeake Appalachia, LLC	12.50%	110A/290	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-058	Julliona E. Hiss, a single woman	Chesapeake Appalachia, LLC	12.50%	110A/275	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-059	William Long, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	110A/284	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-060	USA J. Mounitz, a single woman	Chesapeake Appalachia, LLC	12.50%	115A/247	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-061	Herbert Long, Jr., a single man	Chesapeake Appalachia, LLC	12.50%	110A/281	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-062	Virginia Brown, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	110A/287	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-063	Charles Thomas Long SR, a single man	Chesapeake Appalachia, LLC	12.50%	110A/278	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-064	Katherine Smith, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	110A/231	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-065	Rebecca L. Blair, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	110A/213	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-066	Kethi Haynes, a single man	Chesapeake Appalachia, LLC	12.50%	110A/216	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-067	Wiliuett R. Haynes, a single man	Chesapeake Appalachia, LLC	12.50%	110A/738	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-068	Brian Haynes, a single man	Chesapeake Appalachia, LLC	12.50%	111A/742	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	723837-069	Ralph E. Haynes, a single man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	110A/410	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	726606-001	BFC Appalachian Minerals LLC (BP Mineral Holdings III Somerset Minerals OXY USA)	BFC Appalachian Minerals LLC	16.00%	103A/320	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			BFC Working Interest Company, LLC	SWN Production Company, LLC		103A/470	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	744383-000	Chesapeake Appalachia, LLC (Stone Hill Mineral Holdings, LLC)	Chesapeake Appalachia, LLC	12.50%	166A/931	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540	Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000
11	1-4-25	PENDING	Garrett Gas Corporation	SWN Production Company, LLC	20.00%		Vencil Harlan (Life Estate); Susan L. Thomas and John F. Thomas, Jr. (Remaindermen)	428/473	30.000000	30.000000

19341683

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WV-641, by SWN Production Company, LLC, Operator  
 Daniel Durg 210H  
 Wetzel County, West Virginia

EXHIBIT "A"

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12	1-5-12	723448-002	Rosemary Miller, a/k/a Rosemary Hedgp (Rosemary Miller, life estate, Susan Miller, remainderman)	Cheapeake Appalachia, L.L.C.	12.50%	99A/10	Rosemary Miller, life estate as to 1/3; Susan Miller, remainderman as to 2/3	388/310	45.320000	45.320000
12	1-5-12	723448-003	David Dean Blake, a/k/a Dean Blake and Virginia Revel a Blake, his wife	SWN Production Company, LLC	12.50%	157A/540	Rosemary Miller, life estate as to 1/3; Susan Miller, remainderman as to 2/3	388/310	45.320000	45.320000
12	1-5-12	723448-004	Cheapeake Appalachia, L.L.C.	SWN Production Company, LLC	12.50%	157A/540	Rosemary Miller, life estate as to 1/3; Susan Miller, remainderman as to 2/3	388/310	45.320000	45.320000
12	1-5-12	723448-005	Carl R. Miller, a/k/a Richard Miller, a single man (Middle: Byrd)	Cheapeake Appalachia, L.L.C.	12.50%	99A/667	Rosemary Miller, life estate as to 1/3; Susan Miller, remainderman as to 2/3	388/310	45.320000	45.320000
12	1-5-12	723448-005	Donna R. Dienero, f/k/a Donna Corbino and her husband John Kevin Dienero	Cheapeake Appalachia, L.L.C.	12.50%	100A/280	Rosemary Miller, life estate as to 1/3; Susan Miller, remainderman as to 2/3	388/310	45.320000	45.320000
12	1-5-12	PENDING	Cheapeake Appalachia, L.L.C.	SWN Production Company, LLC	20.00%	157A/540	Rosemary Miller, life estate as to 1/3; Susan Miller, remainderman as to 2/3	388/310	45.320000	45.320000
12	1-5-12	723448-008	Mark Vincent, a single man	Cheapeake Appalachia, L.L.C.	12.50%	110A/296	Rosemary Miller, life estate as to 1/3; Susan Miller, remainderman as to 2/3	388/310	45.320000	45.320000
12	1-5-12	744383-000	Cheapeake Appalachia, L.L.C. (Stone Hill Mineral Holdings, LLC)	SWN Production Company, LLC	12.50%	166A/931	Rosemary Miller, life estate as to 1/3; Susan Miller, remainderman as to 2/3	389/310	45.320000	45.320000
12	1-5-12	PENDING	Susan M. Miller, a widow	SWN Production Company, LLC	16.00%	185A/481	Rosemary Miller, life estate as to 1/3; Susan Miller, remainderman as to 2/3	388/310	45.320000	45.320000
12	1-5-12	PENDING	Waco Oil and Gas Co., Inc.	SWN Production Company, LLC	18.00%	185A/478	Rosemary Miller, life estate as to 1/3; Susan Miller, remainderman as to 2/3	388/310	45.320000	45.320000
12	1-5-12	PENDING	Garratt Gas Corporation	SWN Production Company, LLC	20.00%	196A/703	Rosemary Miller, life estate as to 1/3; Susan Miller, remainderman as to 2/3	388/310	45.320000	45.320000
13	1-5-13	PENDING	Ernus Miller, single, and Florence E. Miller, single (Susan Miller) Earl M. Hemmen Hope Natural Gas Company Manufacturers Light and Heat Company Columbia Gas Transmission Company	Earl M. Hemmen Hope Natural Gas Company Manufacturers Light and Heat Company Columbia Gas Transmission Company SWN Production Company, LLC	12.50%	5A/427 6A/708 40A/468 263/164 188A/278	Susan Miller	267/170	81.000000	81.000000

11/17/2017

175-10V

**MEMORANDUM OF OIL AND GAS LEASE**

This Memorandum of Oil and Gas Lease made this 10th day of August, 2017 by and between Garnet Gas Corporation, of 444 Richardsonville Rd, Creston, WV 26141-7578, hereinafter collectively called "Lessor," and SWN Production Company, LLC, a Texas limited liability company, 10000 Energy Drive, Spring, Texas 77389, hereinafter called "Lessee."

**WITNESSETH**

For and in consideration of the sum of Ten Dollars (\$10.00) cash in hand paid, and other good and valuable consideration, Lessor did make and execute in favor of Lessee an Oil and Gas Lease dated 08/10/2017, and made effective 08/10/2017, which provides for a Ninety (90) day primary term covering Lessor's interest in the following described lands:

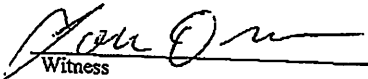
See Exhibit "A" for additional property description

Containing 234.7750000 acres and located in the Township/District of Center, Wetzel County, State of West Virginia, for the purpose of drilling, operating for, producing and removing oil and gas and all the constituents thereof. This Lease may be extended beyond the primary term by certain activities including, without limitation, conducting operations, producing oil or gas, or making prescribed payments.

This Memorandum of Oil and Gas Lease is being made and filed for the purpose of giving third parties notice of the existence of the Lease described above. The execution, delivery and recordation of this Memorandum of Oil and Gas Lease shall have no effect upon, and is not intended as an amendment of the terms and conditions of the Lease. It is the intent of the Lessor to lease all of Lessor's interest in and to the properties described herein, whether or not the tracts recited herein are properly described, and further it is understood this lease includes all rights owned by the Lessor in the properties described herein, limited from 200 feet above the Marcellus shale to 200 feet below the Marcellus shale.


IN WITNESS WHEREOF this Memorandum of Oil and Gas Lease is executed as of the date first above written.

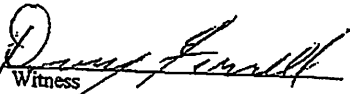
LESSOR

  
Witness

LESSOR

Garnet Gas Corporation

  
BY: **PRESIDENT**

  
Witness

LESSEE:

SWN Production Company, LLC  
A Texas limited liability company

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Stephen M. Guidry  
Vice President - Land

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Office of Oil and Gas

AUG 14 2017

WV Department of  
Environmental Protection



## EXHIBIT "A"

Attached to and by reference made a part of that certain MEMORANDUM OF OIL AND GAS LEASE dated the 10th day of August, 2017 made and entered into by and between Gamet Gas Corporation, as Lessor and SWN Production Company, LLC, as Lessee.

1. The Leasehold is located, all or in part, in the Tax District of Center in the County of Wetzel, in the State of West Virginia, and is bounded substantially formerly or currently as follows:
 

On the North by lands of	01-0004-0010-0000
On the East by lands of	01-0004-0013-0000
On the South by lands of	01-0004-0011-0000
On the West by lands of	01-0004-0009-0000

TAX ID# 01-0004-0011-0000

Deed or other instrument by which the Lessor acquired title: Book 293, Page 631 dated 07/30/1973
2. The Leasehold is located, all or in part, in the Tax District of Center in the County of Wetzel, in the State of West Virginia, and is bounded substantially formerly or currently as follows:
 

On the North by lands of	01-0004-0011-0000
On the East by lands of	01-0004-0025-0000
On the South by lands of	01-0004-0025-0000
On the West by lands of	01-0004-0009-0000

TAX ID# 01-0004-0012-0000

Deed or other instrument by which the Lessor acquired title: Book 428, Page 473 dated 11/07/2011
3. The Leasehold is located, all or in part, in the Tax District of Center in the County of Wetzel, in the State of West Virginia, and is bounded substantially formerly or currently as follows:
 

On the North by lands of	01-0005-0001-0000
On the East by lands of	01-0005-0002-0000
On the South by lands of	01-0004-0025-0000
On the West by lands of	01-0004-0011-0000

TAX ID# 01-0004-0013-0000

Deed or other instrument by which the Lessor acquired title: Book 293, Page 631 dated 07/30/1973
4. The Leasehold is located, all or in part, in the Tax District of Center in the County of Wetzel, in the State of West Virginia, and is bounded substantially formerly or currently as follows:
 

On the North by lands of	01-0004-0008-0000
On the East by lands of	01-0004-0025-0000
On the South by lands of	01-0004-0034-0000
On the West by lands of	01-0004-0022-0000

TAX ID# 01-0004-0024-0000

Deed or other instrument by which the Lessor acquired title: Book 346, Page 235 dated 02/03/1994
5. The Leasehold is located, all or in part, in the Tax District of Center in the County of Wetzel, in the State of West Virginia, and is bounded substantially formerly or currently as follows:
 

On the North by lands of	01-0004-0012-0000
On the East by lands of	01-0004-0035-0002
On the South by lands of	01-0004-0035-0000
On the West by lands of	01-0004-0024-0000

TAX ID# 01-0004-0025-0000

Deed or other instrument by which the Lessor acquired title: Book 428, Page 473 dated 11/07/2011
6. The Leasehold is located, all or in part, in the Tax District of Center in the County of Wetzel, in the State of West Virginia, and is bounded substantially formerly or currently as follows:
 

On the North by lands of	01-0004-0013-0000
On the East by lands of	01-0005-0002-0000
On the South by lands of	01-0005-0013-0000
On the West by lands of	01-0004-0025-0000

TAX ID# 01-0005-0012-0000

Deed or other instrument by which the Lessor acquired title: Book 388, Page 310 dated 10/09/2003
7. The Leasehold is located, all or in part, in the Tax District of Center in the County of Wetzel, in the State of West Virginia, and is bounded substantially formerly or currently as follows:
 

On the North by lands of	01-0005-0012-0000
On the East by lands of	01-0005-0012-0000
On the South by lands of	01-0005-0012-0000
On the West by lands of	01-0005-0012-0000

TAX ID# 01-0004-0054-0000

Deed or other instrument by which the Lessor acquired title: Book 287, Page 371 dated 05/20/1977
8. The Leasehold is located, all or in part, in the Tax District of Center in the County of Wetzel, in the State of West Virginia, and is bounded substantially formerly or currently as follows:
 

On the North by lands of	01-0004-0006-0000
On the East by lands of	01-0004-0011-0000

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11/17/2017

MEMORANDUM OF OIL AND GAS LEASE

2/16-WV

This Memorandum of Oil and Gas Lease made this 17 day of July, 2017 by and between Piney Holdings, Inc., a Florida corporation, of P.O. Box 5056, Fairmont, WV, 26555, hereinafter collectively called "Lessor," and SWN Production Company, L.L.C., a Texas limited liability company, 10000 Energy Drive, Spring, Texas 77389, hereinafter called "Lessee."

WITNESSETH

For and in consideration of the sum of Ten Dollars (\$10.00) cash in hand paid, and other good and valuable consideration, Lessor did make and execute in favor of Lessee an Oil and Gas Lease dated 17 day of July, 2017, and made effective 17 day of July, 2017, which provides for a Five (5) year primary term and an option to renew for an additional Five (5) year term covering Lessor's interest in the following described lands:

Tax Map No: 1-5-12

See Exhibit "A" attached hereto and made a part of

Containing 47.375 acres and located in the Township/District of Center, Wetzel County, State of West Virginia, for the purpose of drilling, operating for, producing and removing oil and gas and all the constituents thereof. Said lands were conveyed to Lessor by virtue of Deed dated August 1, 2006 and recorded in said County and State in Deed Book 405, Page 320. This Lease may be extended beyond the primary term by certain activities including, without limitation, conducting operations, producing oil or gas, or making prescribed payments. This Lease also grants to Lessee a Right of First Refusal to match any offer to top lease the leased premises, which right may be exercised by Lessee within fifteen (15) days after receipt of proper notice from Lessor.

This Memorandum of Oil and Gas Lease is being made and filed for the purpose of giving third parties notice of the existence of the Lease described above. The execution, delivery and recordation of this Memorandum of Oil and Gas Lease shall have no effect upon, and is not intended as an amendment of the terms and conditions of the Lease. It is the intent of the Lessor to lease all of Lessor's interest in and to the properties described herein, whether or not the tracts recited herein are properly described, and further it is understood this lease includes all rights owned by the Lessor in the properties described herein.

IN WITNESS WHEREOF this Memorandum of Oil and Gas Lease is executed as of the date first above written.

WITNESS:

William J. Hammit III

LESSOR:  
Piney Holdings, Inc.,  
A Florida corporation

Christine Hayhurst Davis  
Christine Hayhurst Davis - Vice President

WITNESS:

\_\_\_\_\_

SWN Production Company, L.L.C.  
A Texas limited liability company

\_\_\_\_\_  
Stephen M. Guidry  
Vice President - Land

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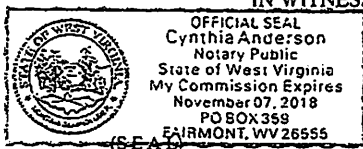
WV Department of  
Environmental Protection

ACKNOWLEDGEMENT

STATE OF WEST VIRGINIA :  
COUNTY OF Mason :

On this the 12th day of July, 2017, before me, the undersigned authority, personally appeared Christina Lopez, who acknowledged herself to be the Vice President of SWN Production Company, L.L.C., and that she as such V.P., being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by herself as Vice President.

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



My Commission Expires: November 7th 2018  
Signature/Notary Public: Cynthia Anderson  
Name/Notary Public (print): Cynthia Anderson

CORPORATE ACKNOWLEDGMENT

STATE OF TEXAS )  
 ) §  
COUNTY OF HARRIS )

On this the \_\_\_\_\_ day of \_\_\_\_\_, 2017, before me the undersigned Notary Public, personally appeared Stephen M. Guidry, who acknowledged himself to be the Vice-President - Land of SWN Production Company, L.L.C., a Texas limited liability company, and that he as such officer, being authorized to do so, executed foregoing instrument for the purpose therein contained by signing the name of the corporation by himself as Vice-President - Land.

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

My Commission Expires: \_\_\_\_\_  
Signature/Notary Public: \_\_\_\_\_  
Name/Notary Public (print): \_\_\_\_\_

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WV Department of  
Environmental Protection





SWN Production Company, LLC  
P O Box 12359  
Spring, Texas 77391-2359  
www.swn.com

May 30, 2017

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

**RE:** SWN's proposed Daniel Durig WTZ 210H in Wetzel County, West Virginia, Drilling under Macedonia Ridge Road.

Dear Ms. Adkins:

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

Thank you.

Sincerely,

Gary Nuckolls  
Staff Landman  
SWN Production Company, LLC  
PO Box 1300  
Jane Lew, WV 26378

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WV Department of  
Environmental Protection

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WW-6AC  
(1/12)

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

Date of Notice Certification: 8/11/17

API No. 47- 103 -  
Operator's Well No. Daniel Durig WTZ 210H  
Well Pad Name: Daniel Durig WTZ Pad

**Notice has been given:**

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

State: <u>WV</u>	UTM NAD 83 Easting: <u>530937.473</u>
County: <u>103- Wetzel</u>	Northing: <u>4396394.981</u>
District: <u>Proctor</u>	Public Road Access: <u>Macedonia Ridge Road</u>
Quadrangle: <u>Wileyville</u>	Generally used farm name: <u>Daniel Durig</u>
Watershed: <u>Laurel Run</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 type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" 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><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 align="center"><b>OOG OFFICE USE ONLY</b></p> <p><input checked="" type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input checked="" type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED</p>
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WV Department of  
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**Required Attachments:**

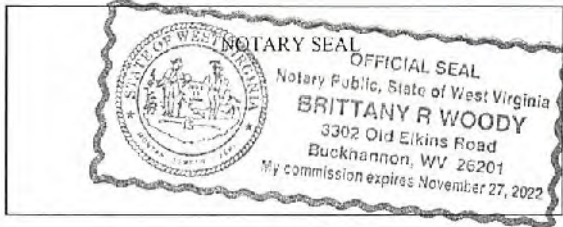
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication 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.

**Certification of Notice is hereby given:**

THEREFORE, I \_\_\_\_\_, 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: SWN Production Co., LLC  
By: Dee Southall  
Its: Regulatory Supervisor  
Telephone: 304-884-1614

Address: P.O. Box 1300  
Jane Lew, WV 26378  
Facsimile: \_\_\_\_\_  
Email: Dee\_Southall@swn.com



Subscribed and sworn before me this 30th day of May 2017.  
Brittany R Woody Notary Public  
My Commission Expires 11/27/22

**Oil and Gas Privacy Notice:**

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

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Environmental Protection

WW-6A  
(9-13)

API NO. 47- 103 -  
OPERATOR WELL NO. Daniel Durig WTZ 210H  
Well Pad Name: Daniel Durig WTZ Pad

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

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

Date of Notice: 8/11/17 Date Permit Application Filed: 8/11/17

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: Daniel Durig & Arthur and Shirley Durig L/E  
Address: 3116 Macedonia Ridge Road  
New Martinsville, WV 26155

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

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WV Department of  
Environmental Protection

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

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

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

SURFACE OWNER OF WATER WELL  
AND/OR WATER PURVEYOR(s)  
Name: See Attachment #1  
Address: \_\_\_\_\_

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

SURFACE OWNER(s) (Impoundments or Pits)  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

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

\*Please attach additional forms if necessary

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(9-13)

API NO. 47- \_\_\_\_\_ - \_\_\_\_\_  
OPERATOR WELL NO. Daniel Durig WTZ 210H  
Well Pad Name: Daniel Durig WTZ Pad

**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:** \_\_\_\_\_ **Date Permit Application Filed:** \_\_\_\_\_

**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: \_\_\_\_\_  
Address: \_\_\_\_\_

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

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

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

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

SURFACE OWNER(s) (Impoundments or Pits)

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

COAL OWNER OR LESSEE

Name: Daniel Durig  
Address: 3116 Macedonia Ridge Road  
New Martinsville, WV 26155

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COAL OPERATOR

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
WV Department of Environmental Protection

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

Name: See Attachment #1  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

\*Please attach additional forms if necessary

WW-6A  
(8-13)

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API NO. 47- 103 -  
OPERATOR WELL NO. Daniel Durig WTZ 210H  
Well Pad Name: Daniel Durig WTZ PadWV Department of  
Environmental Protection**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

**This Notice Shall Include:**

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Well Location Restrictions**

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

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(8-13)

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API NO. 47- 103 -

OPERATOR WELL NO. Daniel Durig Wtz 210H

Well Pad Name: Daniel Durig Wtz Pad

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

**Water Well Testing:**

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

**Water Testing Laboratories:**

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

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

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

**Written Comment:**

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

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

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

11/17/2017

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(8-13)

API NO. 47- 103 -  
OPERATOR WELL NO. Daniel Durig Wtz 210H  
Well Pad Name: Daniel Durig Wtz Pad

### 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.

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Environmental Protection

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.

11/17/2017



047-103-03205

WW-6A  
(8-13)

API NO. 47- 103 -  
OPERATOR WELL NO. Daniel Durig WZ 210H  
Well Pad Name: Daniel Durig WZ Pad

**Notice is hereby given by:**

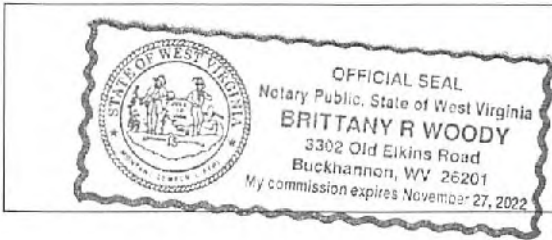
Well Operator: SWN Production Co., LLC  
Telephone: 304-884-1614  
Email: Dee\_Southall@swn.com



Address: P.O. Box 1300  
Jane Lew, WV 26376  
Facsimile:

**Oil and Gas Privacy Notice:**

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



Subscribed and sworn before me this 30th day of May 2017.  
Brittany R Woody Notary Public  
My Commission Expires 11/27/22

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Environmental Protection

11/17/2017

047-103-03205

**Daniel Durig WTZ Pad - Water Purveyors w/in 1500'**

**Sources**

**Landowner**

**Address**

Daniel Durig

3116 Macedonia Ridge Road Cameron WV 26033 2 springs

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Environmental Protection

11/17/2017

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MASON DIXON  
FARMS LLC

MASON DIXON  
FARMS LLC

MASON DIXON  
FARMS LLC

MASON DIXON  
FARMS LLC

WILKERSON  
FRED S

DURIG  
DANIEL

DURIG  
DAVID

DURIG  
DANIEL

MASON DIXON  
FARMS LLC

VRANCKEN  
ROBERT D

MASON DIXON  
FARMS LLC

VRANCKEN  
ROBERT D  
HUGGINS  
PATRICK WANE  
& LEE ANN  
YONG KEVIN  
DUNG  
DAVID &  
BONNIE

DURIG DAVID  
A & BONNIE


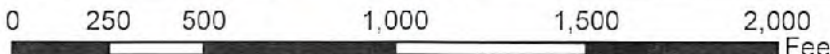
DURIG DAVID A &  
BONNIE A

MASON  
DIXON  
FARMS LLC

BAKER DAVID,  
DEAN, ELOISE

The intent of this map is for general reference only. Information on this map was created using the best available data at the time but is not guaranteed accurate.

11/17/2017

<b>Water Purveyor Map</b>			<b>Well Pad:</b> Daniel Durig Wtz Pad	<b>County:</b> WETZEL
Map by: speart	Date: 2/9/2017		<b>Daniel Durig Wtz Coordinates:</b> 39.716808, -80.639151	
NAD 1983 BLM Zone 17N ftUS				

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

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

**Notice Time Requirement:** Notice shall be provided at least TEN (10) days prior to filing a permit application.

**Date of Notice:** 05/30/2017      **Date Permit Application Filed:** 8/11/17

**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: Daniel Durig  
Address: 3116 Macedonia Ridge Rd.  
New Martinsville, WV 26155

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

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**AUG 14 2017**

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator <sup>WV Department of Environmental Protection</sup> ~~has~~ <sup>has</sup> intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	<u>West Virginia</u>	UTM NAD 83 Easting:	<u>530,937.473</u>
County:	<u>Wetzel</u>	Northing:	<u>4,396,394.981</u>
District:	<u>Proctor</u>	Public Road Access:	<u>Macedonia Ridge Rd.</u>
Quadrangle:	<u>Wileyville, WV</u>	Generally used farm name:	<u>Daniel Durig WTZ</u>
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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

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

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

**Oil and Gas Privacy Notice:**

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

WW-6A5  
(1/12)Operator Well No. Daniel Durig WTZ 210H

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

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

**Date of Notice:** 05/30/2017      **Date Permit Application Filed:** 8/11/17

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

CERTIFIED MAIL                                       HAND  
RETURN RECEIPT REQUESTED                                      DELIVERY

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

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

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

Name: Daniel Durig  
Address: 3116 Macedonia Ridge Rd.  
New Martinsville, WV 26155

Name: \_\_\_\_\_  
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  
County: Wetzel  
District: Proctor  
Quadrangle: Wileyville, WV  
Watershed: Laurel Run

UTM NAD 83      Easting: 530,937.473  
   Northing: 4,396,394.981  
Public Road Access: Macedonia Ridge Rd.  
Generally used farm name: Daniel Durig WTZ

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WV Department of  
Environmental Protection

**This Notice Shall Include:**

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

Well Operator: SWN Production Company, LLC  
Telephone: 832-540-1136  
Email: Steve\_Teel@SWN.com

Address: PO Box 1300, 179 Innovation Drive  
Jane Lew, WV 26378  
Facsimile: 304-884-1891

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11/17/2017



## WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

## Division of Highways

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

Jim Justice  
Governor

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

June 2, 2017

47-103-03205

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

Subject: DOH Permit for the Daniel Durig Pad WTZ 210H Well Site, Wetzel County

Dear Mr. Martin,

The West Virginia Division of Highways has transferred Permit # 06-2008-0012 to Southwestern Energy for the existing well pad. Access to the well site is off of Wetzel County Route 6 SLS.

The operator has signed an OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

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Office of Oil and Gas

AUG 14 2017

WV Department of  
Environmental Protection

Very Truly Yours,

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

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

11/17/2017

Product Name	Product Use	Chemical Name	CAS Number
EC 6734A (Champion Technologies)	Biocide	Hydrogen Peroxide	7722-84-1
		Acetic Acid	64-19-7
		Peroxyacetic Acid	79-21-0
GYPTRON T-390 (Champion Technologies)	Scale Inhibitor	Methanol	67-56-1
		Nonylphenol Ethoxylate	Proprietary
Bactron K-139 (Champion Technologies)	Biocide	Glutaraldehyde	111-30-8
		Quaternary Ammonium Compounds, Benzyl-C 12-16-Alkyldimethyl, Chlorides	68424-85-1
		Ethanol	64-17-5
Bactron K-219 (Champion Technologies)	Biocide	Methanol	67-56-1
		Quaternary Ammonium Compounds, Benzyl-C 12-16-Alkyldimethyl, Chlorides	68424-85-1
A264 (Schlumberger)	Corrosion Inhibitor	Methanol	67-56-1
		Aliphatic Acids	Proprietary
		Prop-2-yn-1-ol	107-19-7
		Aliphatic Alcohols, Ethoxylated #1	Proprietary
Myacide GA 25 (Schlumberger)	Biocide	Water	7732-18-5
		Glutaral	111-30-8
Scale Inhibitor B 317 (Schlumberger)	Scale Inhibitor	Trisodium Ortho Phosphate	7601-54-9
		Ethane-1,2-diol	107-21-1
H215 (Schlumberger)	Hydrochloric Acid	Hydrochloric Acid	7647-01-0
J 218 (Schlumberger)	Breaker	Diammonium Peroxidisulphate	7727-54-0
EB-Clean* J 475 (Schlumberger)	Breaker	Diammonium Peroxidisulphate	7727-54-0
Water Gelling Agent J 580 (Schlumberger)	Gel	Carbohydrate Polymer	Proprietary
Friction Reducer J 609W (Schlumberger)	Friction Reducer	Ammonium Sulfate	7783-20-2
		Urea	57-13-6
Crosslinker J 610 (Schlumberger)	Crosslinker	Potassium Hydroxide	1310-58-3
		Aliphatic Polyol	Proprietary
Iron Stabilizer L58 (Schlumberger)	Iron Stabilizer	Sodium Erythorbate	6381-77-7
40/70-Mesh Sand S 012 (Schlumberger)	Sand	Crystalline Silica	14808-60-7
Sand S 100 (Schlumberger)	Sand	Crystalline Silica	14808-60-7
EC 6486A (Nalco Champion)	Scale Inhibitor	Amine Triphosphate	Proprietary
		Ethylene Glycol	107-21-1
SSA-2 (Halliburton)	Sand	Crystalline Silica	14808-60-7
FR-76 (Halliburton)	Friction Reducer	Inorganic salt	64742-47-8
		Hydrotreated light petroleum distillate	
LCA-1 (Halliburton)		Hydrotreated light petroleum distillate	Proprietary
SP BREAKER (Halliburton)	Breaker	Sodium Persulfate	7775-27-1
HAI-150E (Halliburton)	Corrosion Inhibitor	Methanol	NA
		Aliphatic Acids	
		Prop-2-yn-1-ol	
		Aliphatic Alcohols, Ethoxylated #1	
Hydrochloric Acid 10-30% (Halliburton)		Hydrochloric Acid	7647-01-0
WG-36 Gelling Agent (Halliburton)	Gel	Polysaccharide	9000-30-0
BC-140C (Halliburton)	Crosslinker		NA

047-103-03205

# SWN PRODUCTION COMPANY, LLC DURIG WELL PAD ENLARGEMENT PROJECT

EROSION AND SEDIMENTATION CONTROL PLANS  
CENTER DISTRICT, WETZEL COUNTY, WEST VIRGINIA

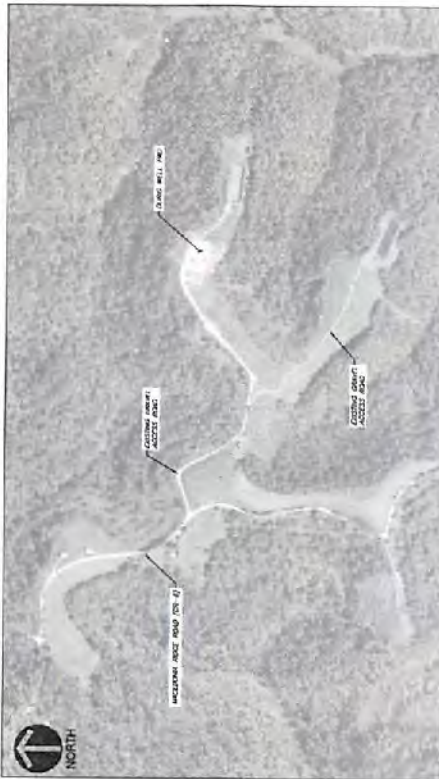
MAY 2017



SITE LOCATION MAP  
SCALE: 1"=2000'  
SCALE: 1"=1000'

**NOTES:**  
 1. CONSTRUCTION SHALL REFER TO OTHER PLANS, NOTES, AND CONSTRUCTION SET FOR OTHER SITES FOR ANY SPECIFIC INFORMATION TO WHICH THIS PLAN MAY BE APPLICABLE.  
 2. ANY CHANGE RES. LOCAL SERIAL NUMBER 1622216360, DATED 11-19-2016.

Engineer's Estimate of Quantities			
Description	Estimated Quantity	Unit	Remarks
1" ASBESTOS	150	LF	
2" ASBESTOS	150	LF	
3" ASBESTOS	150	LF	
4" ASBESTOS	150	LF	
5" ASBESTOS	150	LF	
6" ASBESTOS	150	LF	
7" ASBESTOS	150	LF	
8" ASBESTOS	150	LF	
9" ASBESTOS	150	LF	
10" ASBESTOS	150	LF	
11" ASBESTOS	150	LF	
12" ASBESTOS	150	LF	
13" ASBESTOS	150	LF	
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91" ASBESTOS	150	LF	
92" ASBESTOS	150	LF	
93" ASBESTOS	150	LF	
94" ASBESTOS	150	LF	
95" ASBESTOS	150	LF	
96" ASBESTOS	150	LF	
97" ASBESTOS	150	LF	
98" ASBESTOS	150	LF	
99" ASBESTOS	150	LF	
100" ASBESTOS	150	LF	



SITE MAP  
SCALE: 1"=100'

EXISTING WELL: DURIG WITZ 1H 47-103-02331H  
 LAT: 39.716814  
 LON: 80.639108

EXISTING WELL: DURIG WITZ 2H 47-103-02379H  
 LAT: 39.716818  
 LON: 80.639157

EXISTING WELL: DURIG WITZ 5H 47-103-03375H  
 LAT: 39.716808  
 LON: 80.639058

SHEET NUMBER	SHEET TITLE
C000	COVER SHEET
C001	PROPOSED EROSION CONTROL AND SITE RESTORATION PLAN
C002	PROPOSED SEDIMENTATION CONTROL AND SITE RESTORATION PLAN
C003	PROPOSED EROSION CONTROL AND SITE RESTORATION PLAN
C004	PROPOSED SEDIMENTATION CONTROL AND SITE RESTORATION PLAN
C005	PROPOSED EROSION CONTROL AND SITE RESTORATION PLAN
C006	PROPOSED SEDIMENTATION CONTROL AND SITE RESTORATION PLAN
C007	PROPOSED EROSION CONTROL AND SITE RESTORATION PLAN
C008	PROPOSED SEDIMENTATION CONTROL AND SITE RESTORATION PLAN
C009	PROPOSED EROSION CONTROL AND SITE RESTORATION PLAN

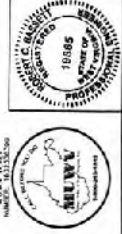
**WVDEP OOG  
ACCEPTED AS-BUILT**  
*WJW* 5/130/2017

**Civil & Environmental Consultants, Inc.**  
 300 Balfour Road - Pittsburgh, PA 15203  
 412-221-2224 800-365-2024

**SWN PRODUCTION COMPANY, LLC**  
 DURIG WELL PAD ENLARGEMENT PROJECT  
 CENTER DISTRICT  
 WETZEL COUNTY, WEST VIRGINIA

COVER SHEET

**C000**



**DEVELOPER / OWNER**

**SWN PRODUCTION COMPANY, LLC**  
 10000 ENERGY DRIVE  
 SPRING, TX 77389-4954  
 PHONE: 832-796-6372  
 CONTACT: CARLA SUSZKOWSKI

**CIVIL ENGINEER**

**CIVIL & ENVIRONMENTAL CONSULTANTS, INC.**  
 333 BALDWIN ROAD  
 PITTSBURGH, PA 15205  
 PH: (412) 428-2324  
 FX: (412) 428-2114  
 CONTACT: ROBERT C. BASSETT, P.E.

11/17/2017



