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 west virginia department of environmental protection
 

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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Wednesday, December 26, 2018

WELL WORK PERMIT  
 Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC  
 POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit approval for YOCUM MSH 3H  
 47-051-02124-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin  
 Chief

Operator's Well Number: YOCUM MSH 3H  
 Farm Name: JOSEPH LEE AND MICHAEL I  
 U.S. WELL NUMBER: 47-051-02124-00-00  
 Horizontal 6A New Drill  
 Date Issued: 12/26/2018

# 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).

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

1) Well Operator: SWN Production Co., LLC

<u>494512924</u>	<u>051-Marshall</u>	<u>07-Liberty</u>	<u>438-Littleton</u>
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Operator ID County District Quadrangle

2) Operator's Well Number: Yocum MSH 3H Well Pad Name: Yocum MSH Pad

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

4) Elevation, current ground: 1052' Elevation, proposed post-construction: 1053.4'

5) Well Type (a) Gas  Oil  Underground Storage

Other \_\_\_\_\_

(b) If Gas Shallow  Deep \_\_\_\_\_  
Horizontal  10/31/18

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Target Formation- Marcellus, Up-Dip Well to the North, Target Top TVD- 7051', Target Base TVD- 7088', Anticipated Thickness- 37', Associated Pressure- 4607

8) Proposed Total Vertical Depth: 7069'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 18535'

11) Proposed Horizontal Leg Length: 11124.36'

12) Approximate Fresh Water Strata Depths: 438'

13) Method to Determine Fresh Water Depths: Deepest water well ID'd is Vellekoop, Peter V. (depth of 180.7', subsea elevation of 642'), equating to 438' TVD at the pad. Logs for salinity analysis planned.

14) Approximate Saltwater Depths: 895' Depth is based on mapping the elevations of the Pottsville sandstone in the surrounding area... logs will be run on the 1st well on the pad for salinity analysis.

15) Approximate Coal Seam Depths: 844'

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

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

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

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18) CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	H-40	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	H-40	48#	530'	530'	506 sx/CTS
Coal	See	Interm	Casing				
Intermediate	9 5/8"	New	J-55	36#	2422'	2422'	936 sx/CTS
Production	5 1/2"	New	HCP-110	20#	18535'	18535'	lead 594sx/Tail 3014sx/ 100 inside Int
Tubing							
Liners							

*ju*  
12/31/18

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	30"	0.25	2120	81	Class A	1.19/50% Excess
Fresh Water	13 3/8"	17.5"	0.380	2740	633	Class A	1.19/50% Excess
Coal	See	Interm	Casing				
Intermediate	9 5/8"	12 1/4"	0.395	3950	1768	Class A	1.19/50% Excess
Production	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/50% Excess
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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*JW*  
*10/18/18*

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

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

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

Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This will be performed in stages with the plug and perf method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. 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 @ 100 barrels a minute.

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

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

23) Describe centralizer placement for each casing string:

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

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

See Attachment \*\*\*

25) Proposed borehole conditioning procedures:

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

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\*Note: Attach additional sheets as needed.

Schlumberger Cement Additives

	Product Name	Product Use	Chemical Name	CAS Number
Surface	S001	accelerator	calcium chloride up to 3%	10043-52-4
	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
	D046	antifoam	polypropylene glycol	25322-69-4
			fullers earth (attapulgate)	8031-18-3
	D201	retarder	chrystalline silica	14808-60-7
			metal oxide	proprietary
D202	dispersant	sulphonated synthetic polymer	proprietary	
		formaldehyde (impurity)	proprietary	
Production-Tail	D046	antifoam	polypropylene glycol	25322-69-4
			fullers earth (attapulgate)	8031-18-3
	D167	fluid loss	aliphatic amide polymer	proprietary
			sodium polynaphthalene sulfonate	9008-63-3
	D065	dispersant	sodium sulfate	7757-82-6
			chrystalline silica	14808-60-7
D201	retarder	metal oxide	proprietary	
		chrystalline silica	14808-60-7	
D153	anti-settling	chrystalline silica	14808-60-7	

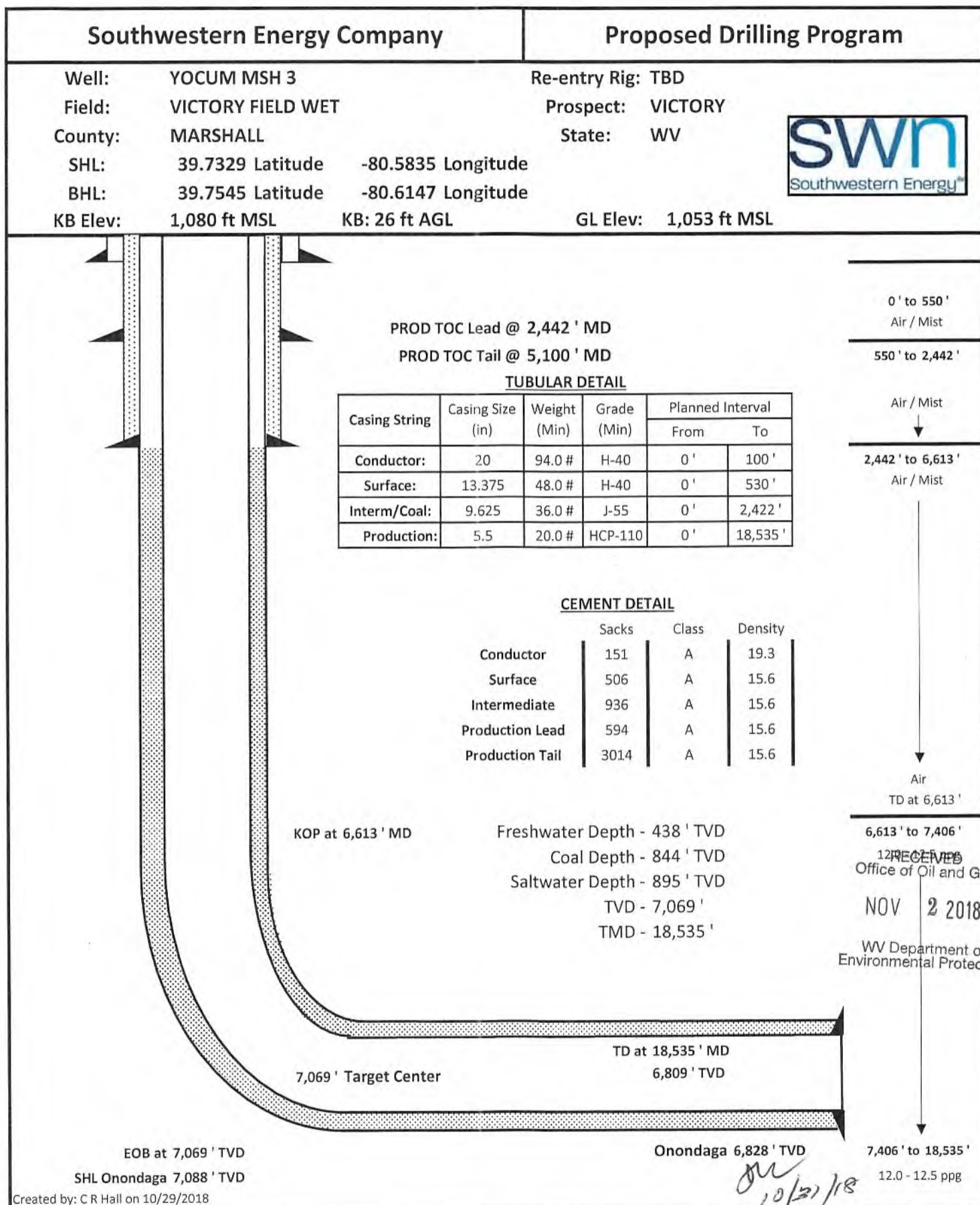
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Rev. 5/18/2018

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12/28/2018





YOCUM MSH 3H  
Area of Review

API	Operator	Status	Latitude	Longitude	Vertical TD	Producing Formation	Producing Zones Not Perforated
4705130388	Manufactures Light & Heat Co	Plugged	39.73442	-80.587457	Not Available	Not Available	Not Available
4705101093	SWN Production Company, LLC	Completed	39.75451	-80.615205	6565	Marcellus	Not Available
4705101936	SWN Production Company, LLC	Permitted	39.754515	-80.615124	Not Available	Not Available	Not Available
4705101937	SWN Production Company, LLC	Permitted	39.75451	-80.615074	Not Available	Not Available	Not Available
4705101941	SWN Production Company, LLC	Permitted	39.754507	-80.615024	Not Available	Not Available	Not Available
4705101942	SWN Production Company, LLC	Permitted	39.754504	-80.614974	Not Available	Not Available	Not Available
4705101946	SWN Production Company, LLC	Permitted	39.7545	-80.614924	Not Available	Not Available	Not Available
4705101229	SWN Production Company, LLC	Completed	39.754492	-80.614915	6587	Marcellus	Not Available
4705101272	SWN Production Company, LLC	Completed	39.754483	-80.614816	6566	Marcellus	Not Available
4705100438	Manufactures Light & Heat Co	Completed	39.7539	-80.613571	1798	Big Injun	Not Available
4705100763	Manufactures Light & Heat Co	Completed	39.752077	-80.613292	2667	Fifth	Not Available
4705100164	Manufactures Light & Heat Co	Plugged	39.748631	-80.606055	2952	Fifth	Not Available

4705 02124

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API Number 47 - 051

Operator's Well No. 4705-02124

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name SWN Production Co., LLC OP Code 494512924

Watershed (HUC 10) Fish Creek Quadrangle Liberty

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

Will a pit be used? Yes  No

If so, please describe anticipated pit waste: \_\_\_\_\_

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

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number 34-155-22403, 34-059-24067, 34-119-28776, 34-167-23882, 34-165-23795, 34-121-23995, 34-155-21893 )
- 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 )

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 to TD

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

Additives to be used in drilling medium? Attachment 3A

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

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

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

Arden Landfill 10072, Apex Sanitary Landfill 06-08438, Brooke Co SWF-1013, Valley 100280

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

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

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

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

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Subscribed and sworn before me this 17 day of Sept, 20 18

*Elizabeth Blankenship*



My commission expires 6/23/2024

SWN Production Co., LLC

4705 02124

Proposed Revegetation Treatment: Acres Disturbed 27.93 Prevegetation pH

Lime as determined by pH test min. 2 Tons/acre or to correct to pH 16.97

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

Attachment 3B

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by:

Jim Uulata

Comments:

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Title: Oil & Gas Inspector

Date: 10/3/18

Field Reviewed? ( ) Yes ( ) No

## Attachment 3A

### Drilling Mediums

#### Surface/Coal(if present)/Freshwater Intervals:

#### Intermediate/Coal (if present):

Air

Brine (In Gas Storage areas)

Organophilic Bentonite

#### Production Hole:

Air

Synthetic Oil (Base Fluid for mud system)

Barite

Calcium Chloride

Lime

Organophilic Bentonite

Primary and Secondary Emulsifiers

Gilsonite



Calcium Carbonate

Friction Reducers

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		<h2 style="margin: 0;">WVD Seeding Specification</h2>		
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)				
<b>NON-ORGANIC PROPERTIES</b>		<b>ORGANIC PROPERTIES</b>		
<b>Seed Mixture: ROW Mix</b>	<b>SWN Supplied</b>	<b>Seed Mixture: SWN Production Organic Mix</b>	<b>SWN Supplied</b>	
Orchardgrass	40%	Organic Timothy	50%	
Timothy	15%	Organic Red or White Clover	50%	
Annual Ryegrass	15%	OR		
Brown Top Millet	5%	Organic Perennial Ryegrass	50%	
Red Top	5%	Organic Red or White Clover	50%	
Medium Red Clover	5%	<b>Apply @ 100lbs per acre</b>	<b>Apply @ 200lbs per acre</b>	
White Clover	5%	<b>April 16th- Oct. 14th</b>	<b>Oct. 15th- April 15th</b>	
Birdsfoot Trefoil	5%	Organic Fertilizer @ 200lbs per Acre	Pelletized Lime @ 2 Tons per Acre	
Rough Bluegrass	5%			
	All legumes are innoculated at 5x normal rate			
<b>Apply @ 100lbs per acre</b>	<b>Apply @ 200lbs per acre</b>			
<b>April 16th- Oct. 14th</b>	<b>Oct. 15th- April 15th PLUS</b>			
	<b>50lbs per acre of Winter Wheat</b>			
<b>SOIL AMENDMENTS</b>		<b>WETLANDS (delineated as jurisdictional wetlands)</b>		
10-20-20 Fertilizer	*Apply @ 500lbs per Acre	<b>Seed Mixture: Wetland Mix</b>	<b>SWN Supplied</b>	
Pelletized Lime	Apply @ 2 Tons per Acre	VA Wild Ryegrass	20%	
	*unless otherwise dictated by soil test results	Annual Ryegrass	20%	
<b>Seeding Calculation Information:</b>		Fowl Bluegrass	20%	
1452' of 30' ROW/LOD is One Acre 871' of 50' ROW/LOD is One Acre 622' of 70' ROW/LOD is One Acre		Cosmos 'Sensation'	10%	
<b>Synopsis:</b>		Redtop	5%	
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).		Golden Tickseed	5%	
<b>Special Considerations:</b>		Maryland Senna	5%	
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.		Showy Tickseed	5%	
		Fox Sedge	2.5%	
		Soft Rush	2.5%	
		Woolgrass	2.5%	
		Swamp Verbena	2.5%	
		<b>Apply @ 25lbs per acre</b>	<b>Apply @ 50lbs per acre</b>	
		<b>April 16th- Oct. 14th</b>	<b>Oct. 15th- April 15th</b>	
		<b>NO FERTILIZER OR LIME INSIDE WETLAND LIMITS</b>		

12/28/2018

4705 02124

# 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: Yocum MSH 3H**  
**Littleton QUAD**  
**Liberty DISTRICT**  
**Marshall County, WEST VIRGINIA**

Submitted by:

Brittany Woody *Brittany Woody* Date: 9/7/2018

Title: Regulatory Analyst SWN Production Co., LLC

Approved by:

*[Signature]* Date: 10/3/18

Title: Oil & Gas Inspector

Approved by:

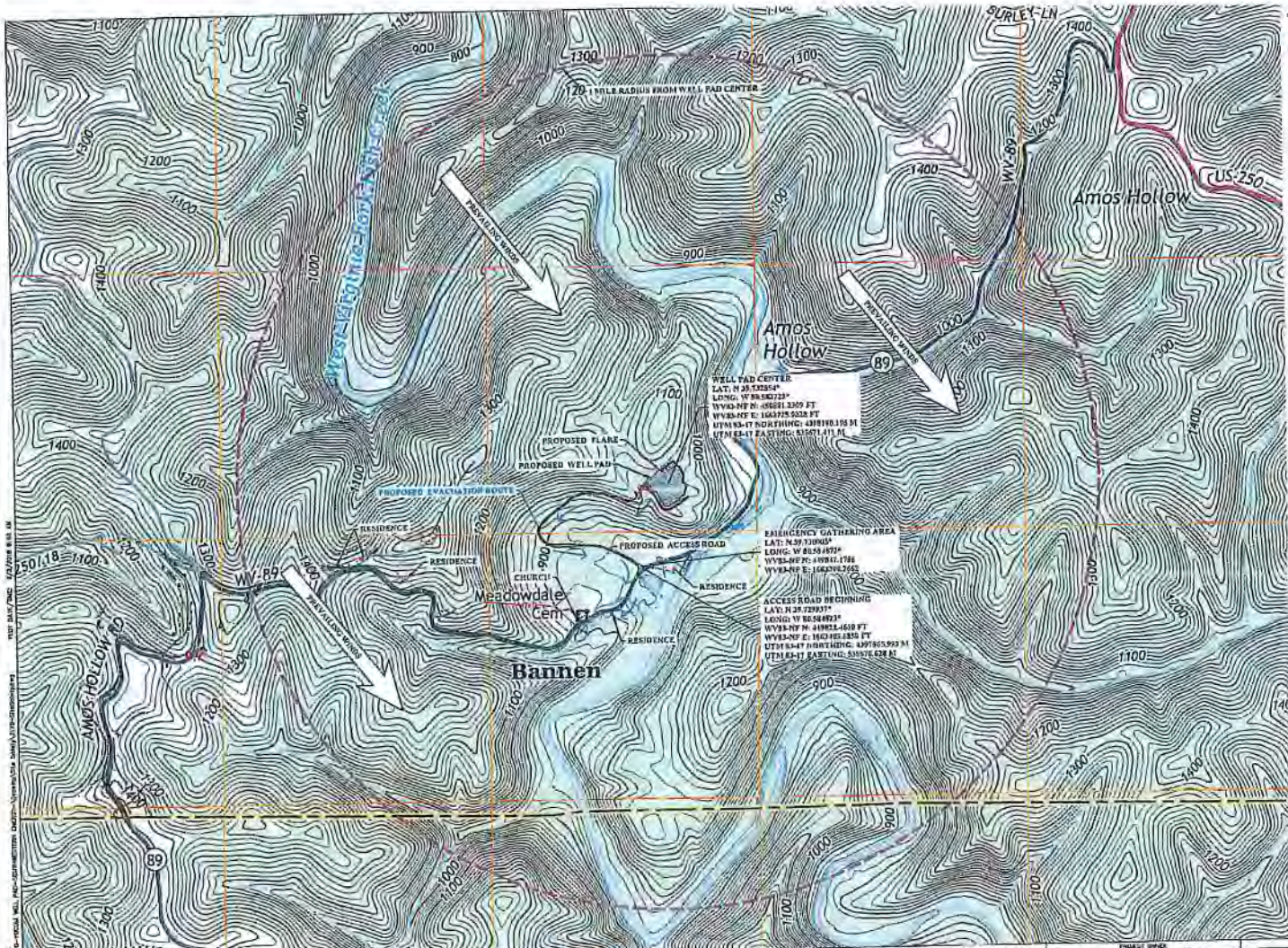
\_\_\_\_\_ Date: \_\_\_\_\_

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

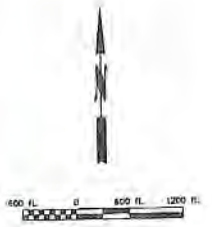
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PROPOSED EDGE OF WELL PAD  
 PROPOSED EDGE OF ACCESS ROAD  
 EMERGENCY EVACUATION ROUTE



LAYOUT AND DESIGN: [unreadable]  
 DATE: 05/13/2016  
 PROJECT: YOCUM WELLS  
 SHEET: 3 OF 3

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NO.	REV.	DATE	DESCRIPTION

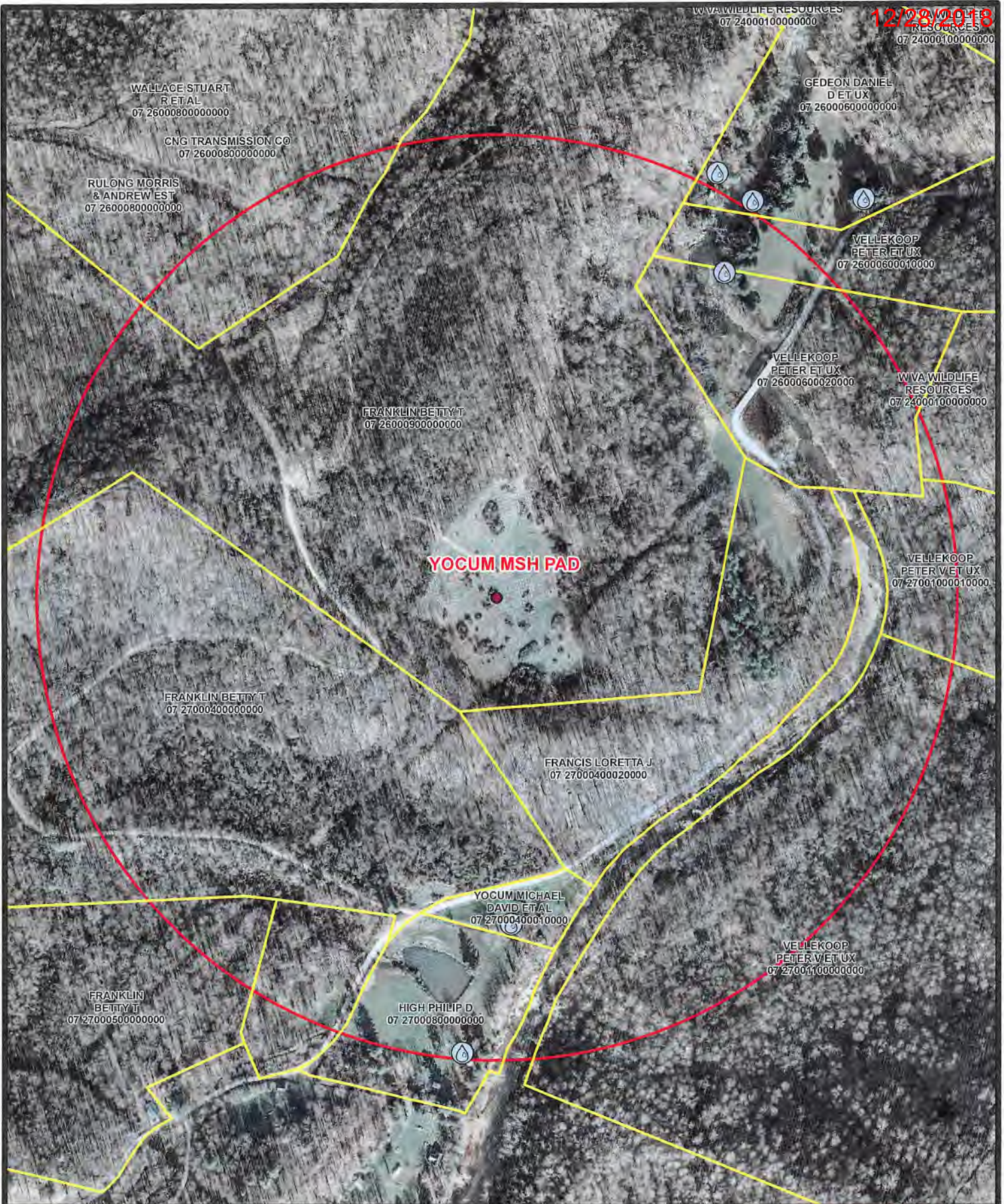
**SWN**  
 Production Company

NO.	REV.	DATE	DESCRIPTION

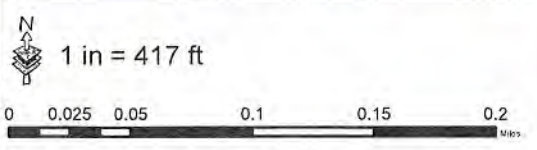
**THRASHER**  
 THE THRASHER GROUP, INC.  
 510 JAMES OAKS BOULEVARD, PROSPERITY, KY 40250  
 PHONE (502) 835-4100 FAX (502) 835-7031

PROJECT OWNER:  
**SWN PRODUCTION COMPANY, LLC**  
 PROJECT NAME:  
**YOCUM WELLS PAD**  
 TOWN: [unreadable]  
 COUNTY: MARSHALL COUNTY, WV

SHEET TITLE: **PREVAILING WINDS AND EVACUATION ROUTE**  
 SHEET NO.: **3**



12/28/2018



- Water Well
- 1500' Buffer

Water Purveyor Map  
Well Pad: Yocum  
County: MSH

**SWN**  
Southwestern Energy®

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

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

Coordinates: 20 732705 90 592550

Date: 4/19/2018 Author: willish



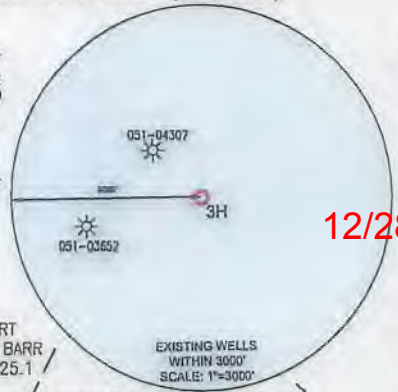
Latitude: 39°45'00" (LITTLETON) SHL 126'  
 BHL 8,895'  
 Latitude: 39°47'30" (CAMERON)

# THRASHER

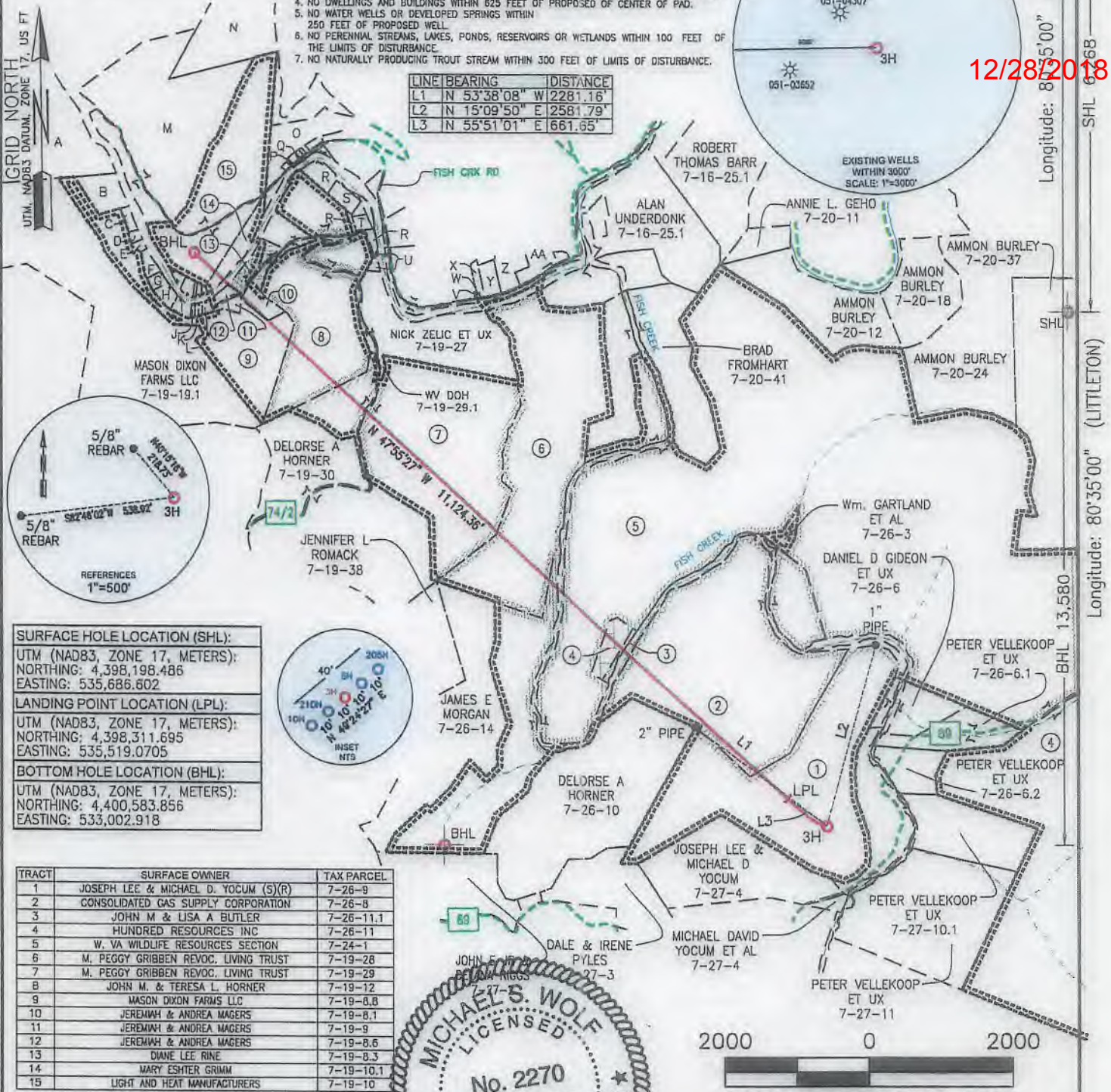
THE THRASHER GROUP, INC.  
 600 WHITE OAKS BLVD.  
 BRIDGEPORT, WV 26330  
 PHONE 304-624-4108

- NOTES ON SURVEY
- COORDINATES SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
  - SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND FIELD LOCATIONS.
  - THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
  - NO DWELLINGS AND BUILDINGS WITHIN 625 FEET OF PROPOSED OF CENTER OF PAD.
  - NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
  - NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
  - NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.

LINE	BEARING	DISTANCE
L1	N 53°38'08" W	2281.16'
L2	N 15°09'50" E	2581.79'
L3	N 55°51'01" E	661.65'

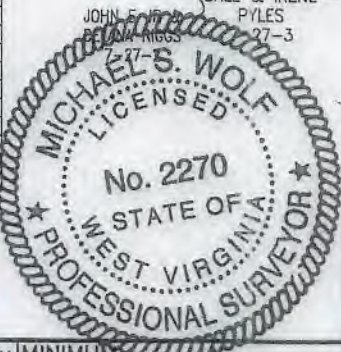


12/28/2018



<b>SURFACE HOLE LOCATION (SHL):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4,398,198.486 EASTING: 535,686.602
<b>LANDING POINT LOCATION (LPL):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4,398,311.695 EASTING: 535,519.0705
<b>BOTTOM HOLE LOCATION (BHL):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4,400,583.856 EASTING: 533,002.918

TRACT	SURFACE OWNER	TAX PARCEL
1	JOSEPH LEE & MICHAEL D. YOCUM (S)(R)	7-26-9
2	CONSOLIDATED GAS SUPPLY CORPORATION	7-26-8
3	JOHN M & LISA A BUTLER	7-26-11.1
4	HUNDRED RESOURCES INC	7-26-11
5	W. VA WILDLIFE RESOURCES SECTION	7-24-1
6	M. PEGGY GRIBBEN REVOC. LIVING TRUST	7-19-28
7	M. PEGGY GRIBBEN REVOC. LIVING TRUST	7-19-29
8	JOHN M. & TERESA L. HORNER	7-19-12
9	MASON DIXON FARMS LLC	7-19-8.8
10	JEREMIAH & ANDREA MAGERS	7-19-8.1
11	JEREMIAH & ANDREA MAGERS	7-19-9
12	JEREMIAH & ANDREA MAGERS	7-19-8.6
13	DIANE LEE RINE	7-19-8.3
14	MARY ESHTER GRIMM	7-19-10.1
15	LIGHT AND HEAT MANUFACTURERS	7-19-10



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. 2270 *M.S. Wolf 9/28/18*

COMPANY: **SWN** Production Company, LLC

YOCUM MSH  
 OPERATOR'S WELL #: 3H

(+) 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 83, US FT)

API WELL #: 47 STATE 051 COUNTY 02124 PERMIT

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

WATERSHED: FISH CREEK ELEVATION: 1053.4' (DESIGN)

DISTRICT: LIBERTY COUNTY: MARSHALL QUADRANGLE: LITTLETON, WV

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

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

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

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,069 TVD 18,535 MD

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

DESIGNATED AGENT: BRITTANY WOODY ADDRESS: P.O. BOX 1300 CITY: JANE LEW STATE: WV ZIP CODE: 26378

LEGEND:	REVISIONS:	DATE: 09-28-2018
○ PROPOSED SURFACE HOLE / BOTTOM HOLE	— SURVEYED BOUNDARY	
⊙ EXISTING / PRODUCING WELLHEAD	— DRILLING UNIT	
LPL* LANDING POINT LOCATION	----- LEASE BOUNDARY	DRAWN BY: K. POTH
⊕ EXISTING WATER WELL	— PROPOSED PATH	SCALE: 1" = 2000'
⊙ EXISTING SPRING		DRAWING NO: 030-3170
		WELL LOCATION PLAT





THE THRASHER GROUP, INC.  
 600 WHITE OAKS BLVD.  
 BRIDGEPORT, WV 26330  
 PHONE 304-624-4108

12/28/2018

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	MASON DIXON FARMS, LLC	7-17-33
B	MASON DIXON FARMS, LLC	7-19-8.9
C	JOSEPH D'ANDREA SR	7-19-8.2
D	TERESA LYNETTE POPECK	7-19-2
E	MICHAEL E & DONALD D RICHARDS	7-19-3
F	CAROLYN JO MORRIS	7-19-5
G	MASON DIXON FARMS, LLC	7-19-6
H	CAROLYN RUTH FRANCIS	7-19-7
I	MICHAEL T & CARLA M WHITEMORE	7-19-8.7
J	LAWRENCE PAUL CHAMBERS	7-19-39
K	WALTER A GUZEK JR ET AL	7-19-41
L	RODNEY J WALLACE ET UX	7-19-40
M	MASON DIXON FARMS, LLC	7-16-7
N	JACK J BRIGGS	7-16-5
O	ROBERT L MICKEY	7-16-9
P	RICHARD H KESTEL & EDWARD J SILCOX	7-16-12
Q	LARRY M MYER ET UX	7-16-15
R	JOHN C & SONIA M RICHARDS	7-19-13
S	JOHN C & SONIA M RICHARDS	7-19-14
T	STEVEN D & SHERRI A ZELIC	7-19-16
U	JOHN M & TERESA L HORNER	7-19-17
V	CHURCH OF CHRIST TRUSTEES	7-19-25
W	JAMES REGIEC SR ET AL	7-19-24
X	JAMES REGIEC SR ET AL	7-19-23.1
Y	JAMES E Jr & GINGER REGIEC	7-19-23.2
Z	JAMES F & JAMIE ANN DRUSCHEL ET AL	7-19-23
AA	GAIL CUMPSTON	7-19-20

REVISIONS:


COMPANY:		 	
OPERATOR'S		YOCUM MSH	
WELL #:		3H	
DISTRICT:	COUNTY:	STATE:	DATE: 09-28-2018
LIBERTY	MARSHALL	WV	DRAWN BY: K. POTH
			SCALE: N/A
			DRAWING NO: 030-3170
			WELL LOCATION PLAT 2

12/28/2018  
4705 02124

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

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

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

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

**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: Bradi Williams  
 Its: Staff Landman

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Environmental Protection

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator

Yocum 3H

Marshall County, West Virginia

4-05 12/28/2018  
02124

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC	
1	7-26-9	W.E. Franklin, Ira M. Franklin & Emma Franklin, husband and wife, John A. Franklin & Mollie Franklin, husband and wife, Mary S. Franklin, widow, M.J. Brooks & Clint Brooks, wife and husband, Edith White & J.F. White, wife and husband, and Laura Franklin, widow	L.F. Burley		12.50%	186/284	0.00000
		L.F. Burley	The Manufacturers Light and Heat Company			2/369	
	7-26-9	The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation			422/204	
		Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC			642/281	
		Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.			650/63	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC			36/422	
		I.D. Franklin and Bessie J. Franklin, husband and wife	The Manufacturers Light and Heat Company	12.50%		209/168	
		The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation			422/204	
		Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC			642/281	
		Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.			650/63	
Chesapeake Appalachia, LLC	SWN Production Company, LLC			33/110			
2	7-26-8	Roger G. Rulong, Sr., aka Roger G. Rulong and Jane KUnknownle Rulong aka Jane K. Rulong, his wife	Chesapeake Appalachia, L.L.C.	12.50%	694/477	0.00000	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110		
	7-26-8	Nancy Wallace Shuman aka Nancy W. Shuman, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	693/606		
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110		
	7-26-8	Edward Strausser, a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	694/341		
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110		
	7-26-8	Roger G. Rulong, Jr.	Chesapeake Appalachia, L.L.C.	12.50%	694/475		
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110		
	7-26-8	Shirley Redd and James Redd, her husband	Chesapeake Appalachia, L.L.C.	17.00%	730/198		
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110		
	7-26-8	Joan Marling aka Jo Ann Marling, a widow	Chesapeake Appalachia, L.L.C.	17.00%	730/208		
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110		
	7-26-8	Jeanette Lilley, a widow	Chesapeake Appalachia, L.L.C.	17.00%	730/213		
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110		
	7-26-8	Evelyn Bane, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	17.00%	730/218		
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110		
	7-26-8	Sharon Hodorowski, fka Sharon Facello, and Frank Hodorowski, her husband	Chesapeake Appalachia, L.L.C.	17.00%	732/385		
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110		
	7-26-8	William E. Phillips and Nancy G. Phillips, his wife	Chesapeake Appalachia, L.L.C.	17.00%	733/610		
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110		
	7-26-8	Kathy L. Pierce, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	17.00%	740/6		
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110		
7-26-8	Amber D. Colvin, a single woman	Chesapeake Appalachia, L.L.C.	17.00%	740/85			
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110			
7-26-8	Chestnut Holdings, Inc., a Florida Corporation	Chesapeake Appalachia, LLC	17.00%	766/605			
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110			
7-26-8	Hundred Resources Inc.	Chesapeake Appalachia, LLC	17.00%	769/581			
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110			
7-26-8	Loran William Wallace, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	692/345			
	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110			
7-26-8	Clifford Rulong, a single man	SWN Production Company, LLC	16.00%	953/423			
	Shelia V. Rulong, a widow	SWN Production Company, LLC	16.00%	953/592			
3	7-26-11.1	Elijah Allman and Mary J. Allman	The Wheeling Natural Gas Company	12.50%	130/435	0.00000	
		The Wheeling Natural Gas Company	The Manufacturers Light and Heat Company		3/40 148/389		

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EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator  
Yocum 3H  
Marshall County, West Virginia

12/28/2018

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
		The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC	Columbia Gas Transmission Corporation Chesapeake Appalachia, LLC SWN Production Company, LLC		422/204 650/63 33/110	
4	7-26-11	Hayhurst Company Chesapeake Appalachia, LLC	Chesapeake Appalachia, LLC SWN Production Company, LLC	17.00%	708/106 33/110	0.00000
5	7-24-1.4	<b>Royalty Owners</b>	n/a			<b>7.6091%</b>
		Olive M. Martin SASP and Barry A. Martin SASP Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	687/95 33/110	
	7-24-1.4	Martha McCracken, a widow Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	747/234 33/110	
	7-24-1.4	Basil F. McCracken and Dorothy McCracken, his wife Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	742/158 33/110	
	7-24-1.4	Juanita Pearl McCracken, a single woman, by her guardian, Erin Bitz Simpson Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	742/116 33/110	
	7-24-1.4	Robert McCracken, married, SASP Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	15.00%	955/204 33/110	
	7-24-1.4	Juanita Pearl McCracken, a single woman, by her guardian, Erin Bitz Simpson Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	742/116 33/110	
	7-24-1.4	Stephanie Bitz, a single woman Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	742/513 33/110	
	7-24-1.4	Juanita Pearl McCracken, a single woman, by her guardian, Erin Bitz Simpson Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	742/116 33/110	
	7-24-1.4	Erin Simpson, f/k/a Erin Bitz and Matt Simpson, her husband Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	742/518 33/110	
	7-24-1.4	Juanita Pearl McCracken, a single woman, by her guardian, Erin Bitz Simpson Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	742/116 33/110	
	7-24-1.4	Anna Lucy McCracken, a single woman Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	744/90 33/110	
	7-24-1.4	Rolland Dean McCracken aka Rolland D. McCracken, a single man, by his Attorney-in-Fact, Rebecca Jo Kuzba Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	747/228 33/110	
	7-24-1.4	Debbie Coleman, a single woman Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	742/200 33/110	
	7-24-1.4	Linda Turner and Dennis Turner, her husband Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	742/523 33/110	
	7-24-1.4	Gary Scott, a single man Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	742/533 33/110	
	7-24-1.4	David Scott and Janet May Scott, his wife Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17.00%	742/528 33/110	
	7-24-1.4	Wanda M. Frazee aka Wanda Marie Frazee fka Wanda M. Maxwell fka Wanda Marie Maxwell fka Wanda M. Maxwell, a widow Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	722/495 33/110	
	7-24-1.4	O. E. Burge and Sarah Lou Burge, his wife and Stephen Burge, a married man dealing in his sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	3/16	708/137 33/110	
	7-24-1.4	Chesapeake Appalachia, L.L.C. Connie J. Brown, a widow	SWN Production Company, LLC SWN Production Company, LLC	15.00%	33/110 931/427	
	7-24-1.4	Chestnut Holdings, a Florida corporation Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	723/625 33/110	
	7-24-1.4	Lawrence Leroy Frye, a married man dealing in his sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	715/481 33/110	
	7-24-1.4	Erma Jean Carr, a widow Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, LLC SWN Production Company, LLC	17%	758/372 33/110	

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Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
7-24-1.4		Harold Carr and Loraine Carr, his wife	Chesapeake Appalachia, LLC	17%	758/366	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
7-24-1.4		Alton Carr, a single man	Chesapeake Appalachia, LLC	17%	758/354	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
7-24-1.4		Beatrice Criss, a single woman	Chesapeake Appalachia, LLC	17%	758/318	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
7-24-1.4		Dolrice Boyd and Robert Boyd, her husband	Chesapeake Appalachia, LLC	17%	758/378	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
7-24-1.4		Charles Albert Sloan, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	17%	709/101	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
7-24-1.4		Dorothy Lynn Newell, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17%	715/535	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
7-24-1.4		Robert Bissett, divorced	SWN Production Company, LLC	15.00%	942/504	
		Richard Bissett, a married man dealing in his sole and separate property	SWN Production Company, LLC	15.00%	925/537	
7-24-1.4		Rena Kolton, a married woman dealing in her sole and separate property	SWN Production Company, LLC	17% - Gas 1/8 - Oil	916/509	
		Alma Lovene Sampson, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17% - Gas 1/8 - Oil	716/322	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
7-24-1.4		Imogene Verna Chambers aka Verna Imogene Chambers, a widow	Chesapeake Appalachia, LLC	17% - Gas 1/8 - Oil	716/360	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
7-24-1.4		Lawrence Leroy Frye, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	17% - Gas 1/8 - Oil	715/481	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
7-24-1.4		David Lee Frye, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	17% - Gas 1/8 - Oil	716/141	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
7-24-1.4		Rickie Gene Frye, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	17% - Gas 1/8 - Oil	716/146	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
7-24-1.4		Pamela S. Cunningham, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	717/007	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
7-24-1.4		Chester Guzek, widower, Life Estate and Amy Jo Simpson, a married woman dealing in her sole and separate property, Remainderman, and Chester Craig Guzek, a married man dealing in his sole and separate property	SWN Production Company, LLC	15.00%	916/501	
7-24-1.4		Linda Suuzette Sills and Michael J. Sills, her husband	SWN Production Company, LLC	15% - Gas 1/8 - Oil	916/497	
7-24-1.4		Anne Campbell Gleine, a married woman dealing in her sole and separate property	SWN Production Company, LLC	15.00%	919/155	
7-24-1.4		Tabitha L. Allen, n/k/a Tabitha L. Marling, a married woman dealing in her sole and separate property	SWN Production Company, LLC	15.00%	931/424	
7-24-1.4		Crystal Cumpston Butler Bohrer	SWN Production Company, LLC	16.00%	1010/644	
7-24-1.4		Pamela S. Rushman, a/k/a Pam Cumpston Rushman	SWN Production Company, LLC	16.00%	1010/634	
7-24-1.4		Theo Sue Mager, a married woman dealing in her sole and separate property	SWN Production Company, LLC	15.00%	916/499	
7-24-1.4		Terry Cumpston, a married man dealing in his sole and separate property	SWN Production Company, LLC	15.00%	916/512	
7-24-1.4		Wanda M. Woodruff, a.k.a. Wanda Mae Woodruff, a widow	SWN Production Company, LLC	15.00%	916/516	
7-24-1.4		Glen Kermit Wendt, a married man dealing in his sole and separate property	SWN Production Company, LLC	15.00%	916/491	
7-24-1.4		Norma L. Williams, married and dealing in her sole and separate property	SWN Production Company, LLC	15.00%	919/157	
7-24-1.4		Maria Bell, a single woman	SWN Production Company, LLC	15.00%	916/519	

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Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
	7-24-1.4	Frederick Komorowski, a married man dealing in his sole and separate property	SWN Production Company, LLC	15.00%	945/430	
	7-24-1.4	Gary F. Cheon, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	945/411	
	7-24-1.4	Marlene DeMarco, a widow	SWN Production Company, LLC	18.00%	955/342	
	7-24-1.4	Mary Martha Leichter, married, dealing in her sole and separate property	SWN Production Company, LLC	18.00%	935/289	
	7-24-1.4	Chad Chaplin, a married man dealing in his sole and separate property	SWN Production Company, LLC	15.00%	935/226	
	7-24-1.4	Harry Riter, Jr., a single man	SWN Production Company, LLC	15.00%	952/100	
	7-24-1.4	Violet Rose Menas, a widow	SWN Production Company, LLC	15.00%	945/426	
	7-24-1.4	Terry Riter, a single man	SWN Production Company, LLC	15.00%	935/237	
	7-24-1.4	Merl Chaplin a married man dealing in his sole and separate property	SWN Production Company, LLC	16.00%	961/185	
	7-24-1.4	James R. Chaplin, a married man dealing in his sole and separate property	SWN Production Company, LLC	15.00%	955/555	
	7-24-1.4	Ralph Chaplin, a married man dealing in his sole and separate property	SWN Production Company, LLC	15.00%	935/228	
	7-24-1.4	Floyd Kevin Chaplin	SWN Production Company, LLC	17.00%	1010/190	
	7-24-1.4	Dana Sue Magers	SWN Production Company, LLC	17.00%	1010/276	
5	7-24-1.7	W.J. Booher and Virginia H. Booher, his wife	Manufacturers Light and Heat Company	12.50%	659/591	0.00000
		The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		422/204	
		Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		642/281	
		Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		650/63	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
6	7-19-28	James W. Whipkey, single	Chesapeake Appalachia, LLC	12.50%	655/5	0.00000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		35/32	
	7-19-28	O. E. Burge, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	654/382	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
7	7-19-29	Kinsey A. Kiger and Carole E. Kiger, his wife	Chesapeake Appalachia, LLC	12.50%	660/36	0.00000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
8	7-19-12	J.P. Reid, guardian of Elsie Alvarena Miller, a minor, Albert Miller and Anna M. Miller, his wife, George M. Miller and Ottia Miller, his wife, Edward Bowl and Myrtle Rowlands, his wife, and Albert Beebe and Della Beebe, his wife	The Manufactures Light and Heat Company	12.50%	160/360	0.00000
		The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		422/204	
		Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		642/281	
		Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		650/63	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
9	7-19-8.8	John C. Richards and Sonia M. Richards, his wife	Chesapeake Appalachia, LLC	12.50%	659/591	0.00000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
	7-19-8.8	Stephen W. Burge and Judith A. Burge, his wife	Chesapeake Appalachia, LLC	12.50%	659/203	0.00000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
10	7-19-8.1	John C. Richards and Sonia M. Richards, his wife	Chesapeake Appalachia, LLC	12.50%	659/591	0.00000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
	7-19-8.1	Stephen W. Burge and Judith A. Burge, his wife	Chesapeake Appalachia, LLC	12.50%	659/203	0.00000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
11	7-19-9	John C. Richards and Sonia M. Richards, his wife	Chesapeake Appalachia, LLC	12.50%	659/591	0.00000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
	7-19-9	Stephen W. Burge and Judith A. Burge, his wife	Chesapeake Appalachia, LLC	12.50%	659/203	0.00000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
12	7-19-8.6	John C. Richards and Sonia M. Richards, his wife	Chesapeake Appalachia, LLC	12.50%	659/591	0.00000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
	7-19-8.6	Stephen W. Burge and Judith A. Burge, his wife	Chesapeake Appalachia, LLC	12.50%	659/203	0.00000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	

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EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator  
Yocum 3H  
Marshall County, West Virginia

12/28/2018

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
13	7-19-8.3	John C. Richards and Sonia M. Richards, his wife	Chesapeake Appalachia, LLC	12.50%	659/591	0.00000
	7-19-8.3	Chesapeake Appalachia, LLC Stephen W. Burge and Judith A. Burge, his wife	SWN Production Company, LLC Chesapeake Appalachia, LLC	12.50%	33/110 659/203	
14	7-19-10.1	John C. Richards and Sonia M. Richards, his wife	Chesapeake Appalachia, LLC	12.50%	659/591	0.00000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
	7-19-10.1	Stephen W. Burge and Judith A. Burge, his wife	Chesapeake Appalachia, LLC	12.50%	659/203	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	

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

12/28/2018

4705 - 02124

September 12, 2018

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

**RE:** SWN's proposed New Well: Yocum MSH 3H in Marshall County, West Virginia, Drilling under Fish Creek Road & Co Hwy 74/2.

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 Fish Creek Road & Co Hwy 74/2. Please be advised that SWN has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Thank you.

Sincerely,

Brandi Williams, JD, CPL  
Staff Landman  
SWN Production Company, LLC

10000 Energy Drive  
Spring, TX 77389-4954

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The Right People doing the Right Things,  
wisely investing the cash flow from our  
underlying Assets, will create Value.<sup>®</sup>

12/28/2018  
4705-02124

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

Date of Notice Certification: 10/5/18

API No. 47- 069 -  
Operator's Well No. Yocum MSH 3H  
Well Pad Name: Yocum MSH Pad

**Notice has been given:**

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

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>535686.602</u>
County: <u>051-Marshall</u>		Northing: <u>4398198.486</u>
District: <u>Littleton</u>	Public Road Access: <u>Amos Hollow Road</u>	
Quadrangle: <u>Liberty</u>	Generally used farm name: <u>Yocum</u>	
Watershed: <u>Fish Creek</u>		

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

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 100px;"><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><b>OOG OFFICE USE ONLY</b></p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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**Required Attachments:**

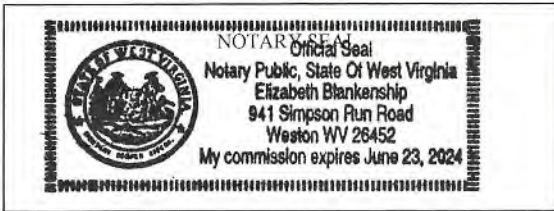
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication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

12/28/2018  
4705702124

**Certification of Notice is hereby given:**

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

Well Operator:	<u>SWN Production Co., LLC</u>	Address:	<u>P.O. Box 1300</u>
By:	<u>Brittany Woody</u>		<u>Jane Lew, WV 26378</u>
Its:	<u>Regulatory Analyst</u>	Facsimile:	<u>304-884-1690</u>
Telephone:	<u>304-884-1610</u>	Email:	<u>Brittany_Woody@swn.com</u>



Subscribed and sworn before me this 17 day of Sept 2018.

Elizabeth Blankenship Notary Public

My Commission Expires 6/23/2024

**Oil and Gas Privacy Notice:**

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

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WW-6A  
(9-13)

API NO. 47- 069 - 12/28/2018

OPERATOR WELL NO. Yocum MSH 3H

Well Pad Name Yocum MSH Pad

4705102124

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: 10/5/18 Date Permit Application Filed: 10/5/18

Notice of:

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

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

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice  WSSP Notice  E&S Plan Notice  Well Plat Notice is hereby provided to:

SURFACE OWNER(s)  
 Name: Joseph L. Yocum  
 Address: 230 Curtis Ave  
 Moundsville, WV 26041

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

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

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

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

OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
 Name: Columbia Gas Transmission, LLC Attn: John Shelton  
 Address: 1700 MacCorkle Ave SE PO Box 1273  
 Charleston, WV 25325

\*Please attach additional forms if necessary

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

4705 02124

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

Date of Notice: 10/5/18 Date Permit Application Filed: 10/5/18

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: Loretta J. Francis  
 Address: 118 Poplar Ave  
Moundsville, WV 26041  
 Name: Phillip D. High  
 Address: 37 Aaronwoods Court  
Wheeling, WV 26003

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

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

SURFACE OWNER(s) (Impoundments or Pits)

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

COAL OWNER OR LESSEE

Name: Consol Energy Inc.  
 Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317-6506

COAL OPERATOR

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

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

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

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

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Environmental Protection

\*Please attach additional forms if necessary

12/28/2018  
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OWNERNAME	ADDRESS	CITY/STATE/ZIP	PARCEL ID	WaterSources
GEDEON DANIEL D ET UX	6740 PARK RD	LEAVITTSBURG, OH 44430	07 26000600000000	3
VELLEKOOP PETER ET UX	220 CRYSTAL COVE RD	WALDOBORO, ME 04572	07 26000600020000	1
YOCUM MICHAEL DAVID ET AL	2001 4TH ST	MOUNDSVILLE, WV 26041	07 27000400010000	1
HIGH PHILIP D	37 AARON WOODS CT	WHEELING, WV 26003	07 27000800000000	1

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**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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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.**



**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 of to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

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

**Comment Requirements**

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

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

**Permit Denial or Condition**

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

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

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

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

WW-6A  
(8-13)

API NO. 47-069 - **12/28/2018**  
OPERATOR WELL NO. Yocum MSH 3H  
Well Pad Name: Yocum MSH Pad **4705 02124**

**Notice is hereby given by:**

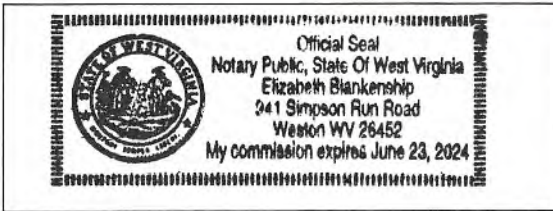
Well Operator: SWN Production Co., LLC  
Telephone: 304-884-1610  
Email: Brittany\_Woody@swn.com

*Brittany Woody*

Address: P.O. Box 1300  
Jane Lew, WV 26378  
Facsimile: 304-884-1690

**Oil and Gas Privacy Notice:**

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



Subscribed and sworn before me this 17 day of Sept, 2018.

*Elizabeth Blankenship* Notary Public

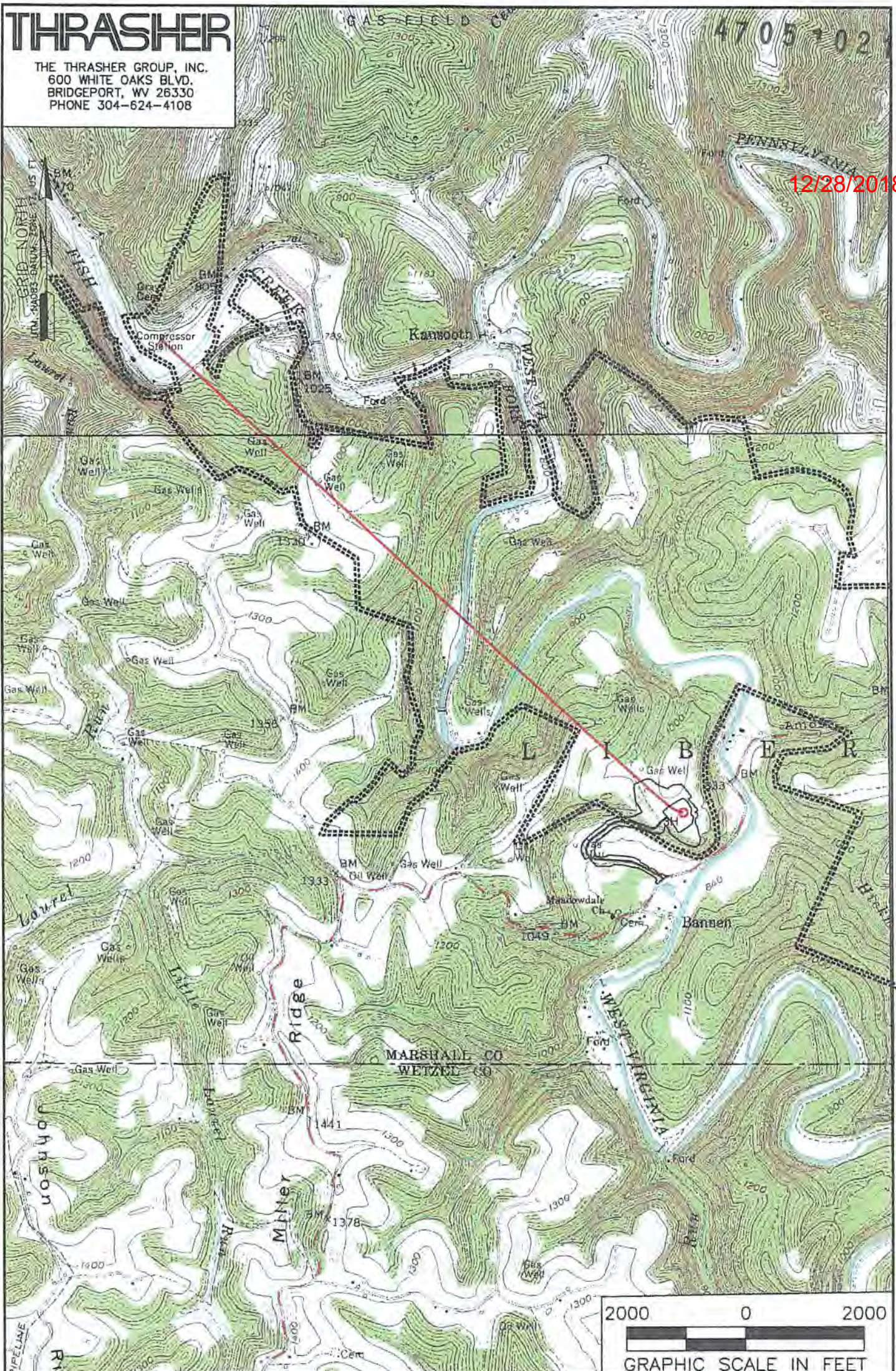
My Commission Expires 6/23/2024

# THRASHER

THE THRASHER GROUP, INC.  
600 WHITE OAKS BLVD.  
BRIDGEPORT, WV 26330  
PHONE 304-624-4108

24

12/28/2018



**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 PLAN
- ACCESS ROAD
- PUBLIC ROAD
- ACCESS ROAD TO PREV. SITE
- LEASE BOUNDARY
- PROPOSED PATH

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC		WELL (FARM) NAME: YOCUM MSH		WELL # 3H	SERIAL # XXXX
ADDRESS: P.O. BOX 1300 JANE LEW, WV 26378		COUNTY - CODE MARSHALL - 051	DISTRICT; LIBERTY		
SURFACE OWNER: JOSEPH LEE & MICHAEL D. YOCUM		USGS 7 1/2 QUADRANGLE MAP NAME LITTLETON, WV			

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

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

**Date of Notice:** 12/21/2017      **Date of Planned Entry:** 12/28/2017

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

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

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

**Notice is hereby provided to:**

SURFACE OWNER(S)

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

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

Name: Loretta J. Francis  
Address: 118 Poplar Ave  
Moundsville, WV 26041

COAL OWNER OR LESSEE

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

MINERAL OWNER(S)

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

\*please attach additional forms if necessary

**Notice is hereby given:**

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

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

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

**Notice is hereby given by:**

Well Operator: SWN PRODUCTION COMPANY, LLC

Telephone: 304-884-1610

Email: dee\_southall@swn.com or brittany\_woody@swn.com

Address: PO BOX 1300  
JANE LEW, WV 26378

Facsimile: 304-884-1690

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Environmental Protection

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DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
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**Notice is hereby provided to:**

SURFACE OWNER(s)

Name: Phillip D. High

Address: 37 Aaronwoods Court  
Wheeling, WV 26003

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

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

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

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

COAL OWNER OR LESSEE

Name: CONSOL Energy Inc.

Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317-6506

MINERAL OWNER(s)

Name: DWG Oil and Gas Acquisitions, LLC

Address: 356 Nicholson Loop Road  
Morgantown, WV 26508

\*please attach additional forms if necessary

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Telephone: 304-884-1610

Email: dee\_southall@swn.com or brittany\_woody@swn.com

Address: PO BOX 1300  
JANE LEW, WV 26378

Facsimile: 304-884-1690

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**Notice is hereby provided to:**

SURFACE OWNER(s)

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

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

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

COAL OWNER OR LESSEE

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

MINERAL OWNER(s)

Name: Thomas Elwood Franklin  
Address: 11504 Clocktower Lane  
Laurel, MD 20708

\*please attach additional forms if necessary

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**Notice is hereby provided to:**

- SURFACE OWNER(s)

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

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

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

- COAL OWNER OR LESSEE

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

- MINERAL OWNER(s)

Name: Joseph Lee Yocum and Michael D. Yocum  
Address: 230 Curtis Avenue  
Moundsville, WV 26041

\*please attach additional forms if necessary

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Quadrangle:	<u>Littleton</u>	Generally used farm name:	<u>Yocum</u>

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

**Notice is hereby given by:**

Well Operator: SWN PRODUCTION COMPANY, LLC  
Telephone: 304-884-1610  
Email: dee\_southall@swn.com or brittany\_woody@swn.com

Address: PO BOX 1300  
JANE LEW, WV 26378  
Facsimile: 304-884-1690

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Office of Oil and Gas

OCT 9 2018

**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).

WV Department of  
Environmental Protection

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

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

**Date of Notice:** 12/21/2017      **Date of Planned Entry:** 12/28/2017

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

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

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

**Notice is hereby provided to:**

SURFACE OWNER(s)

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

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

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

COAL OWNER OR LESSEE

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

MINERAL OWNER(s)

Name: Karen Sue Franklin Marshall  
Address: 11504 Clocktower Lane  
Laurel, MD 20708

\*please attach additional forms if necessary

**Notice is hereby given:**

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

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

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

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

**Notice is hereby given by:**

Well Operator: SWN PRODUCTION COMPANY, LLC  
Telephone: 304-884-1610  
Email: dee\_southall@swn.com or brittany\_woody@swn.com

Address: PO BOX 1300  
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**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:** 09/18/2018 **Date Permit Application Filed:** 10/5/18

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

HAND DELIVERY       CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

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

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

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

**Notice is hereby given:**

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>535,686.602</u>
County:	<u>Marshall</u>		Northing:	<u>4,398,198.486</u>
District:	<u>Liberty</u>	Public Road Access:	<u>Amos Hollow Rd.</u>	
Quadrangle:	<u>Littleton, WV</u>	Generally used farm name:	<u>Yocum MSH</u>	
Watershed:	<u>Fish Creek</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: 304-997-9816  
Email: Justin\_Booth@swn.com  
Facsimile: 304-884-1691

Authorized Representative: Justin Booth  
Address: PO Box 1300, 179 Innovation Drive  
Jane Lew, WV 26378  
Telephone: 304-997-9816  
Email: Justin\_Booth@swn.com  
Facsimile: 304-884-1691

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**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:** 09/18/2018 **Date Permit Application Filed:** 10/5/18

**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: Philip D. High  
Address: 37 Aaronwoods Court  
Wheeling, WV 26003

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

**Notice is hereby given:**

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>535,686.602</u>
County:	<u>Marshall</u>		Northing:	<u>4,398,198.486</u>
District:	<u>Liberty</u>	Public Road Access:	<u>Amos Hollow Rd.</u>	
Quadrangle:	<u>Littleton, WV</u>	Generally used farm name:	<u>Yocum MSH</u>	
Watershed:	<u>Fish Creek</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: 304-997-9816  
Email: Justin\_Booth@swn.com  
Facsimile: 304-884-1691

Authorized Representative: Justin Booth  
Address: PO Box 1300, 179 Innovation Drive  
Jane Lew, WV 26378  
Telephone: 304-997-9816  
Email: Justin\_Booth@swn.com  
Facsimile: 304-884-1691

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WV Department of  
Environmental Protection

**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:** 09/18/2018      **Date Permit Application Filed:** 10/5/18

**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: Loretta J. Francis  
Address: 118 Poplar Ave.  
Moundsville, WV 26041

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

**Notice is hereby given:**

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>535,686.602</u>
County:	<u>Marshall</u>		Northing:	<u>4,398,198.486</u>
District:	<u>Liberty</u>	Public Road Access:	<u>Amos Hollow Rd.</u>	
Quadrangle:	<u>Littleton, WV</u>	Generally used farm name:	<u>Yocum MSH</u>	
Watershed:	<u>Fish Creek</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: 304-997-9816  
Email: Justin\_Booth@swn.com  
Facsimile: 304-884-1691

Authorized Representative: Justin Booth  
Address: PO Box 1300, 179 Innovation Drive  
Jane Lew, WV 26378  
Telephone: 304-997-9816  
Email: Justin\_Booth@swn.com  
Facsimile: 304-884-1691

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**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:** 09/18/2018 **Date Permit Application Filed:** 10/5/18

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

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

**Notice is hereby given:**

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>535,686.602</u>
County:	<u>Marshall</u>		Northing:	<u>4,398,198.486</u>
District:	<u>Liberty</u>	Public Road Access:	<u>Amos Hollow Rd.</u>	
Quadrangle:	<u>Littleton, WV</u>	Generally used farm name:	<u>Yocum MSH</u>	
Watershed:	<u>Fish Creek</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: 304-997-9816  
Email: Justin\_Booth@swn.com  
Facsimile: 304-884-1691

Authorized Representative: Justin Booth  
Address: PO Box 1300, 179 Innovation Drive  
Jane Lew, WV 26378  
Telephone: 304-997-9816  
Email: Justin\_Booth@swn.com  
Facsimile: 304-884-1691

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

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

**Date of Notice:** 09/18/2018      **Date Permit Application Filed:** 10/5/18

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

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:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>535,686.602</u>
County:	<u>Marshall</u>		Northing:	<u>4,398,198.486</u>
District:	<u>Liberty</u>	Public Road Access:	<u>Amos Hollow Rd.</u>	
Quadrangle:	<u>Littleton, WV</u>	Generally used farm name:	<u>Yocum MSH</u>	
Watershed:	<u>Fish Creek</u>			

**This Notice Shall Include:**

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 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: 304-997-9816  
Email: Justin\_Booth@swn.com

Address: PO Box 1300, 179 Innovation Drive  
Jane Lew, WV 26378  
Facsimile: 304-884-1691

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

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

**Date of Notice:** 09/18/2018      **Date Permit Application Filed:** 10/5/18

**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: Philip D. High  
Address: 37 Aaronwoods Court  
Wheeling, WV 26003

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:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>535,686.602</u>
County:	<u>Marshall</u>		Northing:	<u>4,398,198.466</u>
District:	<u>Liberty</u>	Public Road Access:	<u>Amos Hollow Rd.</u>	
Quadrangle:	<u>Littleton, WV</u>	Generally used farm name:	<u>Yecum MSH</u>	
Watershed:	<u>Fish Creek</u>			

**This Notice Shall Include:**

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Telephone: 304-997-9816  
Email: Justin\_Booth@swn.com

Address: PO Box 1300, 179 Innovation Drive  
Jane Lew, WV 26378  
Facsimile: 304-884-1691

RECEIVED  
Office of Oil and Gas  
**OCT - 9 2018**  
WV Department of  
Environmental Protection

**Oil and Gas Privacy Notice:**

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

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

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

**Date of Notice:** 09/18/2018      **Date Permit Application Filed:** 10/5/18

**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: Loretta J. Francis                                      Name: \_\_\_\_\_  
Address: 118 Poplar Ave.                                      Address: \_\_\_\_\_  
Moundsville, WV 26041                                      \_\_\_\_\_

**Notice is hereby given:**

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>535,686.602</u>
County:	<u>Marshall</u>		Northing:	<u>4,398,198.486</u>
District:	<u>Liberty</u>	Public Road Access:	<u>Amos Hollow Rd.</u>	
Quadrangle:	<u>Littleton, WV</u>	Generally used farm name:	<u>Yocum MSH</u>	
Watershed:	<u>Fish Creek</u>			

**This Notice Shall Include:**

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 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: 304-997-9816  
Email: Justin\_Booth@swn.com

Address: PO Box 1300, 179 Innovation Drive  
Jane Lew, WV 26378  
Facsimile: 304-884-1691

RECEIVED  
Office of Oil and Gas  
OCT - 9 2018

**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).

WV Department of  
Environmental Protection

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

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:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>535,686.602</u>
County:	<u>Marshall</u>		Northing:	<u>4,398,198.486</u>
District:	<u>Liberty</u>	Public Road Access:	<u>Amos Hollow Rd.</u>	
Quadrangle:	<u>Littleton, WV</u>	Generally used farm name:	<u>Yocum MSH</u>	
Watershed:	<u>Fish Creek</u>			

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Well Operator: SWN Production Company, LLC  
Telephone: 304-997-9816  
Email: Justin\_Booth@swn.com

Address: PO Box 1300, 179 Innovation Drive  
Jane Lew, WV 26378  
Facsimile: 304-884-1691

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12/28/2018

51 - 02/24

WW-6AW  
(1-12)

API NO. 47-~~069~~  
OPERATOR WELL NO. Yocum MSH 111, 311, & 203H  
Well Pad Name: Yocum MSH Pad

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
**VOLUNTARY STATEMENT OF NO OBJECTION**

**Instructions to Persons Named on Page WW-6A**

The well operator named on page WW-6A is applying for a permit from the State of West Virginia to conduct oil or gas well work. Well work permits are valid for twenty-four (24) months. Please contact the listed well operator and the Office of Oil and Gas if you do not own any interest in the listed surface tract.

**Comment and Waiver Provisions**

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.

Pursuant to West Virginia Code § 22-6A-8(b) No permit may be issued less than thirty days after the filing date of the application for any well work except plugging or replugging; and no permit for plugging or replugging may be issued less than five days after the filing date of the application except a permit for plugging or replugging a dry hole: *Provided*, That if the applicant certifies that all persons entitled to notice of the application under the provisions of subsection (b), section ten of this article have been served in person or by certified mail, return receipt requested, with a copy of the well work application, including the erosion and sediment control plan, if required, and the well plat, and further files written statements of no objection by all such persons, the secretary may issue the well work permit at any time.

**VOLUNTARY STATEMENT OF NO OBJECTION**

I, Luke Stull, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through \_\_\_\_\_, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State: West Virginia UTM NAD 83 Easting: 535686.602  
County: 051-Marshall Northing: 4398198.486  
District: Littleton Public Road Access: Amos Hollow Road  
Quadrangle: Liberty Generally used farm name: Yocum  
Watershed: Fish Creek

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

\*Please check the box that applies

- SURFACE OWNER
- SURFACE OWNER (Road and/or Other Disturbance)
- SURFACE OWNER (Impoundments/Pits)
- COAL OWNER OR LESSEE
- COAL OPERATOR
- WATER PURVEYOR
- OPERATOR OF ANY NATURAL GAS STORAGE FIELD

**FOR EXECUTION BY A NATURAL PERSON**

Signature: Luke Stull  
Print Name: Luke Stull  
Date: 12/12/18

**FOR EXECUTION BY A CORPORATION, ETC.**

Company: \_\_\_\_\_  
By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

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4705 02124 12/28/2018

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
**Division of Highways**

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

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

September 12, 2018

Jill M. Newman  
Deputy Commissioner

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 Yocum Pad, Marshall County  
Yocum MSH 3H

Dear Mr. Martin,

The West Virginia Division of Highways has issued Permit #06-2018-0157 for the subject site to Southwestern Energy for access to the State Road for the well site located off of Marshall County Route 89 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.

Very Truly Yours,

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

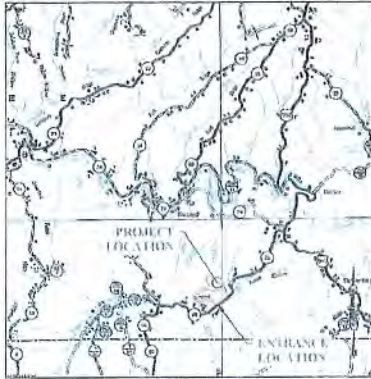
Cc: Brittany Woody  
Southwestern Energy  
CH, OM, D-6  
File

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Office of Oil and Gas  
OCT - 9 2018  
WV Department of Environmental Protection

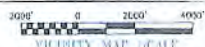
Product Name	Product Use	Chemical Name	CAS Number
EC6734A (Champion Technologies)	Biocide	Hydrogen Peroxide	7722-84-1
		Acetic Acid	64-19-7
		Peroxyacetic Acid	79-21-0
GYPTRON T-390 (Champion Technologies)	Scale Inhibitor	Methanol	67-56-1
		Nonylphenol Ethoxylate	Proprietary
Bactron K-139 (Champion Technologies)	Biocide	Glutaraldehyde	111-30-8
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
		Ethanol	64-17-5
Bactron K-219 (Champion Technologies)	Biocide	Methanol	67-56-1
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
EC6486A (Nalco Champion)	Scale Inhibitor	Amine Triphosphate	Proprietary
		Ethylene Glycol	107-21-1
WFRA-2000 (U.S. Well Services)	Anionic Friction Reducer	Hydrotreated light distillate (petroleum)	64742-47-8
		Propenoic acid, polymer with propenamide	9003-06 9
AI-303 (U.S. Well Services)	Mixture	Ethylene glycol	107-21 1
		Cinnamaldehyde	104-55 2
		Butyl cellosolve	111-76 2
		Formic acid	64-18 6
		Polyether	Proprietary
		Acetophenone, thiourea, formaldehyde polymer	68527-49 1
AP ONE (U.S. Well Services)	Breaker	Ammonium persulfate	7727-54-0
OPTI-FLEX (U.S. Well Services)	Viscosifying Agent	Distillates, petroleum, hydrotreated light	64742-47-8
Econo-CI200 (SWN Well Services)	Corrosion Inhibitor	Methanol	67-56-1
		Oxyalkylated fatty acid	68951-67-7
		Fatty acids	61790-12-3
		Modified thiourea polymer	68527-49-1
		Water	7732-18-5
		Hydrochloric acid	7647-01-0
		Potassium acetate	127-08-2
		Formaldehyde	50-00-0
		Ecopol-FEAC (SWN Well Services)	Iron Control
Citric Acid	77-92-9		
Water	7732-18-5		
HCL (SWN Well Services)	Hydrocholic Acid	Hydrochloric Acid	7647-01-0
		Water	7732-18-5
FLOJET DRP 1130X (SWN Well Services)	Friction Reducer	Proprietary	Proprietary
FLOJET DR900 LPP (SWN Well Services)	Friction Reducer	Distillates (petroleum) hydrotreated light	64674-47-8
		Ethylene Glycol	107-21-1
		Alcohols, C12-16, Exoxylated propoxylated	68213-24-1
		Fatty Alcohols ethoxylated	Proprietary
		Water	7732-18-5
FR-76 (Halliburton)	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8
		Inorganic Salt	Proprietary
HAI-150E (Halliburton)	Corrosion Inhibitor	No hazardous substance	N/A
FDP-S1176-15 (Halliburton)	Friction Reducer	Polyacrylate	Proprietary
		Hydrotreated light petroleum distillate	64742-47-8
LP-65 MC (Halliburton)	Scale Inhibitor	Organic phosphonate	Proprietary
		Ammonium Chloride	12125-02-9
CarboNRT	Tracer	Ceramic Proppant	66402-68-4

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OCT - 9 2018  
WV Department of  
Environmental Protection

MARSHALL COUNTY, WV HIGHWAY MAP



LIBERTY, WV QUAD MAP



DRIVING DIRECTIONS FROM GALEBOY, WV

- 1. ROUTE 60 WEST TO WASHINGTON WAY STOP
- 2. TURN RIGHT ON WASHINGTON WAY
- 3. TURN LEFT ON WASHINGTON WAY
- 4. TURN RIGHT ON WASHINGTON WAY
- 5. TURN LEFT ON WASHINGTON WAY

ONE CALL UTILITY SYSTEM CONTACT INFO



FOR INFORMATION CONTACT 811 OR VISIT 811.WV.GOV FOR THE PROJECT SITE. INFORMATION ON BEST PRACTICES TO PREVENT EROSION AND SEDIMENTATION IS AVAILABLE AT WWW.WVDEP.GOV. FOR MORE INFORMATION CONTACT 811 OR VISIT 811.WV.GOV.

NO REPRESENTATION OR WARRANTY IS MADE BY THE DRAWING ENGINEER OR ARCHITECT FOR THE ACCURACY OF THE INFORMATION CONTAINED HEREIN. THE USER OF THIS DRAWING SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY INFORMATION FROM THE LOCAL GOVERNMENT AGENCIES.

# EROSION AND SEDIMENTATION CONTROL PLAN

## FOR YOCUM WELL PAD AND ACCESS ROAD

### LIBERTY DISTRICT, MARSHALL COUNTY, WV

#### FEBRUARY 2018

**APPROVED WVDEP OOG**  
 2018 6/26/2018

UTM COORDINATES

Well Number	WVDEP Well Label	WVDEP Well Longitude	UTM 83-17 Northing	UTM 83-17 Easting
SLOT 1	N 39.732964*	W 80.583491*	16429769.275 m	1257531.639 m
SLOT 2	N 39.732966*	W 80.583485*	16429762.739 m	12574706.049 m
SLOT 3	N 39.732979*	W 80.583486*	16429766.700 m	12574698.402 m
SLOT 4	N 39.732971*	W 80.583522*	16429749.629 m	12574909.822 m
SLOT 5	N 39.732893*	W 80.583607*	16429744.189 m	12574923.283 m
SLOT 6	N 39.732875*	W 80.583627*	16429735.676 m	12574775.693 m
SLOT 7	N 39.732857*	W 80.583654*	16429730.173 m	12574688.105 m
SLOT 8	N 39.732840*	W 80.583681*	16429723.667 m	12574600.516 m
SLOT 9	N 39.732822*	W 80.583704*	16429717.152 m	12574522.928 m
SLOT 10	N 39.732804*	W 80.583725*	16429710.637 m	12574445.339 m
SLOT 11	N 39.732796*	W 80.583722*	16429704.122 m	12574367.750 m
SLOT 12	N 39.732779*	W 80.583729*	16429697.607 m	12574290.161 m
SLOT 13	N 39.732761*	W 80.583836*	16429691.092 m	12574212.572 m
SLOT 14	N 39.732743*	W 80.583836*	16429684.577 m	12574134.983 m
SLOT 15	N 39.732725*	W 80.583871*	16429678.062 m	12574057.394 m
SLOT 16	N 39.732697*	W 80.583858*	16429671.547 m	12573979.805 m
SLOT 17	N 39.732748*	W 80.583993*	16429665.032 m	12573902.216 m
SLOT 18	N 39.732765*	W 80.583986*	16429658.517 m	12573824.627 m
SLOT 19	N 39.732781*	W 80.583929*	16429652.002 m	12573747.038 m
SLOT 20	N 39.732801*	W 80.583872*	16429645.487 m	12573669.449 m
SLOT 21	N 39.732819*	W 80.583897*	16429638.972 m	12573591.860 m
SLOT 22	N 39.732837*	W 80.583817*	16429632.457 m	12573514.271 m
SLOT 23	N 39.732854*	W 80.583797*	16429625.942 m	12573436.682 m
SLOT 24	N 39.732872*	W 80.583761*	16429619.427 m	12573359.093 m
SLOT 25	N 39.732890*	W 80.583736*	16429612.912 m	12573281.504 m
SLOT 26	N 39.732908*	W 80.583711*	16429606.397 m	12573203.915 m
SLOT 27	N 39.732926*	W 80.583686*	16429599.882 m	12573126.326 m
SLOT 28	N 39.732944*	W 80.583661*	16429593.367 m	12573048.737 m
SLOT 29	N 39.732961*	W 80.583636*	16429586.852 m	12572971.148 m
SLOT 30	N 39.732979*	W 80.583611*	16429580.337 m	12572893.559 m
SLOT 31	N 39.732997*	W 80.583586*	16429573.822 m	12572815.970 m
SLOT 32	N 39.733014*	W 80.583561*	16429567.307 m	12572738.381 m

REVISION NUMBER	REVISED SHEETS	BY	DATE	DESCRIPTION
1	1,5,6,9,17,18, 20,26,45-49	JCA	06/19/18	ADDED BLOCK RETAINING WALL AND CORRESPONDING DETAILS WITH QUANTITIES

DISTURBANCE SUMMARY

Property Owner (Tax Map / Parcel)	Access Road Disturbance	Well Pad Disturbance	Total Disturbance
Yocum Joseph Lee & Michael E (25-728-9)	2.50	14.97	17.47
Yocum Joseph Lee & Michael E (25-727-4)	7.66	0.00	7.66
Yocum Joseph Lee & Michael E (25-722-5)	0.25	0.00	0.25
Highway R (25-722-8)	0.11	0.00	0.11
<b>Total Disturbance</b>	<b>10.52</b>	<b>15.97</b>	<b>26.49</b>

NET COORDINATES

Coordinate Label	Well Pad Center	Access Road Beginning
WV83-14 Northing	16429731.004*	16429729.750*
WV83-14 Easting	12574655.122*	12574655.122*
WV83-14 Northing	16429723.713*	16429723.713*
WV83-14 Easting	12574602.216*	12574602.216*
UTM 83-17 Northing	16429720.978 m	16429720.978 m
UTM 83-17 Easting	12574608.820 m	12574608.820 m
UTM 83-17 Northing	16429718.113 m	16429718.113 m
UTM 83-17 Easting	12574615.413 m	12574615.413 m

SHEET INDEX

SHEET #	TITLE
1	TITLE SHEET
2	PRELIMINARY WELLS AND ACCESS ROAD
3	PROPOSED WELLS AND ACCESS ROAD
4	EROSION CONTROL
5	GENERAL SHEET PLAN
5A	SHEET PLAN
5B	ACCESS ROAD PLAN AND PROFILE
6	EROSION CONTROL PLAN AND PROFILE
6A	ACCESS ROAD PLAN AND PROFILE
6B	EROSION CONTROL PLAN AND PROFILE
6C	ACCESS ROAD PLAN AND PROFILE
6D	EROSION CONTROL PLAN AND PROFILE
6E	ACCESS ROAD PLAN AND PROFILE
6F	EROSION CONTROL PLAN AND PROFILE
6G	ACCESS ROAD PLAN AND PROFILE
6H	EROSION CONTROL PLAN AND PROFILE
6I	ACCESS ROAD PLAN AND PROFILE
6J	EROSION CONTROL PLAN AND PROFILE
6K	ACCESS ROAD PLAN AND PROFILE
6L	EROSION CONTROL PLAN AND PROFILE
6M	ACCESS ROAD PLAN AND PROFILE
6N	EROSION CONTROL PLAN AND PROFILE
6O	ACCESS ROAD PLAN AND PROFILE
6P	EROSION CONTROL PLAN AND PROFILE
6Q	ACCESS ROAD PLAN AND PROFILE
6R	EROSION CONTROL PLAN AND PROFILE
6S	ACCESS ROAD PLAN AND PROFILE
6T	EROSION CONTROL PLAN AND PROFILE
6U	ACCESS ROAD PLAN AND PROFILE
6V	EROSION CONTROL PLAN AND PROFILE
6W	ACCESS ROAD PLAN AND PROFILE
6X	EROSION CONTROL PLAN AND PROFILE
6Y	ACCESS ROAD PLAN AND PROFILE
6Z	EROSION CONTROL PLAN AND PROFILE



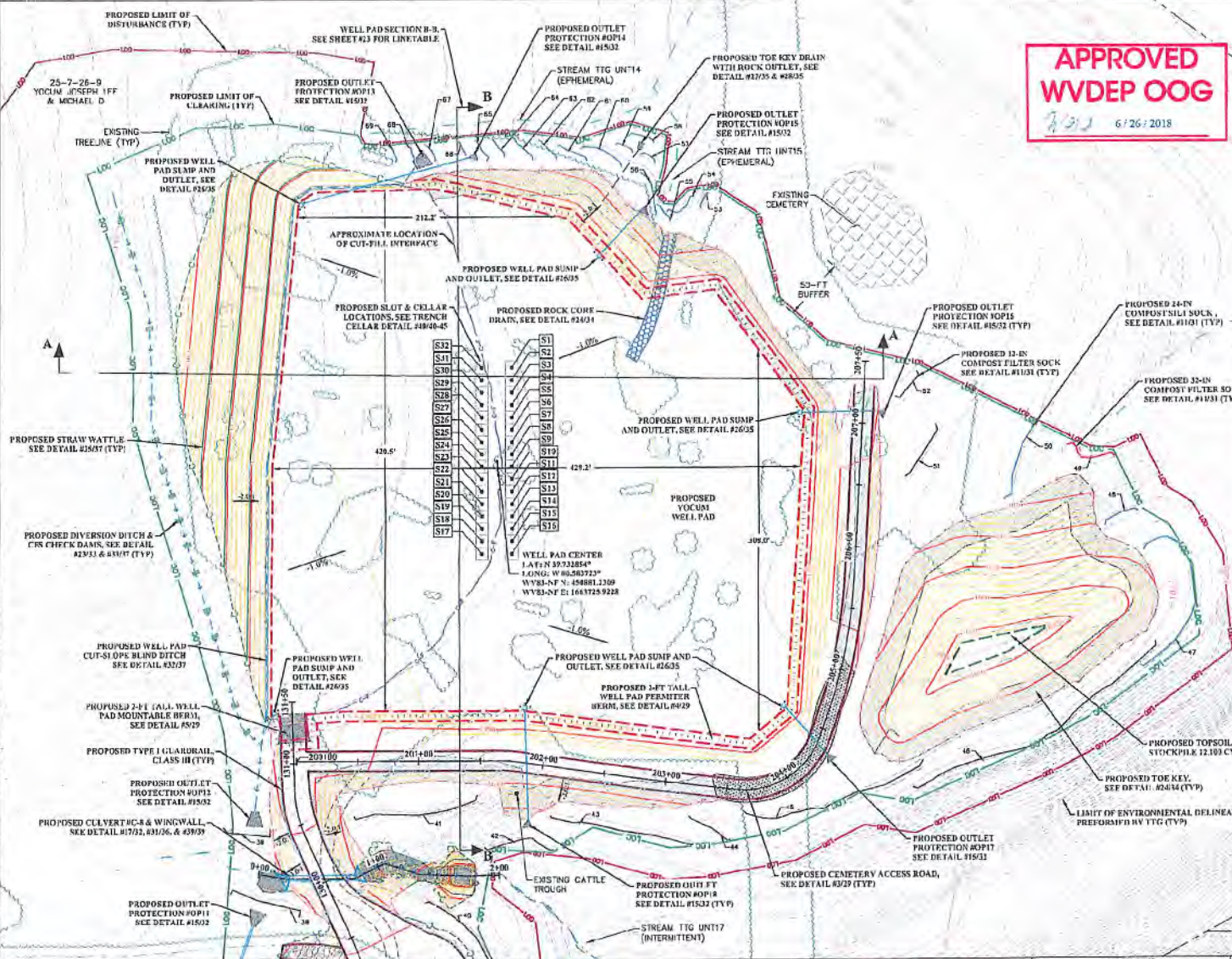
APPROVED FOR PERMITS DATE: 2/19/18 BY: REM  
 APPROVED FOR BIDDING DATE: 5/16/18 BY: REM  
 APPROVED FOR CONSTRUCTION DATE: \_\_\_\_\_ BY: \_\_\_\_\_



ENGINEER'S ESTIMATE OF QUANTITIES

DESCRIPTION	ESTIMATED QUANTITY	UNIT
WELL PAD DATA		
WELL PAD CUT (EXCLUDES TOPSOIL)	35,000	CY
WELL PAD FILL (EXCLUDES TOPSOIL)	35,000	CY
TOE KEY EXCAVATION	22,240	CY
TOE KEY LENGTH	2,000	LF
TOE KEY DRAINAGE PIPE	2,000	LF
TOE KEY DRAINAGE STONE	500	TN
TOE KEY OUTLET PIPE	200	LF
WELL PAD TOPSOIL STRIPPING	8,000	CY
TENSAR T2-GEOGRID	17,765	SY
FINISH GRADE CRUSHER RUN #4 (ROCK PROVIDED BY QUARRY) PLACEMENT COST	5,830	TN
24" BERMS	1,125	LF
WELL PAD SLUMP*	4	EA
CUT SLOPE BUND DITCH (P.E., GEOTEXTILE, AND STONE INCIDENTAL)	543	LF
*CATCH BASIN, INDICATOR POST, 4" GATE VALVE, ANTI-SLEEP COLLARS, & 4" SOLID SCHEDULE 40 PIPE INCIDENTAL		
WELL PAD ACCESS ROAD DATA		
TENSAR T2-GEOGRID	4,655	SY
12-INCH GRADE CRUSHER RUN #4 (ROCK PROVIDED BY QUARRY) PLACEMENT COST	1,475	TN
1.5-INCH BASE COURSE, TYPE I	150	TN
1.5-INCH WEAIRING COURSE, TYPE I	50	TN
WSDOH TYPE I QUADRANT, CLASS B	1,185	LF
36-INCH DIAMETER HOPE CLUMPT	110	LF
24-INCH DIAMETER HOPE CLUMPT	105	LF
16-INCH DIAMETER HOPE CLUMPT	14	EA
OUTLET PROTECTION/ROCK APRON SUMP	15	TN
OUTLET PROTECTION/ROCK APRON SUMP ROCK #3	48	LF
OUTLET PROTECTION/ROCK APRON SUMP ROCK #4	150	TN
OUTLET PROTECTION/ROCK APRON SUMP GEOTEXTILE	165	SY
*EARTHWORK & TOP KEY QUANTITIES FOR THE ACCESS ROAD ARE INCLUDED WITHIN THE WELL PAD CUT AND FILL		
EXISTING ACCESS ROAD DATA		
TENSAR T2-GEOGRID	1,150	SY
ROAD WIDENING 4" UNFINISHED	245	CY
ROAD WIDENING CRUSHER RUN #4 (ROCK PROVIDED BY QUARRY) PLACEMENT COST	460	TN
MAINTENANCE CRUSHER RUN #4 (ROCK PROVIDED BY QUARRY) PLACEMENT COST	235	TN
CLEARLY ACCESS ROAD DATA		
GEOTEXTILE	1,285	SY
BASE ROCK: AASHTO #3-4 (ROCK PROVIDED BY QUARRY) PLACEMENT COST	275	TN
FINISH GRADE CRUSHER RUN #4 (ROCK PROVIDED BY QUARRY) PLACEMENT COST	190	TN
EROSION & SEDIMENT CONTROL ITEMS		
COMPOST FILTER SOCK, 12-IN	4,235	LF
COMPOST FILTER SOCK, 24-IN	740	LF
COMPOST FILTER SOCK, 36-IN	50	LF
STRAW MATTE	1,035	LF
EROSION CONTROL MATTING LINED WITH FLEX-A-MAT	1,850	SF
ROCK BUND DITCH	925	LF
ROCK CHECK DAM	15	EA
PILE ROCK CHECK DAM	19	EA
SEEDING, LIMB, & FERTILIZER	4.1	EA
OTHER PROJECT ITEMS		
STABILIZED CONSTRUCTION ENTRANCE	1	EA
MOBILIZATION/DEMOBILIZATION	1	LS
TRENCH SAFETY PLAN & PROTECTION	1	LS
ROCK CORE DRAIN	205	TN
FARM GATE (16-F)	2	EA
TEMPORARY FARM FENCE	1	LF
PERMANENT FARM FENCE	1	LF
CLEARING AND GRUBBING ITEMS		
TOTAL FORESTED CLEARING AND GRUBBING	6.6	AC
TOTAL NON-FORESTED CLEARING AND GRUBBING	7.5	AC
ALTERATE WELL PAD DATA		
CLASS 1 GEOTEXTILE	17,765	SY
BASE ROCK: AASHTO #3 #4 (ROCK PROVIDED BY QUARRY) PLACEMENT COST*	9,380	TN
FINISH GRADE CRUSHER RUN #4 (ROCK PROVIDED BY QUARRY) PLACEMENT COST	3,755	TN
ALTERATE WELL PAD ACCESS ROAD DATA		
CLASS 2 GEOTEXTILE	4,655	SY
BASE ROCK: AASHTO #3 #4 (ROCK PROVIDED BY QUARRY) PLACEMENT COST	2,460	TN
FINISH GRADE CRUSHER RUN #4 (ROCK PROVIDED BY QUARRY) PLACEMENT COST	585	TN
ALTERATE EXISTING ACCESS ROAD DATA		
CLASS 2 GEOTEXTILE	1,450	SY
BASE ROCK: AASHTO #3 #4 (ROCK PROVIDED BY QUARRY) PLACEMENT COST	765	TN
FINISH GRADE CRUSHER RUN #4 (ROCK PROVIDED BY QUARRY) PLACEMENT COST	310	TN
RETAINING WALL DATA		
REINFORCED BLOCK RETAINING BLOCK (ALL MATERIALS INCIDENTAL)	1,520	SF
24" TOP BLOCK (FOR INFORMATION ONLY)*	50	EA
41" MIDDLE BLOCK (FOR INFORMATION ONLY)*	210	EA
41" BOTTOM BLOCK (FOR INFORMATION ONLY)*	7	EA
60" BOTTOM HALF BLOCK (FOR INFORMATION ONLY)*	41	EA
41" MIDDLE HALF BLOCK (FOR INFORMATION ONLY)*	1	EA
60" BOTTOM HALF BLOCK (FOR INFORMATION ONLY)*	10	EA
*BLOCK QUANTITIES SHOWN FOR INFORMATION ONLY, ALL WALL MATERIALS INCIDENTAL TO THEIR BLOCK RETAINING BLOCK ITEM.		

NO REPRESENTATION OR WARRANTY IS MADE BY THE DRAWING ENGINEER OR ARCHITECT FOR THE ACCURACY OF THE INFORMATION CONTAINED HEREIN. THE USER OF THIS DRAWING SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY INFORMATION FROM THE LOCAL GOVERNMENT AGENCIES.



**APPROVED WVDEP OOG**  
 6/26/2018

**PLAN LEGEND**

---	PROPERTY LINES
---	EXISTING EROSION
---	DELINEATED STREAM - PERMANENT
---	DELINEATED TUGLAND - INTERMITTENT
---	DELINEATED W/ LAND - PAULUS HIDE FORESTRY (PH)
---	DELINEATED W/ LAND - PAULUS HIDE FORESTRY (PH)
---	PROPOSED CULVERT
---	LINE OF CLEARING
---	LIMIT OF DISTURBANCE
---	PROPOSED CONTOURS
---	PROPOSED CUT LIMIT
---	PROPOSED FILL LIMIT
---	APPROXIMATE CUT/FILL INTERFACE - ZERO CUT LIFE
---	PROPOSED EDGE OF WELL PAD
---	PROPOSED EDGE OF ACCESS ROAD
---	LIMIT OF ENVIRONMENTAL DELINEATIONS
---	PROPOSED SOLE TYPEN (SEE DETAILS)
---	PROPOSED WELL PAD BULKHEAD
---	PROPOSED EDGE OF TOPSOIL STOCKPILE
---	PROPOSED 16-IN COMPOST FILTER SOCK (CFS)
---	PROPOSED 24-IN COMPOST FILTER SOCK (CFS)
---	PROPOSED 32-IN COMPOST FILTER SOCK (CFS)
---	PROPOSED 36-IN COMPOST FILTER SOCK (CFS)
---	PROPOSED WELLS PERMITS (WPS)
---	PROPOSED ROAD VINDICATING

- NOTES**
- EXISTING FEATURES AND CONTOURS ARE BASED ON AERIAL MAPPING PROVIDED BY THE MOUNTAIN, INC. IN FEBRUARY 2017. MAPPING WAS ESTABLISHED FROM ORTHOGRAPHIC PHOTOGRAPHY TAKEN ON 26 MARCH 2016.
  - ENVIRONMENTAL DELINEATIONS WERE PERFORMED BY THRASHER IN MARCH 2017.
  - PROPERTY LINES SHOWN ARE BASED ON A COMBINATION OF FIELD SURVEY AND GIS TAX MAPS.
  - TOE KEYS AND TOE BENCHES SHOWN ARE FOR REPRESENTATION ONLY. TOE KEYS AND TOE BENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAIL #2049 AND #2053.
  - ALL PROPOSED CUT AND STRUCTURAL HILL SLOPES ARE AS FOLLOWS UNLESS OTHERWISE NOTED ON THE PLANS:
    - WELL PAD CUT - 2H:1V
    - WELL PAD FILL - 2H:1V
    - ACCESS ROAD CUT - 2H:1V
    - ACCESS ROAD FILL - 2H:1V
    - TOPSOIL STOCKPILE HILL - 3:1H:1V
  - ASSUMED 10-IN TOPSOIL DEPTH.
  - ALL PROPOSED SLOPES ARE TO BE TRACKED IN ACCORDANCE WITH DETAIL #2052.
  - SEE COMPOST FILTER SOCK SCHEDULE ON DETAIL #1101 FOR SECTIONS THAT MAY BE REPLACED WITH SILT SAVER PRIORITY 1 (OR FILL ROAD) OR SUPER SILT FENCE (DETAIL #2031).
  - PROPOSED TOWNSHIPS SHOWN INSIDE THE WELL PAD BELMS REPRESENT THE SUBGRADE SURFACE. THE SLOPE SURFACE SHALL BE GRADED IN ACCORDANCE WITH THE DETAILS AND TYPICAL SECTIONS SHOWN WITH THESE PLANS. PROPOSED CONTOURS IN ALL OTHER LOCATIONS REPRESENT FINISH GRADE.
  - ALL CONSTRUCTED SLOPES SHALL BE STABILIZED WITH HYDRAULICALLY APPLIED EROSION CONTROL BLANKET OR ROLLED EROSION CONTROL SLOPE MATTING. SEE DETAIL #2032 AND #2033.
  - ALL SURVEY STAKES SHALL FOLLOW SWM FLAGGING/ STAKING STANDARDS. SEE DETAIL #1050.
  - SEE SHEET 24 FOR PAD CORNER LAYOUT POINTS & INFORMATION.

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DATE: 02/19/2018  
 BY: [Signature]  
 PROJECT: 101-030-3170



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