



---

west virginia department of environmental protection

---

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

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

Tuesday, February 27, 2018  
WELL WORK PERMIT  
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC  
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit approval for ARTHUR WARYCK UP MSH 7H  
47-051-01940-00-00

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: ARTHUR WARYCK UP MSH 7H  
Farm Name: WARYCK, A. MICHAEL & DEBORAH ELLEN  
U.S. WELL NUMBER: 47-051-01940-00-00  
Horizontal 6A / New Drill  
Date Issued: 2/27/2018

Promoting a healthy environment.

## PERMIT CONDITIONS

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

### CONDITIONS

---

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

API Number: 51-01940

## 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).



---

west virginia department of environmental protection

---

Oil and Gas Conservation Commission  
601 57<sup>th</sup> Street, SE Charleston, WV 25304  
(304)926-0499, Ext 1656

Jim Justice, Governor  
Barry K. Lay, Chairman  
ogcc.wv.gov

Department of Environmental Protection  
Office of Oil and Gas  
Charleston, WV 25304

RE: Application for Deep Well Permit – API #47-051-01940

COMPANY: SWN Production Co., LLC

FARM: Arthur Waryck UP MSH 7H

COUNTY: Marshall      DISTRICT: Meade      QUAD: Wileyville

The deep well review of the application for the above company is **Approved to drill to Trenton for Point Pleasant completion.**

The applicant has complied with the provision of Chapter 22C-9, of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

1. Comments to Notice of Deviation filed? All tracts within 1500' radius leased by operator.
2. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners; yes
3. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells, well name, and the name and address of the operator; none
4. Provided a plat showing that the proposed location is a distance of 400+ feet from the nearest lease line or unit boundary and showing the following wells drilled to or capable of producing from the objective formation within 3,000 feet of the proposed location.

Sincerely,

Cindy Raines  
Acting Administrator

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

1) Well Operator: SWN Production Co., LLC 494512924 51-Marshall 9- Meads 681-Wileyville  
Operator ID County District Quadrangle

2) Operator's Well Number: Arthur Waryck UP MSH 7H Well Pad Name: Arthur Waryck MSH Pad

3) Farm Name/Surface Owner: A. Michael Waryck & Deborah Ellen Waryck Public Road Access: Pleasant Ridge Road

4) Elevation, current ground: 1326' Elevation, proposed post-construction: 1326'

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

(b) If Gas Shallow  Deep   
Horizontal

6) Existing Pad: Yes or No yes

*JW 1/16/18*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):  
Target Formation- Point Pleasant, Target Top TVD- 12135', Target Base TVD- 12249', Anticipated Thickness- 114', Associated Pressure- 10987

8) Proposed Total Vertical Depth: 12316' Pilot Hole

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 18451'

11) Proposed Horizontal Leg Length: 5914.59'

12) Approximate Fresh Water Strata Depths: 558'

13) Method to Determine Fresh Water Depths: Defined by depth of Rhoda Silvert water well 3000' SW of pad

14) Approximate Saltwater Depths: 893' Nearby Rhonda Silvert water well

15) Approximate Coal Seam Depths: 1151'

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: \_\_\_\_\_

RECEIVED  
Office of Oil and Gas  
JAN 18 2018  
Page 1 of 3  
W. V. Department of  
Environmental Protection

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	30"	New	H-40		100'	100'	CTS
Fresh Water	20"	New	J-55	94#	638'	638'	1327 sx/CTS
Coal	13 3/8"	New	L-80	68#	2075'	2075'	2403 sx/CTS
Intermediate	9 5/8"	New	HCP110	53.5#	11,000	11,000	4098 sx/CTS
Production	5 1/2"	New	HCP-110	23#	18451'	18451'	Lead 5300 of 2270x107 1/2" 110#
Tubing	2 3/8"	New	HCP-110	4.7#	Approx. 12186'	Approx. 12186'	
Liners							

*JN 1/16/18*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Max. Associated Surface Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	30"	30"	0.75	2780	81	Class A	1.19/50% Excess
Fresh Water	20"	24"	0.438	2110	633	Class A	1.19/50% Excess
Coal	13 3/8"	17.5"	0.33	2730	1768	Class A	1.19/50% Excess
Intermediate	9 5/8"	12 1/4"	0.395	5750	3898	Class A	1.68/1.25
Production	5 1/2"	8 3/4"	0.415	14520	9918	Class A	1.68/1.25
Tubing							
Liners							

**PACKERS**

Kind:	10K Arrowset AS1-X			
Sizes:	5 1/2"			
Depths Set:				

RECEIVED  
 Office of Oil and Gas  
 JAN 18 2018  
 WV Department of  
 Environmental Protection

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

Drill the pilot hole to approximately 150 ft below the top of the Trenton Formation. Estimated top of Trenton is at 12,112' at the Pilot Hole location. Log and evaluate pilot hole to determine the Point Pleasant/Trenton Top and confirm ~~Utica~~/Point Pleasant formation characteristics. After pilot hole evaluation is completed, trip in hole with a cementing BHA and spot cement plug from Pilot Hole TD to approximately 200' above planned KOP at 11506' to isolate Trenton and Point Pleasant from shallower intervals. Trip in hole, tag top of plugback cement, and dress off cement plug to desired kickoff point. If necessary, install mechanical whipstock system to sidetrack well at kickoff point. Build angle to the planned land point and trajectory in the Utica/Point Pleasant Formation and drill horizontal lateral to planned TD.

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, proppant (sand and/or ceramic) 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 within the target formation has been stimulated. All stage plugs are then prepared for production by being drilled out or using large internal bore plugs and the well is flowed back to surface. The well is produced through surface facilities consisting of high pressure production units, vertical separation units, water and oil storage tanks as needed. The maximum anticipated pressure and rate is 15,000 psi @ 100 barrels per minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 11.0

22) Area to be disturbed for well pad only, less access road (acres): 6.4

23) Describe centralizer placement for each casing string:

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

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

See Attachment \*\*\*

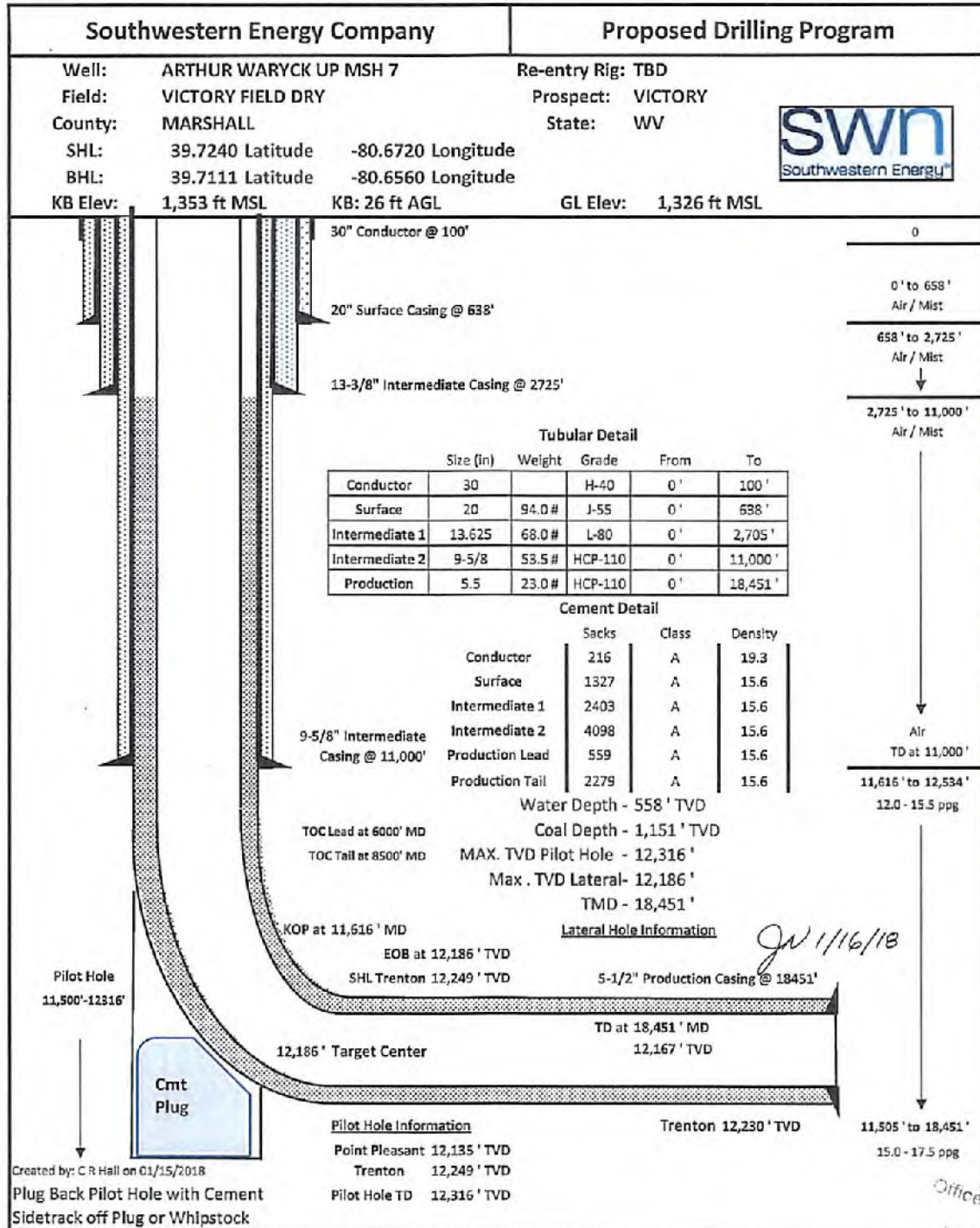
25) Proposed borehole conditioning procedures:

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

\*Note: Attach additional sheets as needed.

*Rec'd  
2/17/17*

51-01940



RECEIVED  
 Office of Oil and Gas  
 JAN 18 2018  
 WV Department of  
 Environmental Protection



51-01940

## Schlumberger Cement Additives

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

RECEIVED  
Office of Oil and Gas  
JUN 14 2017  
WV Department of  
Environmental Protection



# DEEP 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: Arthur Warcyk UP MSH 7H**  
**Wileyville QUAD**  
**MEade DISTRICT**  
**Marshall COUNTY, WEST VIRGINIA**

Submitted by

Dee Southall

Date: 5/17/2017

Title: Regulatory Supervisor SWN Production Co., LLC

Approved by: ~~\* Must have 15K BOP Stack~~ *Not required*

Date: 6/6/17

Title: Oil & Gas Inspector

Approved by:

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

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

SWN PRODUCTION COMPANY, LLC

WW-9  
(4/16)

API Number 47 - 69 -  
Operator's Well No. Arthur Wayrock MSH UP MSH 7H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name SWN Production Company, LLC OP Code 494512924

Watershed (HUC 10) Lynn Camp Run of Upper Ohio River 2 Quadrangle Wileyville

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

Will a pit be used? Yes  No

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

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

Proposed Disposal Method For Treated Pit Wastes:

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

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 SOBMM from KOP to TD

-If oil based, what type? Synthetic, petroleum, etc. synthetic oil base

Additives to be used in drilling medium? see attached sheets

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? meadow SWF-1032, SS grading SWF-4902, Northwestern SWF-1025, Short Creek 1034/WW0109517/CI028725, Carbon Limestone 28725-01028726

Arden Landfill 10072, American 02-12954, Country Wide 38390/CI038390, Pine Grove 13688

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

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

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

Company Official Signature [Signature]

Company Official (Typed Name) Dee Southall

Company Official Title Regulatory Supervisor

Subscribed and sworn before me this 17th day of May, 20 17

Brittany R Woody  
My commission expires 11/27/20



**SWN Production Company, LLC**

Proposed Revegetation Treatment: Acres Disturbed 11.0 Prevegetation pH \_\_\_\_\_

Lime as determined by pH test min. 2 Tons/acre or to correct to pH 6.4

Fertilizer type 10-20-20

Fertilizer amount 600 lbs/acre

Mulch Hay/Straw 2.5 Tons/acre

**Seed Mixtures**

**Temporary**

**Permanent**

Seed Type lbs/acre

Seed Type lbs/acre

**\*\*See Attachment**

**Attach:**

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *Jim Unlisen*

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

RECEIVED  
Office of Oil and Gas

JUN 14 2017

WV Department of  
Environmental Protection

Title: oil and gas inspector

Date: 6/6/17

Field Reviewed?  Yes

No

## Drilling Mediums

Synthetic Oil

Brine

Barite

Calcium Chloride

Lime

Organophilic Bentonite

Primary and Secondary Emulsifiers

Gilsonite

Calcium Carbonate

Friction Reducers

RECEIVED  
Office of Oil and Gas  
JUN 14 2017  
WV Department of  
Environmental Protection



## WVD Seeding Specification



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

NON-ORGANIC PROPERTIES	
Seed Mixture: ROW Mix	SWN Supplied
Orchardgrass	40%
Timothy	15%
Annual Ryegrass	15%
Brown Top Millet	5%
Red Top	5%
Medium Red Clover	5%
White Clover	5%
Birdsfoot Trefoil	5%
Rough Bluegrass	5%
All legumes are inoculated at 5x normal rate	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%; color: red;">           Apply @ 100lbs per acre April 16th- Oct. 14th         </div> <div style="width: 45%; color: red;">           Apply @ 200lbs per acre Oct. 15th- April 15th PLUS 50lbs per acre of Winter Wheat         </div> </div>	

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

**Seeding Calculation Information:**

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

**Synopsis:**

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

**Special Considerations:**

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

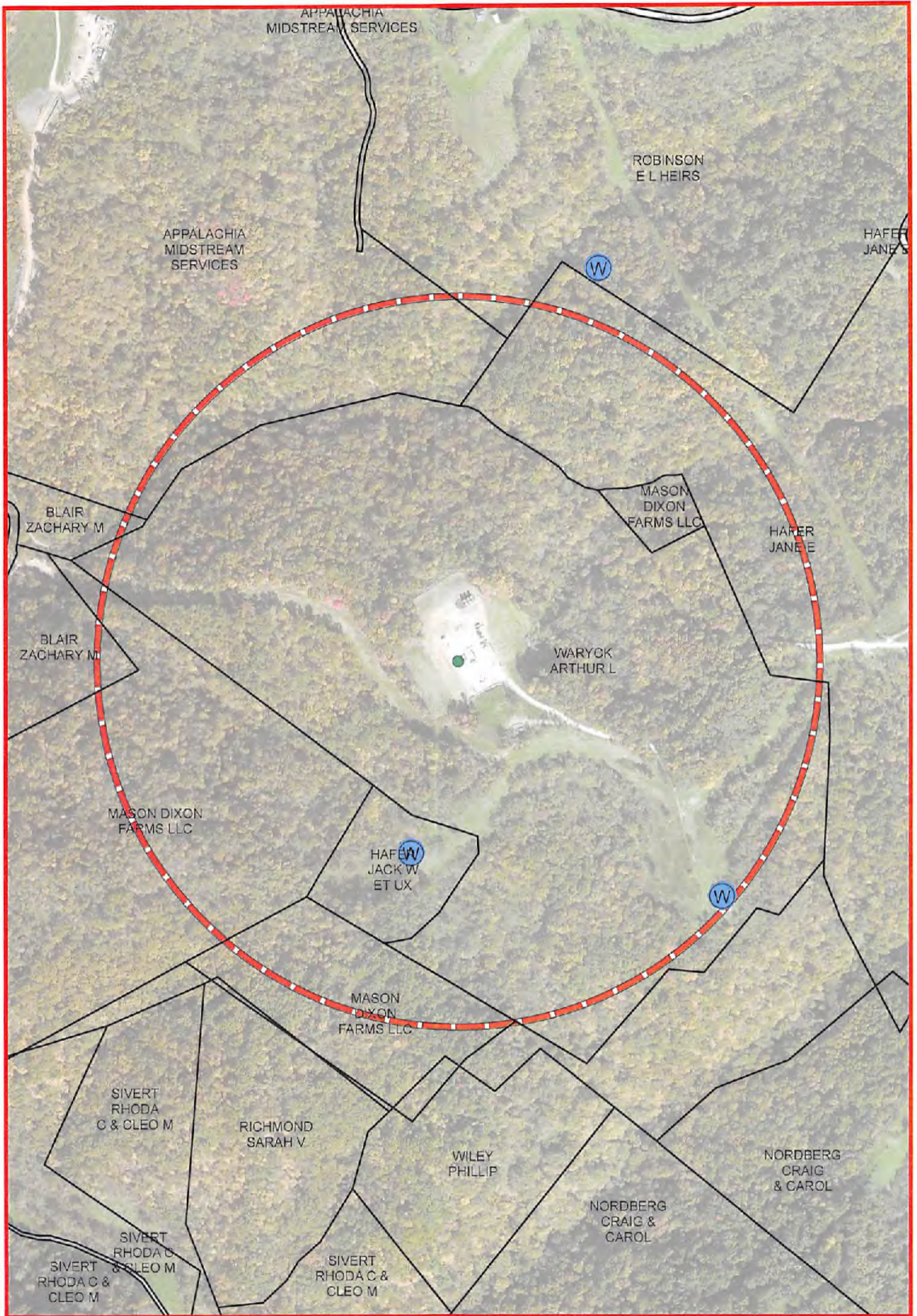
ORGANIC PROPERTIES	
Seed Mixture: SWN Production Organic Mix	SWN Supplied
Organic Timothy	50%
Organic Red or White Clover	50%
OR	
Organic Perennial Ryegrass	50%
Organic Red or White Clover	50%
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%; color: red;">           Apply @ 100lbs per acre April 16th- Oct. 14th         </div> <div style="width: 45%; color: red;">           Apply @ 200lbs per acre Oct. 15th- April 15th         </div> </div>	
Organic Fertilizer @ 200lbs per Acre	Pelletized Lime @ 2 Tons per Acre

WETLANDS (delineated as jurisdictional wetlands)	
Seed Mixture: Wetland Mix	SWN Supplied
VA Wild Ryegrass	20%
Annual Ryegrass	20%
Fowl Bluegrass	20%
Cosmos 'Sensation'	10%
Redtop	5%
Golden Tickseed	5%
Maryland Senna	5%
Showy Tickseed	5%
Fox Sedge	2.5%
Soft Rush	2.5%
Woolgrass	2.5%
Swamp Verbena	2.5%
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%; color: red;">           Apply @ 25lbs per acre April 16th- Oct. 14th         </div> <div style="width: 45%; color: red;">           Apply @ 50lbs per acre Oct. 15th- April 15th         </div> </div>	
<b>NO FERTILIZER OR LIME INSIDE WETLAND LIMITS</b>	

RECEIVED  
Office of Oil and Gas

JUN 14 2017

WV Department of  
Environmental Protection



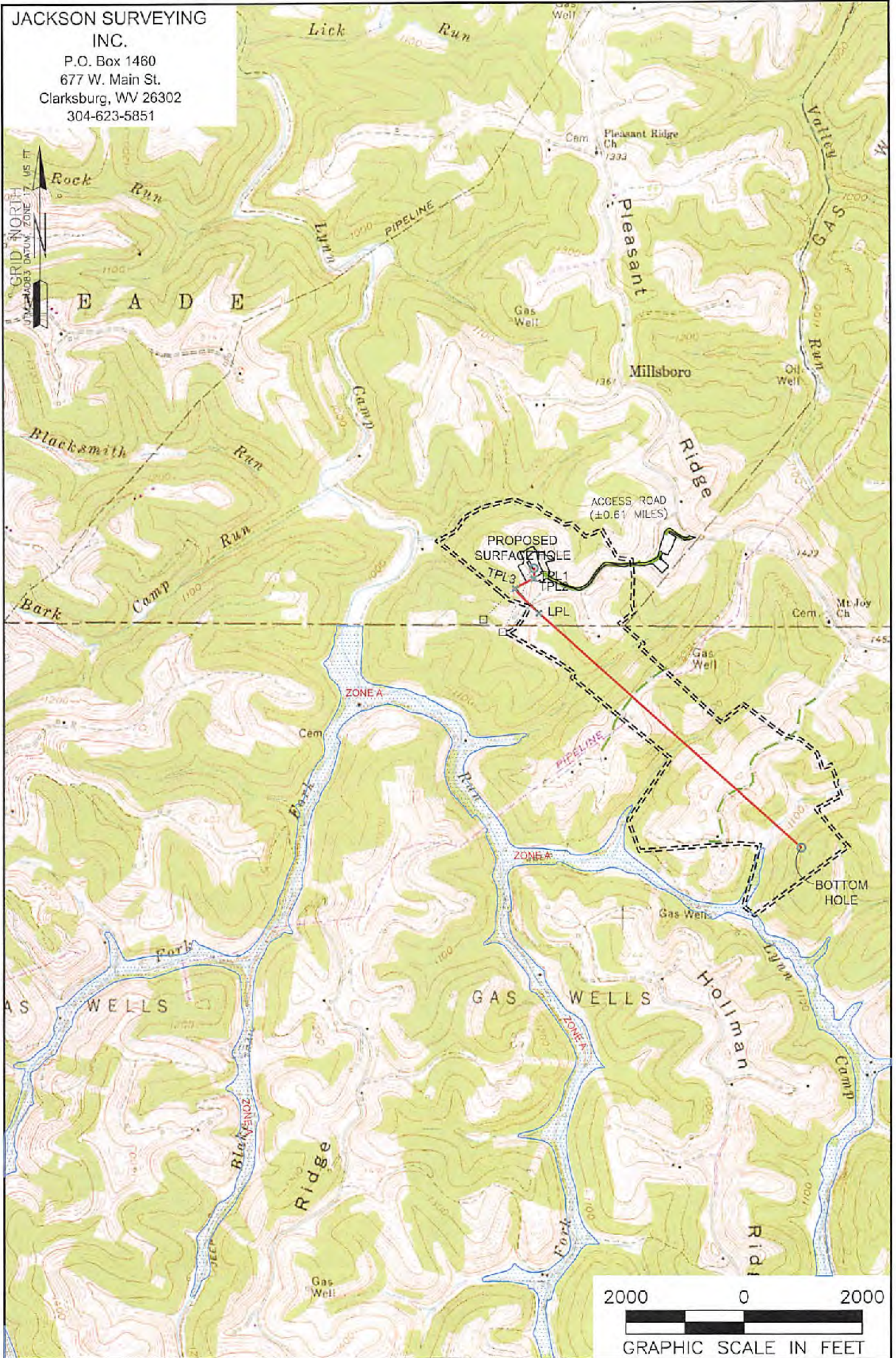
The intent of this map is for general reference only. Information on this map was created using the best available data at the time but is not guaranteed accurate.

<h2 style="text-align: center;">Water Purveyor Map</h2>			<b>Well Pad:</b> Arthur Waryck MSH Pad	<b>County:</b> MARSHALL
			Arthur Waryck MSH Coordinates: 39.72401, -80.67211	
Map by: speart NAD 1983 BLM Zone 17N ftUS	Date: 3/14/2017 			



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

GRID NORTH  
UTM ZONE 17, US FT



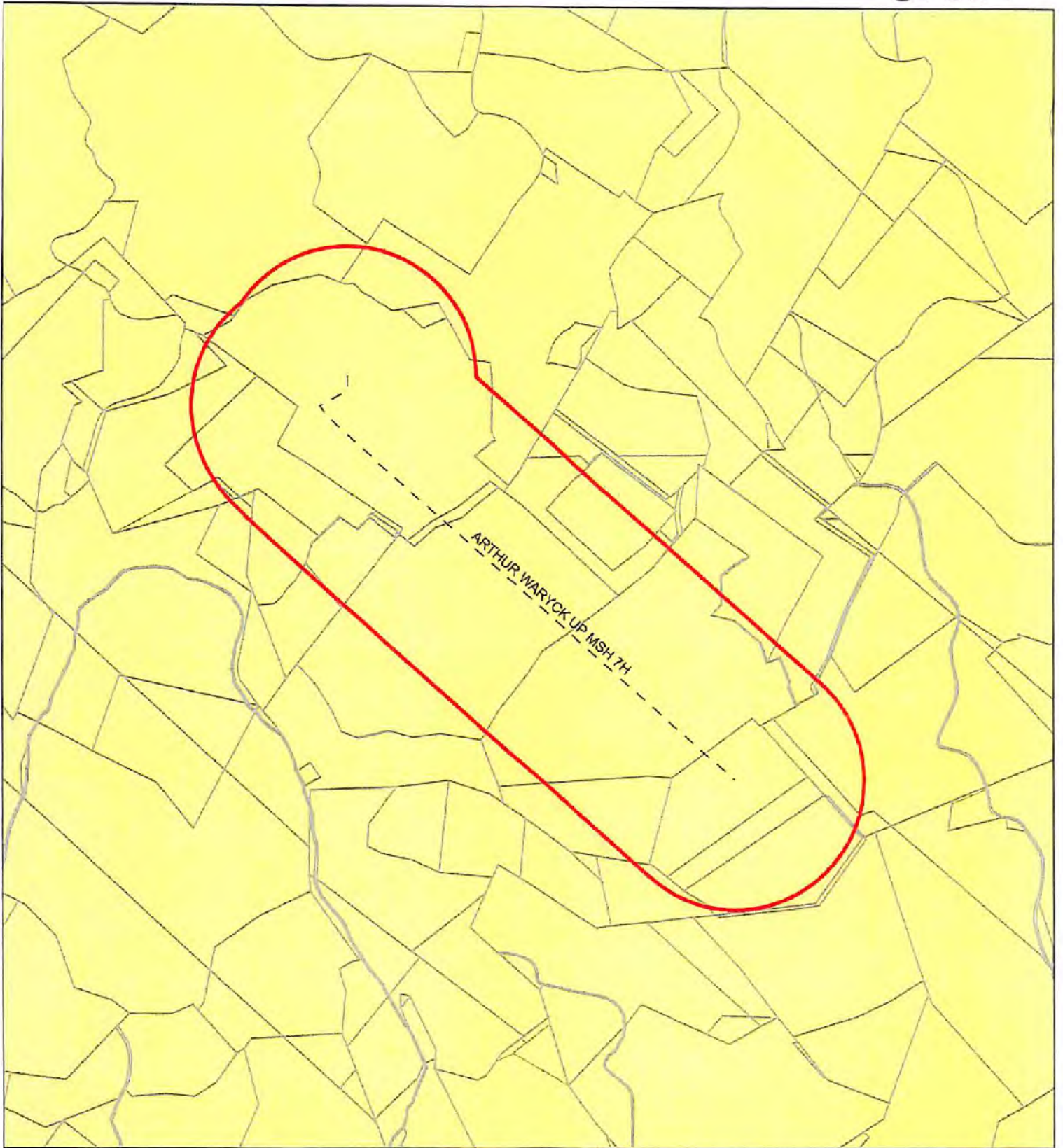
**NOTES ON SURVEY**

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

**LEGEND:**

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

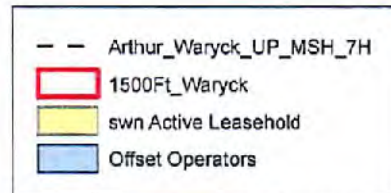
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: ARTHUR WARYCK UP MSH	WELL # 7H	SERIAL #
ADDRESS: P.O. BOX 1300 JANE LEW, WV 26378	COUNTY - CODE MARSHALL - 103	DISTRICT; MEADE	
SURFACE OWNER: A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK	USGS 7 1/2 QUADRANGLE MAP NAME WILEYVILLE, WV		



*\* All leased by SWN*

Arthur Waryck UP MSH 7H  
Meade District  
Marshall Co., WV

0 700 1,400 2,800 Feet



1 inch = 1,500 feet

Date Saved: 9/11/2017 11:22:02 AM

WW-6A1  
(5/13)

Operator's Well No. Arthur Waryck 7H

**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"

RECEIVED  
Office of Oil and Gas

JUN 14 2017

WV Department of  
Environmental Protection

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

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

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

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

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





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

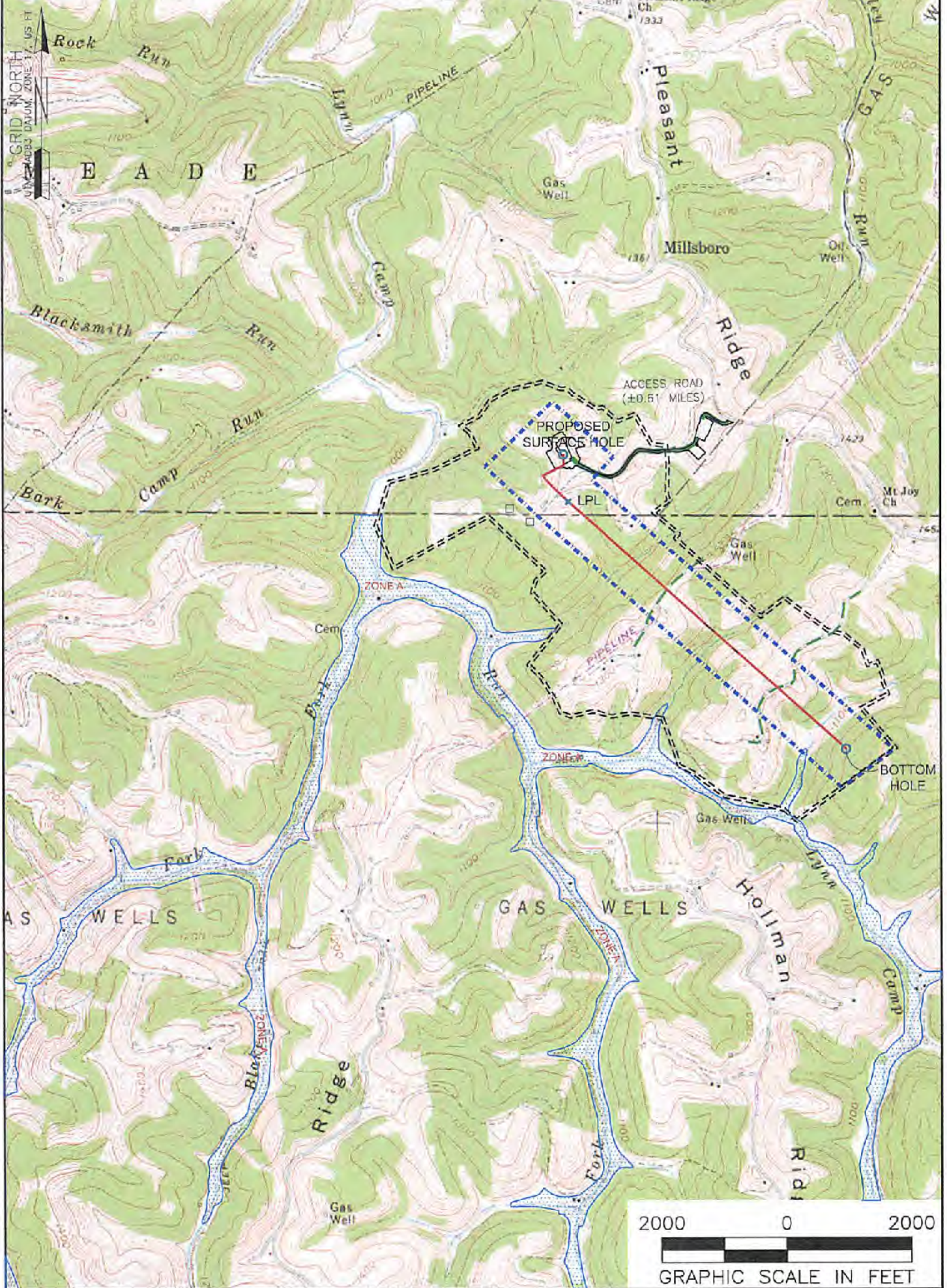
WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS			
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK (S) / CHARLES W. CAIN & PEARL CAIN (R)	09-21-10	125.39
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
2	CRAIG NORDBERG & CAROL NORDBERG (S)	12-05-01	50.0
3	MASON DIXON FARMS, LLC (S)	12-05-07	110.00
4	MASON DIXON FARMS, LLC (S)	12-05-08	23.25
5	AUGUSTUS R. MCMAHON III, LIVING TRUST (S)	12-05-13	37.20
6	MASON DIXON FARMS, LLC (S)	09-21-12	69.92
7	ANORAH C. SCHOSTAG & RYAN U. SCHOSTAG (S)	09-21-10.1	6.11
8	MASON DIXON FARMS, LLC (S)	09-21-11	13.11
9	PHILLIP WILEY (S)	12-04-09	14.56
10	CAROLYN I. MCCLELLAND (S)	12-04-11	90.00
11	MASON DIXON FARMS, LLC (S)	12-05-12	31.00

ADJOINING OWNERS TABLE			
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	ZACHARY M. BLAIR	09-21-13	11.00
B	ZACHARY M. BLAIR	09-21-14	3.00
C	MASON DIXON FARMS, LLC	09-21-22	1.80
D	CLINTON D. BLOSSER & ERIN K. BLOSSER	12-05-14	17.4375
E	HERBERT SIVERT, ET AL	12-04-29	17.0
F	RHODA C. SIVERT & CLEO M. SIVERT	12-04-10	14.75
G	SARAH V. RICHMOND	12-04-08	15.87
H	RHONDA C. SIVERT & CLEO M. SIVERT	12-04-07	19.25
I	RHONDA C. SIVERT & CLEO M. SIVERT	12-04-06	101.3

51-01940H6A

REVISIONS: ▲ REVISED LEASE BOUNDARY 08-01-2017 ▲ REVISED TVD & TMD 01-29-2018	COMPANY: <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div>	
OPERATOR'S WELL #: DISTRICT: MEADE	ARTHUR WARYCK UP MSH 7H COUNTY: MARSHALL STATE: WV	DATE: 06-12-2017 DRAWN BY: N. MANO SCALE: N/A DRAWING NO: WELL LOCATION PLAT 2

**JACKSON SURVEYING  
INC.**  
P.O. Box 1460  
877 W. Main St.  
Clarksburg, WV 26302  
304-623-5851



**NOTES ON SURVEY**

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

**LEGEND:**

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

**WELL OPERATOR:**  
SWN PRODUCTION COMPANY, LLC

**ADDRESS:**  
P.O. BOX 1300 JANE LEW, WV 26378

**SURFACE OWNER:**  
A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK

**WELL (FARM) NAME:**  
ARTHUR WARYCK UP MSH

**WELL #** 7H **SERIAL #**

**COUNTY - CODE**  
MARSHALL - 103

**DISTRICT;**  
MEADE

**USGS 7 1/2 QUADRANGLE MAP NAME**  
WILEYVILLE, WV

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  
 Arthur Waryck 7H  
 Marshall and Wetzel County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	Book/Page
1	9-21-10	723955-000	Charles W. Cain and Pearl Cain, his wife	The Manufacturers Light & Heat Company	12.50%	353/248
			The Manufacturers Light & 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
			Columbia Gas Transmission Corporation	Chesapeake Appalachia, L.L.C.		662/322
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110
2	12-5-1	726606-001	BRC Appalachian Minerals I, LLC and BRC Minerals LP	BRC Working Interest Company, LLC	12.875%	103A/320
			BRC Working Interest Company, LLC	Chesapeake Appalachia, L.L.C.		103A/470
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
2	12-5-1	723487-005	O.E. Burge, a married man dealing in his sole and separate property	Columbia Natural Resources, LLC	12.50%	84A/496
			Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
2	12-5-1	723487-004	Toni Jo Mason, a single woman	Chesapeake Appalachia, L.L.C.	12.50%	86A/508
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
2	12-5-1	723487-003	Twila Ora Whipkey, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	86A/500
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
2	12-5-1	723487-002	Jack R. Hammers, a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	86A/502
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
2	12-5-1	723487-001	Paul F. Hammers, a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	86A/504
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
2	12-5-1	723487-006	Erica M. Mason a/k/a Erica Mason, a single woman	Chesapeake Appalachia, L.L.C.	12.50%	100A/690
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
3	12-5-7	723446-001	O.E. Burge, a married man dealing in his sole and separate property	Columbia Natural Resources, LLC	12.50%	84A/601
			Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
3	12-5-7	723446-002	Earl R. Lendon and Eva R. Lendon, husband and wife	Columbia Natural Resources, LLC	12.50%	84A/585
			Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540

07610-15

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  
 Arthur Waryck 7H  
 Marshall and Wetzel County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	Book/Page
3	12-5-7	723446-003	Myrle E. Warner and Elsie J. Warner, husband and wife	Columbia Natural Resources, LLC	12.50%	84A/701
			Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
3	12-5-7	723446-004	Arthur J. Powell, by his AIF, Kimberly Fillmore and Lois J. Powell, his wife, by her AIF, Kimberly Fillmore	Chesapeake Appalachia, L.L.C.	12.50%	87A/391
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
3	12-5-7	723446-005	Homer L. Simmons and Gladys R. Simmons, husband and wife	Columbia Natural Resources, LLC	12.50%	84A/703
			Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446

SI-01946



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  
 Arthur Waryck 7H  
 Marshall and Wetzel County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	Book/Page
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
3	12-5-7	723446-006	Helen M. Reninger, widow Columbia Natural Resources, LLC	Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	12.50%	84A/687 402/446
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
3	12-5-7	723446-007	Anita Diane Antill, a/k/a Anita Diane Murphy, a married woman dealing in her sole and separate property and Lucinda R. Allen, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	86A/510
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
3	12-5-7	1-226342-003	Janet B. Long, a widow	Chesapeake Appalachia, L.L.C.	12.50%	86A/196
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		165A/673
3	12-5-7	722916-001	The Manufacturers Light & Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC	Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	12.50%	263/164 84A/129 402/446
			Columbia Gas Transmission Corporation	Chesapeake Appalachia, L.L.C.		90A/242
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		176A/747
4	12-5-8	723446-001	O.E. Burge, a married man dealin in his sole and separate property	Columbia Natural Resources, LLC	12.50%	84A/601
			Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
4	12-5-8	723446-002	Earl R. Lendon and Eva R. Lendon, husband and wife	Columbia Natural Resources, LLC	12.50%	84A/585
			Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
4	12-5-8	723446-003	Myrle E. Warner and Elsie J. Warner, husband and wife	Columbia Natural Resources, LLC	12.50%	84A/701
			Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
4	12-5-8	723446-004	Arthur J. Powell, by his AIF, Kimberly Fillmore and Lois J. Powell, his wife, by her AIF, Kimberly Fillmore	Chesapeake Appalachia, L.L.C.	12.50%	87A/391
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
4	12-5-8	723446-005	Homer L. Simmons and Gladys R. Simmons, husband and wife	Columbia Natural Resources, LLC	12.50%	84A/703
			Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540

SI-01940

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  
 Arthur Waryck 7H  
 Marshall and Wetzel County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	Book/Page
4	12-5-8	723446-006	Helen M. Reninger, widow	Columbia Natural Resources, LLC	12.50%	84A/687
			Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
4	12-5-8	723446-007	Anita Diane Antill, a/k/a Anita Diane Murphy, a married woman dealing in her sole and separate property and Lucinda R. Allen, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	86A/510
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540
4	12-5-8	1-226342-003	Janet B. Long, a widow	Chesapeake Appalachia, L.L.C.	12.50%	86A/196
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		165A/673
4	12-5-8	722916-001	The Manufacturers Light & Heat Company	Columbia Gas Transmission Corporation	12.50%	263/164
			Columbia Gas Transmission Corporation	Columbia Natural Resources, LLC		84A/129
			Columbia Natural Resources, LLC	Chesapeake Appalachia, L.L.C.		402/446
			Columbia Gas Transmission Corporation	Chesapeake Appalachia, L.L.C.		90A/242
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		157A/540

SI-D1940

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  
 Arthur Waryck 7H  
 Marshall and Wetzel County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	Book/Page
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		176A/747
5	12-5-13	724701-001	Durwin W. Miller and Deborah A. Miller, his wife Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	93A/921 157A/540
5	12-5-13	724701-002	Letha Bane, a married woman dealing in her sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	93A/927 157A/540
5	12-5-13	724701-003	Reed Miller, a married man dealing in his sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	93A/909 157A/540
5	12-5-13	724701-004	Touris Starc, a widow	Chesapeake Appalachia, L.L.C.	12.50%	93A/906

51-01946

51-01940



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

May 17, 2017

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: Arthur Waryck UP MSH 7H in Marshall County, West Virginia, Drilling under Co Hwy 21/10.

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 Co Hwy 21/10. 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, CPL  
Staff Landman  
SWN Production Company, LLC  
PO Box 12359  
Spring, TX 77391-2359

RECEIVED  
Office of Oil and Gas

JUN 14 2017

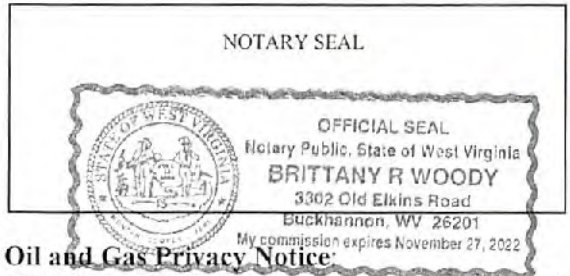
WV Department of  
Environmental Protection



**Certification of Notice is hereby given:**

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

Well Operator:	<u>SWN Production Co., LLC</u>	Address:	<u>P.O. Box 1300</u>
By:	<u>Dee Southall</u>		<u>Jane Lew, WV 26378</u>
Its:	<u>Regulatory Supervisor</u>	Facsimile:	<u>304-471-2479</u>
Telephone:	<u>304-884-1610</u>	Email:	<u>Dee_Southall@swn.com</u>



Subscribed and sworn before me this 17th day of May 2017.

Brittany R Woody Notary Public

My Commission Expires 11/27/22

**Oil and Gas Privacy Notice**

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

RECEIVED  
Office of Oil and Gas

JUN 14 2017

WV Department of  
Environmental Protection

**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:** 6/13/17 **Date Permit Application Filed:** 6/13/17

**Notice of:**

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

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

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

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

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

SURFACE OWNER(s)

Name: Arthur L. Waryck  
 Address: 910 Tomlinson Ave  
Glen Dale, WV 26038  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

COAL OWNER OR LESSEE

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

COAL OPERATOR

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

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

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

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

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

SURFACE OWNER(s) (Impoundments or Pits)

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

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

RECEIVED  
Office of Oil and Gas

\*Please attach additional forms if necessary

JUN 14 2017

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

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

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

**Notice of:**

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

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

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

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

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

SURFACE OWNER(s)

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

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

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

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

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

SURFACE OWNER(s) (Impoundments or Pits)

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

COAL OWNER OR LESSEE

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

COAL OPERATOR

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

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

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

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

\*Please attach additional forms if necessary

RECEIVED  
Office of Oil and Gas

JUN 14 2017



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

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

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

**Notice of:**

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

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

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

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

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

SURFACE OWNER(s)

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

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

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

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

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

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

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

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

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

SURFACE OWNER(s) (Impoundments or Pits)

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

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

COAL OWNER OR LESSEE

Name: Reserve Coal Company /

Address: 1000 Consol Energy Drive

Canonsburg, PA 15317

COAL OPERATOR

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

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

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

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

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

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

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

\*Please attach additional forms if necessary

RECEIVED  
Office of Oil and Gas

JUN 14 2017

WW-6A  
(8-13)

RECEIVED  
Office of Oil and Gas

JUN 14 2017

WV Department of  
Environmental Protection

API NO. 47-51 - 01940  
OPERATOR WELL NO. Arthur Waryck UP MSH 7H  
Well Pad Name: Arthur Waryck MSH Pad

**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

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

RECEIVED  
Office of Oil and Gas

JUN 14 2017

WV Department of  
Environmental Protection

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

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

**Comment Requirements**

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

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

**Permit Denial or Condition**

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

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

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

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

RECEIVED  
Office of Oil and Gas

JUN 14 2017

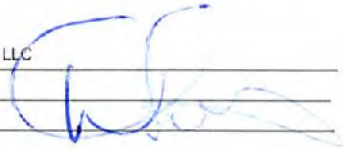
WV Department of  
Environmental Protection

WW-6A  
(8-13)

API NO. 47- 51 - 01940  
OPERATOR WELL NO. Arthur Waryck UH MSH 7H  
Well Pad Name: Arthur Waryck MSH Pad

**Notice is hereby given by:**

Well Operator: SWN Production Co., LLC  
Telephone: 832-795-1610  
Email: Dee\_Southall@swn.com



Address: P.O. Box 1300  
Jane Lew, WV 26378  
Facsimile: 304-471-2479

**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 [deprivacyofficer@wv.gov](mailto:deprivacyofficer@wv.gov).



Subscribed and sworn before me this 17th day of May 2017.  
Brittany R Woody Notary Public  
My Commission Expires 11/27/22

RECEIVED  
Office of Oil and Gas

JUN 14 2017

WV Department of  
Environmental Protection

Attachment #1

Arthur Waryck MSH Pad - Water Purveyors w/in 1500'

Sources

Landowner

Address

SCHOSTAG ANORAH C &  
RYAN U (IN CARE OF JANE  
HAFFER)  
WARYCK ARTHUR L &  
WARYCK A MICHAEL

PO BOX 795, NEW MARTINSVILLE WV 26155 1 WELL - ✓

910 TOMLINSON AVE, GLEN DALE WV 26038 1 WELL ✓

RECEIVED  
Office of Oil and Gas

JUN 14 2017

WV Department of  
Environmental Protection







51-01940



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

Jim Justice  
Governor

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

May 19, 2017

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 Arthur Waryck Pad, Marshall County

Arthur Waryck UP MSH 7H

47-051-01940

Dear Mr. Martin,

The West Virginia Division of Highways has assigned Permit #06-2009-0049 for the subject site to Southwestern Energy for access to the State Road for the well site located off of Marshall County Route 21/10 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

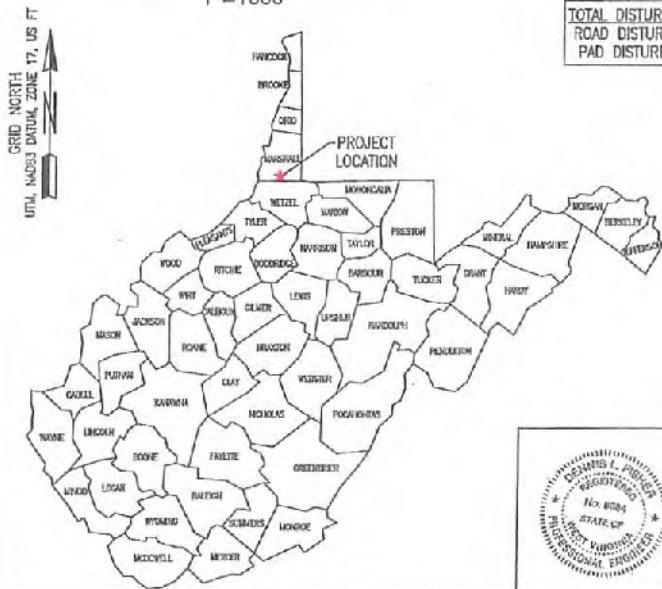
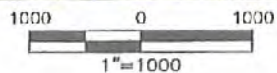
RECEIVED  
Office of Oil and Gas

JUN 14 2017

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
A264 (Schlumberger)	Corrosion Inhibitor	Methanol	67-56-1
		Aliphatic Acids	Proprietary
		Prop-2-yn-1-ol	107-19-7
		Aliphatic Alcohols, Ethoxylated #1	Proprietary
Myacide GA 25 (Schlumberger)	Biocide	Water	7732-18-5
		Glutaral	111-30-8
Scale Inhibitor B317 (Schlumberger)	Scale Inhibitor	Trisodium Ortho Phosphate	7601-54-9
		Ethane-1,2-diol	107-21-1
H215 (Schlumberger)	Hydrochloric Acid	Hydrochloric Acid	7647-01-0
J218 (Schlumberger)	Breaker	Diammonium Peroxidisulphate	7727-54-0
EB-Clean* J475 (Schlumberger)	Breaker	Diammonium Peroxidisulphate	7727-54-0
Water Gelling Agent J580 (Schlumberger)	Gel	Carbohydrate Polymer	Proprietary
Friction Reducer J609W (Schlumberger)	Friction Reducer	Ammonium Sulfate	7783-20-2
		Urea	57-13-6
Crosslinker J610 (Schlumberger)	Crosslinker	Potassium Hydroxide	1310-58-3
		Aliphatic Polyol	Proprietary
Iron Stabilizer L58 (Schlumberger)	Iron Stabilizer	Sodium Erythorbate	6381-77-7
40/70-Mesh Sand S012 (Schlumberger)	Sand	Crystalline Silica	14808-60-7
Sand S100 (Schlumberger)	Sand	Crystalline Silica	14808-60-7
EC6486A (Nalco Champion)	Scale Inhibitor	Amine Triphosphate	Proprietary
		Ethylene Glycol	107-21-1
SSA-2 (Halliburton)	Sand	Crystalline Silica	14808-60-7
FR-76 (Halliburton)	Friction Reducer	Inorganic salt	64742-47-8
		Hydrotreated light petroleum distillate	
LCA-1 (Halliburton)		Hydrotreated light petroleum distillate	Proprietary
SP BREAKER (Halliburton)	Breaker	Sodium Persulfate	7775-27-1

**ARTHUR WARYCK MSH PAD  
CONSTRUCTION AND RECLAMATION PLAN  
AS-BUILT  
MEADE DISTRICT, MARSHALL COUNTY, WV  
NOVEMBER 2016**



**MODIFIED LOD #1**  
TOTAL DISTURBED AREA: 9.8 ACRES  
ROAD DISTURBED AREA: 4.6 ACRES  
PAD DISTURBED AREA: 5.2 ACRES

**MODIFIED LOD #2**  
TOTAL DISTURBED AREA: 11.0 ACRES  
ROAD DISTURBED AREA: 4.6 ACRES  
PAD DISTURBED AREA: 6.4 ACRES

**COORDINATES:  
SITE ENTRANCE  
(NAD83)**  
LAT: 39.725435  
LONG: 80.662369

**AT WARYCK PAD  
(NAD83)**  
LAT: 39.723874  
LONG: 80.671505

**CENTER OF PAD  
(NAD83)**  
LAT: 39.724163  
LONG: 80.671900

**GATHERING AREA  
(NAD83)**  
LAT: 39.724786  
LONG: 80.664160

**WVDEP OOG  
ACCEPTED AS-BUILT**

*WJ* 4 / 12 / 2017

**EXISTING WELLS:  
WARYCK MSH 8H  
API:47-051-01275H  
(NAD83)**  
LAT: 39.724048  
LONG: 80.671901

**WARYCK MSH 8H  
API:47-051-01274H  
(NAD83)**  
LAT: 38.724084  
LONG: 80.671921

**WARYCK MSH 10H  
API:47-051-01273H  
(NAD83)**  
LAT: 39.724119  
LONG: 80.671940

**PROPOSED WELLS:  
WARYCK MSH 206H  
(NAD83)**  
LAT: 39.724013  
LONG: 80.671882

**SHEET INDEX**

- TS1. TITLE SHEET
- EP2.1 EVACUATION ROUTE/ PREVAILING WIND
- EP2.2 EVACUATION ROUTE/ PREVAILING WIND
- AS3.1 ASBUILT OVERVIEW
- AS3.2 ASBUILT
- AS3.3 ASBUILT
- AS3.4 ASBUILT
- AS3.5 ASBUILT
- AS3.6 ASBUILT
- AS3.6 ASBUILT
- ASR4.1 CONSTRUCTION AND RECLAMATION ACCESS ROAD PROFILE
- MRD5.1 RECLAMATION PLAN OVERVIEW
- MRD5.2 RECLAMATION PLAN
- MRD5.3 RECLAMATION PLAN
- MRD5.4 RECLAMATION PLAN
- MRD5.5 RECLAMATION PLAN
- MRD5.6 RECLAMATION PLAN
- MRD6.3 DETAILS
- MRD6.4 DETAILS

REVISION	DATE
ADDED LOD AREA BY PAD	12-16-2016
RELOCATED TOPSOIL PILES	01-26-2017

**WEST VIRGINIA 811**  
CALL BEFORE YOU DIG! Dial 811 or 800.245.4848  
www.WV811.com

**SWN**  $R^2 \rightarrow V^+$   
A Production Company™

Dennis L. Misner P.E. 8084  
*Dennis L. Misner*  
 Date: 01-26-2017

**Jackson Surveying Inc.**  
 TITLE SHEET  
 TS.1  
 SOUTHWESTERN PRODUCTION COMPANY LLC.  
 ARTHUR WARYCK MSH PAD  
 MEADE DISTRICT, MARSHALL COUNTY, WV  
 NOVEMBER 08, 2016

