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west virginia department of environmental protection

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

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

Wednesday, April 1, 2026  
WELL WORK PERMIT  
Horizontal 6A / New Drill

EXPAND OPERATING LLC  
6100 N WESTERN AVE.

OKLAHOMA CITY, OK 73118

Re: Permit approval for Michael Southworth MSH 1010H  
47-051-02573-00-00

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.

A handwritten signature in black ink, appearing to read 'Jason Harmon', is written over a white background.

H. Jason Harmon  
Acting Chief

Operator's Well Number: Michael Southworth MSH 1010H  
Farm Name: Barry A & Kimberly S Litman  
U.S. WELL NUMBER: 47-051-02573-00-00  
Horizontal 6A New Drill  
Date Issued: 4/1/2026

# 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.

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## 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. 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. Also, 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.
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.

04/03/2026

WW-6B  
(04/15)API NO. 47-051 -  
OPERATOR WELL NO. Michael Southworth MSH 1010H  
Well Pad Name: Michael Southworth MSH

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

- 1) Well Operator: Expand Operating LLC 494533012 051-Marshall 6-Sandhi 648-Valley Grove  
Operator ID County District Quadrangle
- 2) Operator's Well Number: Michael Southworth MSH 1010H Well Pad Name: Michael Southworth MSH
- 3) Farm Name/Surface Owner: Barry A. & Kimberly S. Litman Public Road Access: Walnut Grove Road
- 4) Elevation, current ground: 1271' Elevation, proposed post-construction: 1210'
- 5) Well Type (a) Gas  Oil  Underground Storage   
Other   
(b) If Gas Shallow  Deep   
Horizontal
- 6) Existing Pad: Yes or No Yes
- 7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Target Formation- Marcellus, Down-Dip well to the South, Target Top TVD- 6408', Target Base TVD- 6459', Anticipated Thickness- 51', Associated Pressure- 4185
- 8) Proposed Total Vertical Depth: 6489'
- 9) Formation at Total Vertical Depth: Marcellus
- 10) Proposed Total Measured Depth: 24,554'
- 11) Proposed Horizontal Leg Length: 16,044.57'
- 12) Approximate Fresh Water Strata Depths: 633'
- 13) Method to Determine Fresh Water Depths: Depth reported from nearby well
- 14) Approximate Saltwater Depths: 1404' salinity profile
- 15) Approximate Coal Seam Depths: 764'
- 16) Approximate Depth to Possible Void (coal mine, karst, other): None that we are aware of.
- 17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes  No
- (a) If Yes, provide Mine Info: Name: Ohio County Coal Mine  
Depth: 764'  
Seam: Pittsburgh  
Owner: Ohio County Coal Resources/ACNR Inc.

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*Stu Low*  
STRADER LOWE  
2/17/2024

WW-6B  
(04/15)

API NO. 47- 051 -  
OPERATOR WELL NO. Michael Southworth MSH 1010H  
Well Pad Name: Michael Southworth MSH

18)

**CASING AND TUBING PROGRAM**

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	J-55	94#	136'	136'	CTS
Fresh Water	13 3/8"	New	J-55	54.4#	814'	814'	938 sx/CTS
Coal	See	Surface	Casing				
Intermediate	9 5/8"	New	J-55	36#	2037'	2037'	778 sx/CTS
Production	5 1/2"	New	P-110 HP	20#	24554'	24554'	Tail 4562sx/ 100' Inside Intermediate
Tubing							
Liners							

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

**PACKERS**

Kind:				
Sizes:				
Depths Set:				

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*Shk Gower*  
STRADER GOWER  
2/17/2026

WW-6B  
(10/14)

API NO. 47- 051 - \_\_\_\_\_

OPERATOR WELL NO. Michael Southworth MSH 1010H

Well Pad Name: Michael Southworth MSH

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

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

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

Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This will be performed in stages with the plug and perf method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. In some instances, additional toe prep may be performed by pumping additional water in the toe of the well prior to perforating and pumping Stage 1 to ensure that the toe guns/toe sleeves are fully open prior to pumping stage 1. The well is produced through surface facilities consisting of high pressure production units, horizontal separation units, water and oil storage tanks. Max press and anticipated max rate- 12,500 psi @ 100 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 15.85

22) Area to be disturbed for well pad only, less access road (acres): 8.44

23) Describe centralizer placement for each casing string:

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

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

See Attachment \*\*\*

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25) Proposed borehole conditioning procedures:

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

\*Note: Attach additional sheets as needed.

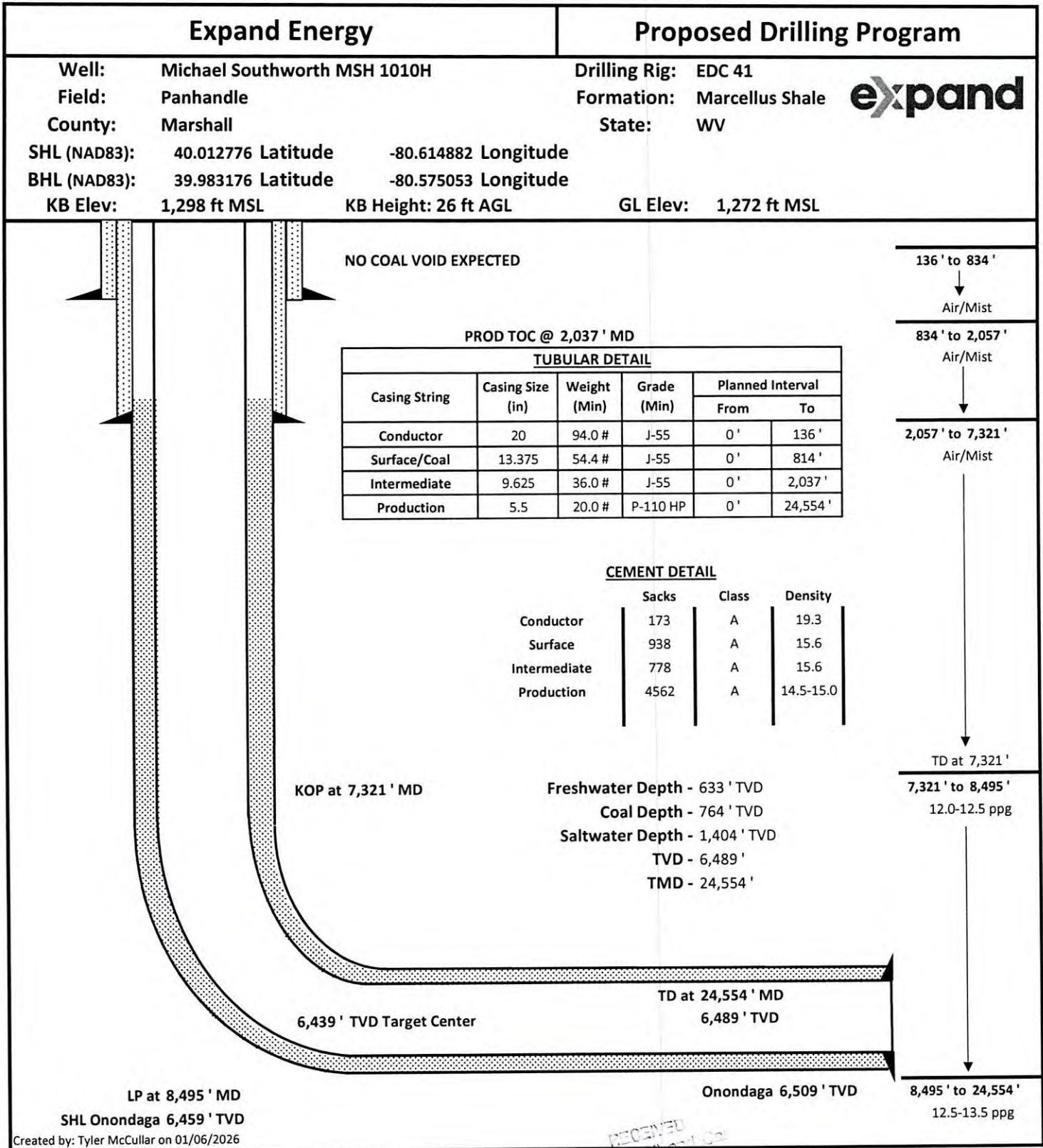
CEMENT ADDITIVES						
INTERVAL	SCHLUMBERGER PRODUCT NAME	BJ PRODUCT NAME	NEXTier PRODUCT NAME	PRODUCT USE	CHEMICAL NAME	CAS-Number
SURFACE (FRESHWATER) <small>up to 3%</small>	<del>XXXXXXXXXX</del>	INTEGRA SEAL	CJ600	LOST CIRC MATERIAL	CELLOPHANE FLAKES	9005-81-6
	S001	A-7P	0110	ACCELERATOR	CALCIUM CHLORIDE	10043-52-4
COAL PROTECTION <small>up to 3%</small>	<del>XXXXXXXXXX</del>	INTEGRA SEAL	0600	LOST CIRC MATERIAL	CELLOPHANE FLAKES	9005-81-6
	S001	A-7P	CJ10	ACCELERATOR	CALCIUM CHLORIDE	10043-52-4
INTERMEDIATE	D020	BENTONITE	CJ020	EXTENDER	BENTONITE	1302-78-9
	0047	FP 28L	<del>XXXXXXXXXX</del>	LIQUID ANTIFOAM AGENT	POLYPROPYLENE GLYCOL	25322-69-4
	<del>XXXXXXXXXX</del>	INTEGRA SEAL	CJ600	LOST CIRC MATERIAL	CELLOPHANE FLAKES	9005-81-6
	CemNet	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	LOST CIRC MATERIAL	COATED FIBERGLASS FIBERS	PROPRIETARY
	SUGAR	SUGAR	CJ795	CMT RETARDER	SUCROSE	57-50-1
	S001	A-7P	CJ110	ACCELERATOR	CALCIUM CHLORIDE	10043-52-4
PRODUCTION	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	CJ11	ACCELERATOR	SODIUM CHLORIDE	7440-23-5
	<del>XXXXXXXXXX</del>	55-IIW	0880	SURFACTANT	NONIONIC SURFACTANT	6540-99-4
	DO47	FP 28L	<del>XXXXXXXXXX</del>	LIQUID ANTIFOAM AGENT	POLYPROPYLENE GLYCOL	25322-69-4
	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	OX157011	SOLID ANTIFOAM AGENT	FULLERS EARTH(ATTAPULGITE)	8031-18-3
	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	CJ540	HP FLUID LOSS ADDITIVE	ALIPHATICAMIDE POLYMER	PROPRIETARY
	0255	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	MED TEMP FLUID LOSS ADDITIVE	POLYACRILIC POLYMER	PROPRIETARY
	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	CJ213	RETARDER	CHRYSTALLINE SILICA	14808-60-7
	<del>XXXXXXXXXX</del>	FL-66	0501	LOW TEMP FLUID LOSS ADD	POWDERED POLYSACCHARIDE	PROPRIETARY
	<del>XXXXXXXXXX</del>	BENTONITE	CJ020	EXTENDER	BENTONITE	1302-78-9
	D208	ASA-301	<del>XXXXXXXXXX</del>	VISCOFI FIER/ANTI- SETTLING AGENT	REFINED POLYMER/ CHRYSTALLINE SILICA	PROPRIETARY
	D198	R-3	<del>XXXXXXXXXX</del>	CEMENT RETARDER	LIGNIN	8068-51-6
	SUGAR	SUGAR	CJ795	CEMENT RETARDER	SUCROSE	57-50-1
	D065	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	DISPERSANT	SODIUM POLYNAPHTHALENE SULFONATE	8068-51-6
D800	<del>XXXXXXXXXX</del>	<del>XXXXXXXXXX</del>	CEMENT RETARDER (Mid-Temperature)	SODIUM LIGNOSULFONATE	8061-51-6	

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**Expand Energy**

**Proposed Drilling Program**

Well: Michael Southworth MSH 1010H  
 Field: Panhandle  
 County: Marshall  
 SHL (NAD83): 40.012776 Latitude -80.614882 Longitude  
 BHL (NAD83): 39.983176 Latitude -80.575053 Longitude  
 KB Elev: 1,298 ft MSL KB Height: 26 ft AGL

Drilling Rig: EDC 41  
 Formation: Marcellus Shale  
 State: WV  
 GL Elev: 1,272 ft MSL



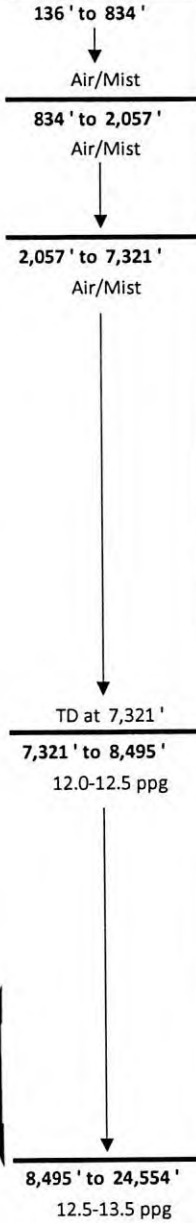
NO COAL VOID EXPECTED

PROD TOC @ 2,037' MD

TUBULAR DETAIL					
Casing String	Casing Size (in)	Weight (Min)	Grade (Min)	Planned Interval	
				From	To
Conductor	20	94.0 #	J-55	0'	136'
Surface/Coal	13.375	54.4 #	J-55	0'	814'
Intermediate	9.625	36.0 #	J-55	0'	2,037'
Production	5.5	20.0 #	P-110 HP	0'	24,554'

**CEMENT DETAIL**

	Sacks	Class	Density
Conductor	173	A	19.3
Surface	938	A	15.6
Intermediate	778	A	15.6
Production	4562	A	14.5-15.0



Freshwater Depth - 633' TVD  
 Coal Depth - 764' TVD  
 Saltwater Depth - 1,404' TVD  
 TVD - 6,489'  
 TMD - 24,554'

KOP at 7,321' MD

6,439' TVD Target Center

TD at 24,554' MD  
 6,489' TVD

LP at 8,495' MD  
 SHL Onondaga 6,459' TVD

Onondaga 6,509' TVD

Created by: Tyler McCullar on 01/06/2026

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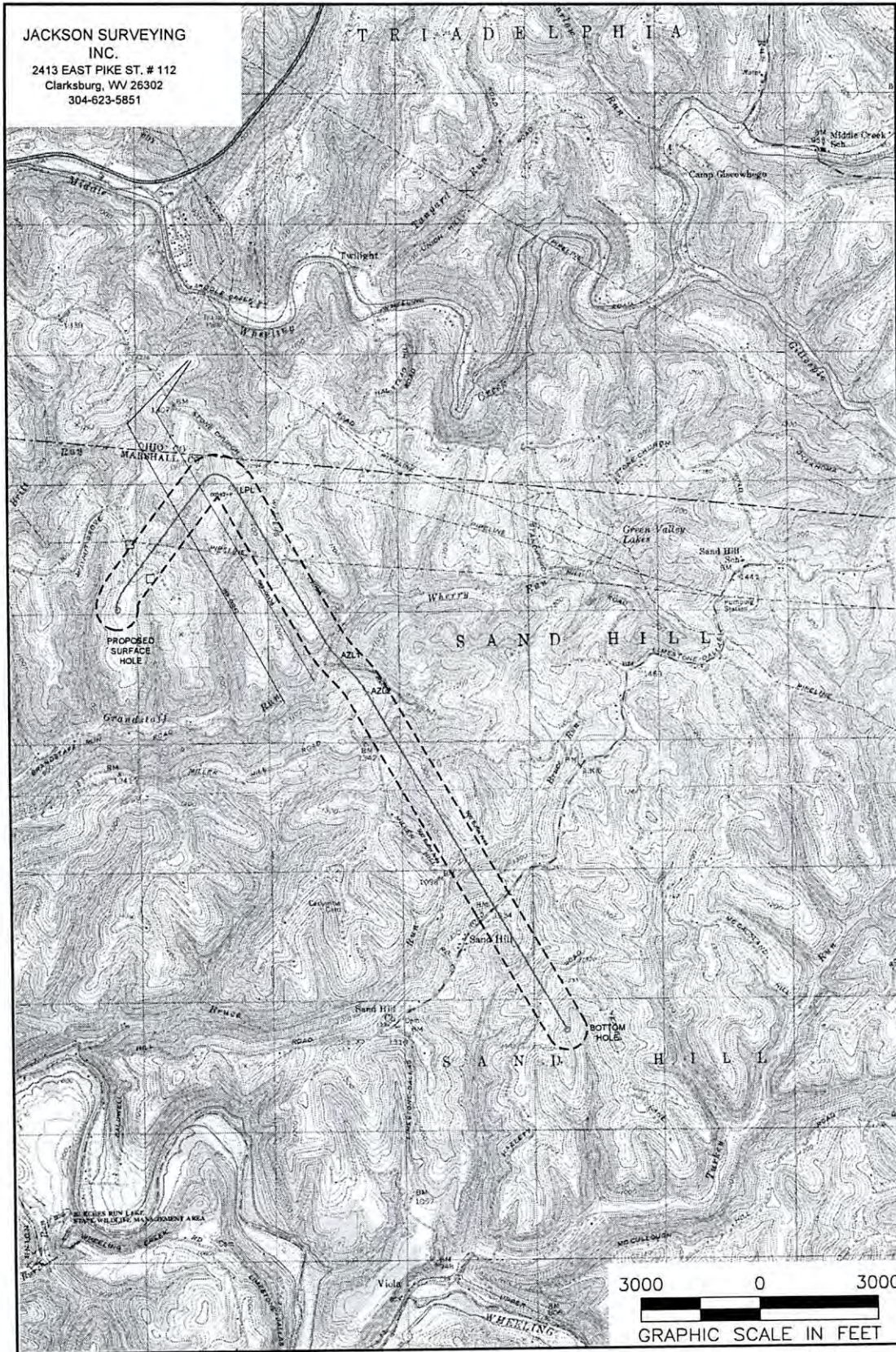
*Stacy Gower*  
 STRADER GOWER  
 2/12/2026

04/03/2026

API #	Operator	Status	Latitude	Longitude	Vertical TD	Producing Formation	Producing Zones Not Perforated
051-00552	WEST VIRGINIA LAND RESOURCES, INC.	Plugged	40.020954	-80.604498	2,458'	Big Ingun	***
051-00126	EXPAND OPERATING LLC	Active	40.030031	-80.607954	6,416'	Marcellus	***
051-00247	EXPAND OPERATING LLC	Active	40.029949	-80.608026	6,306'	Marcellus	***

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



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

**LEGEND:**  
 ○ PROPOSED SURFACE HOLE / BOTTOM HOLE  
 ⊗ EXISTING / PRODUCING WELLHEAD  
 LPLx LANDING POINT LOCATION  
 ◊ FLOOD FLAIN

— ACCESS ROAD  
 - - - PUBLIC ROAD  
 - - - ACCESS ROAD TO PREV. SITE  
 = = = LEASE BOUNDARY  
 - - - PROPOSED PATH

<b>WELL OPERATOR:</b> EXPAND OPERATING LLC	<b>WELL (FARM) NAME:</b> MICHAEL SOUTHWORTH MSH	<b>WELL #</b> 1010H	<b>SERIAL #</b>
<b>ADDRESS:</b> 1300 FORT PIERPONT RD, SUITE 200 MORGANTOWN, WV 26508	<b>COUNTY - CODE</b> MARSHALL - 051	<b>DISTRICT:</b> SANDHILL	
<b>SURFACE OWNER:</b> BARRY A. & KIMBERLY S. LITMAN	<b>USGS 7 1/2 QUADRANGLE MAP NAME</b> VALLEY GROVE, WV	<b>API #:</b> 47-051-	

01/29/2026

WW-9  
(4/16)

API Number 47 - 051 - \_\_\_\_\_  
Operator's Well No. Michael Southworth MSH 1010H

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

**FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN**

Operator Name Expand Operating LLC OP Code 494533012

Watershed (HUC 10) Grandstaff Run of Wheeling Creek Quadrangle Vally Grove

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

Will a pit be used? Yes  No

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

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

Proposed Disposal Method For Treated Pit Wastes:

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

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

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

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

Additives to be used in drilling medium? Attachment 3B

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

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

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

Apex Sanitary Landfill U6-U8438, BROOKE CO SWF-1013, FMS 353100

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

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

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

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

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Subscribed and sworn before me this 11 day of January 2026, 20\_\_\_\_

*Elizabeth Blankenship*

Notary Public

My commission expires 6/23/2029



Expand Operating LLC

Proposed Revegetation Treatment: Acres Disturbed 15.85 Prevegetation pH \_\_\_\_\_

Lime as determined by pH test min.2 Tons/acre or to correct to pH 8.44

Fertilizer type 10-20-20

Fertilizer amount 600/500 lbs/acre

Mulch Hay/Straw Tons/acre

Seed Mixtures

**Temporary**

**Permanent**

Seed Type lbs/acre

Seed Type lbs/acre

Attachment 3C

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: STRADER LOWER

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

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Title: Oil & Gas Inspector

Date: 2/17/2026

Field Reviewed?  Yes  No

04/03/2026

## Attachment 3A

## CLOSED LOOP SYSTEM

The closed loop system is designed to eliminate the use of reserve pits by providing a higher level of solids control processing and using steel pits for capture of drill cuttings. The cuttings are then processed to achieve landfill requirements before hauling to approved landfills. The liquids are processed to recycle into the active mud system or to transfer to onsite temporary storage as needed.

The closed loop system consists of a Shale Gas Separator, several banks of solids shakers, high speed centrifuges (1 or 2) used to process the fluid portion of the mud system to remove low gravity solids, low speed centrifuge used for barite recovery in highly weighted liquid drilling systems, a dewatering system (for air intervals and if freshwater mud systems are in use) used to further clean liquids by flocculation and additional mechanical separation, associated open top tanks for processing liquids and capturing solids for disposal, and transfer pumps to move fluids through the processes. There is an area adjacent to the cuttings tanks (Red Zone) where a track hole is utilized to recover the processed cuttings for loading into containers for haul off to an approved landfill site. (See attached schematic of a generic closed loop system layout)

Below are discussions of the processes used when drilling the air interval or liquids interval.

## AIR DRILLING INTERVALS

During air drilling operations, flow from the rig will pass down the flowline to the Shale Gas Separator where gas and liquids/solids are separated. Gas is sent to the flare scrubber tank and is flared at the flare stack. Solids and fluids pass across a shaker system to separate solids from liquids. Solids pass into the cuttings tanks where they are captured for drying and hauloff to an approved landfill site. Liquids fall into a shaker tank and are collected by a centrifugal pump to be processed by the high speed centrifuge to further separate liquids and solids. Solids are then dumped into the cuttings tank for drying and hauloff. Liquids are further processed to remove additional low gravity solids before being reused or transferred to onsite storage.

## LIQUIDS DRILLING (FRESHWATER, BRINE, SOBM)

When drilling is converted to liquids drilling, the Shale Gas Separator and associated shaker tank are bypassed, and the liquids system is processed over the primary and drying shaker systems. Cuttings drop into the cuttings tank for additional processing. Any recoverable associated liquids attached to the cutting are recovered out the tank and processed through the low gravity (high speed) and barite recovery centrifuges (low speed) to further remove low gravity solids and to recover barite for reuse in the mud systems.

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3.10.2025  
04/03/2026



## Drilling Mediums

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

Air

Freshwater (if needed based on conditions)

### Intermediate/Coal (if present)

Air

Freshwater (if needed based on conditions)

Brine (if needed, base fluid for mud systems)

### Production Hole:

Air

Synthetic Oil (Base Fluid for mud system)

Barite

Calcium Chloride

Lime

Organophilic Bentonite

Primary and Secondary Emulsifiers

Gilsonite

Calcium Carbonate

Friction Reducers

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## WVD Seeding Specification

To Order Seed contact John Dubowski office 304-209-5741 cell 346-773-6078 john.dubowski@expandenergy.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%	All legumes are innoculated at 5x normal rate
White Clover	5%	
Birdsfoot Trefoil	5%	
Rough Bluegrass	5%	
<p>Apply @ 100lbs per acre April 16th- Oct. 14th</p>		<p>Apply @ 200lbs per acre Oct. 15th- April 15th PLUS 50lbs per acre of Winter Wheat</p>

### 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 Expand supervision at the beginning of the project to allow time for special seed delivery.

### ORGANIC PROPERTIES

Seed Mixture: Expand Production Organic Mix	Expand Supplied	
Organic Timothy	50%	
Organic Red or White Clover	50%	
OR		
Organic Perennial Ryegrass	50%	
Organic Red or White Clover	50%	
<p>Apply @ 100lbs per acre April 16th- Oct. 14th</p>		<p>Apply @ 200lbs per acre Oct. 15th- April 15th</p>
Organic Fertilizer @ 200lbs per Acre		Pelletized Lime @ 2 Tons per Acre

### WETLANDS (delineated as jurisdictional wetlands)

Seed Mixture: Wetland Mix	Expand 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%	
<p>Apply @ 25lbs per acre April 16th- Oct. 14th</p>		<p>Apply @ 50lbs per acre Oct. 15th- April 15th</p>

NO FERTILIZER OR LIME INSIDE WETLAND LIMITS

# MARCELLUS WELL DRILLING PROCEDURES AND WELL SITE SAFETY PLAN



Expand Energy  
1300 Fort Pierpont Drive, Suite 201  
Morgantown, West Virginia 26508

**API NO. 47-XXX-XXXXX**  
**WELL NAME: Michael Southworth MSH 1010H**  
**Valley Grove QUAD**  
**Sandhill DISTRICT**  
**MARSHALL COUNTY, WEST VIRGINIA**

Submitted by:

Name: Brittany Woody

Date: 1/6/2026

Title: Senior Regulatory Analyst

Expand Energy

Approved by:

Name: STRADER COWER

Date: 2/17/2026

Title: OIL & GAS INSPECTOR

Approved by:

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

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

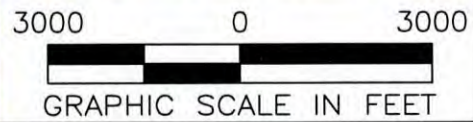
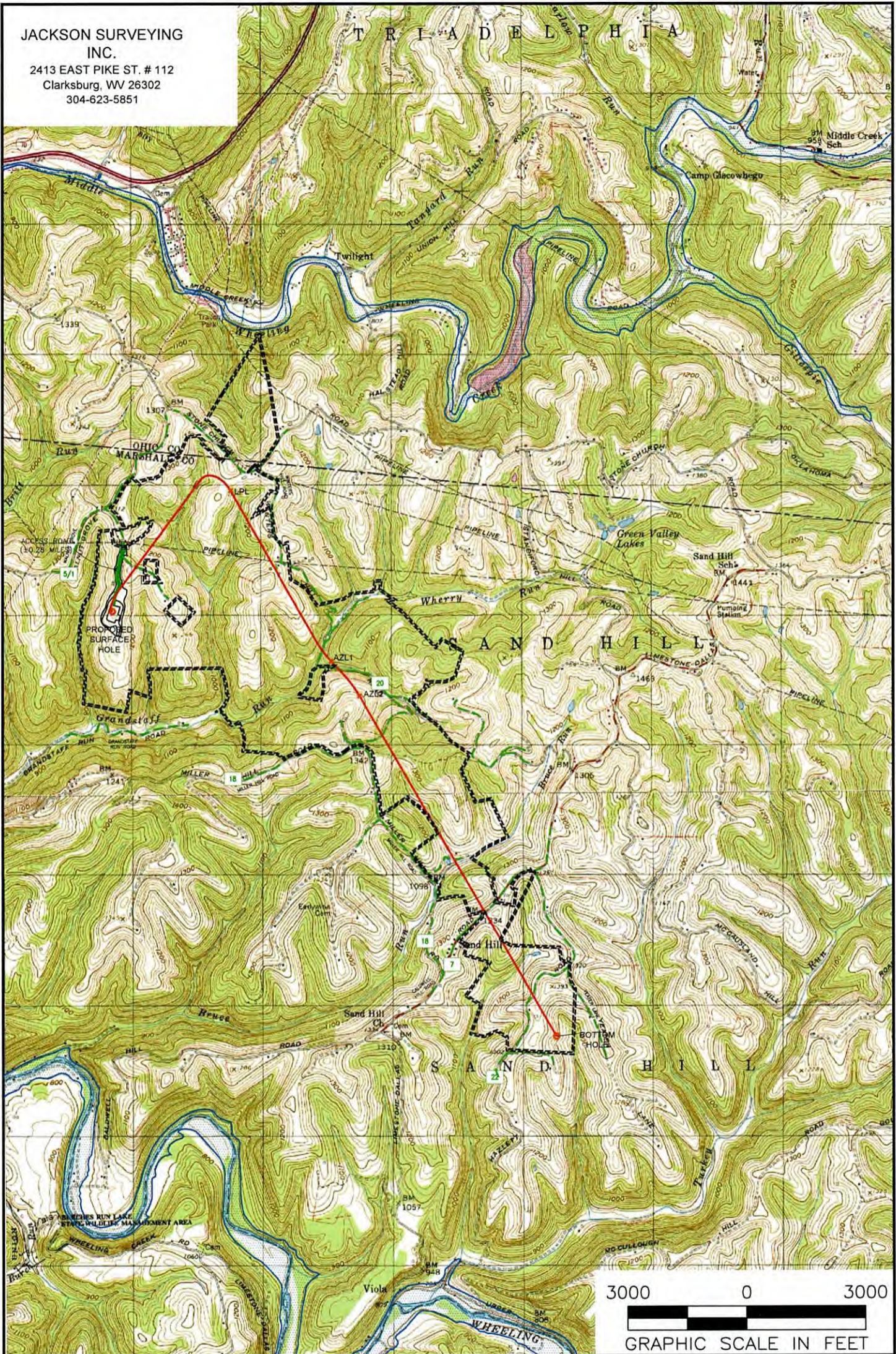
Title: \_\_\_\_\_

Expand Energy – CONFIDENTIAL

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Office of Oil and Gas  
FEB 27 2026  
WV Department of  
Environmental Protection

04/03/2026

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



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

**LEGEND:**  
 PROPOSED SURFACE HOLE / BOTTOM HOLE  
 EXISTING / PRODUCING WELLHEAD  
 LPL\* LANDING POINT LOCATION  
 FLOOD PLAIN  
 PUBLIC ROAD  
 ACCESS ROAD TO PREV. SITE  
 LEASE BOUNDARY  
 PROPOSED PATH

04/03/2026

WELL OPERATOR: EXPAND OPERATING LLC	WELL (FARM) NAME: MICHAEL SOUTHWORTH MSH	WELL # 1010H	SERIAL #
ADDRESS: 1300 FORT PIERPONT RD. SUITE 200 MORGANTOWN, WV 26508	COUNTY - CODE MARSHALL - 051	DISTRICT; SANDHILL	
SURFACE OWNER: BARRY A. & KIMBERLY S. LITMAN	USGS 7 1/2 QUADRANGLE MAP NAME VALLEY GROVE, WV	API #: 47-051-02573	

Latitude: 40°02'30"

SURFACE HOLE 8,833'

Latitude: 40°00'00"

BOTTOM HOLE 9,354'

JACKSON SURVEYING INC.

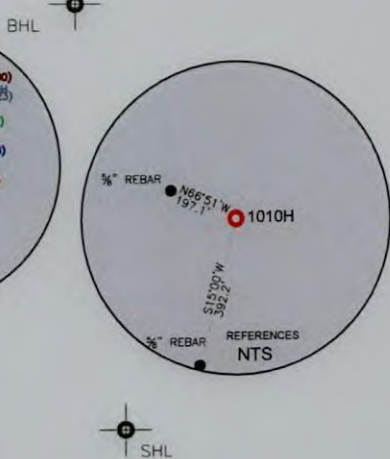
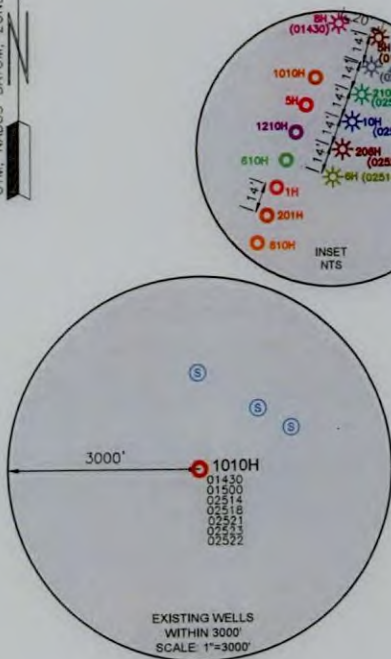
2413 EAST PIKE ST. # 112  
Clarksburg, WV 26302  
304-623-5851

<b>SURFACE HOLE LOCATION (SHL):</b>
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,429,246.275 EASTING: 532,867.474
<b>LANDING POINT (LPL):</b>
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,430,172.009 EASTING: 533,777.496
<b>BOTTOM HOLE LOCATION (BHL):</b>
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,425,976.429 EASTING: 536,282.347

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 10°58'17" E	1688.23'	SHL TO LANDMARK	5/8" REBAR FOUND
L2	N 46°11'46" E	1138.93'	SHL TO LANDMARK	NAIL @ FENCE INT.

LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L3	N 44°30'35" E	4258.93'	5005.98'	SHL TO LPL

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



WELL RESTRICTIONS

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

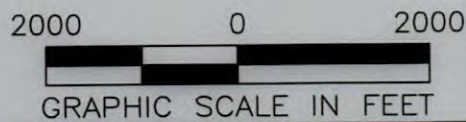
NOTES ON SURVEY

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

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

P.S. 708

David L Jackson



COMPANY: **expand**

	(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS	MINIMUM DEGREE OF ACCURACY: 1/200	MICHAEL SOUTHWORTH MSH
	WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	PROVEN SURVEY SOURCE OF ELEVATION: GRADE GPS (NAVD 88, US FT)	OPERATOR'S WELL #: 1010H API WELL #: 47 STATE, 051 COUNTY, 02573 PERMIT

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

WATERSHED: GRANDSTAFF RUN OF WHEELING CREEK (HUC-10) ELEVATION: 1271.2'

DISTRICT: SANDHILL COUNTY: MARSHALL QUADRANGLE: VALLEY GROVE, WV

SURFACE OWNER: BARRY A. & KIMBERLY S. LITMAN ACREAGE: ±159.776

OIL & GAS ROYALTY OWNER: BARRY A. & KIMBERLY S. LITMAN ACREAGE: ±159.776

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

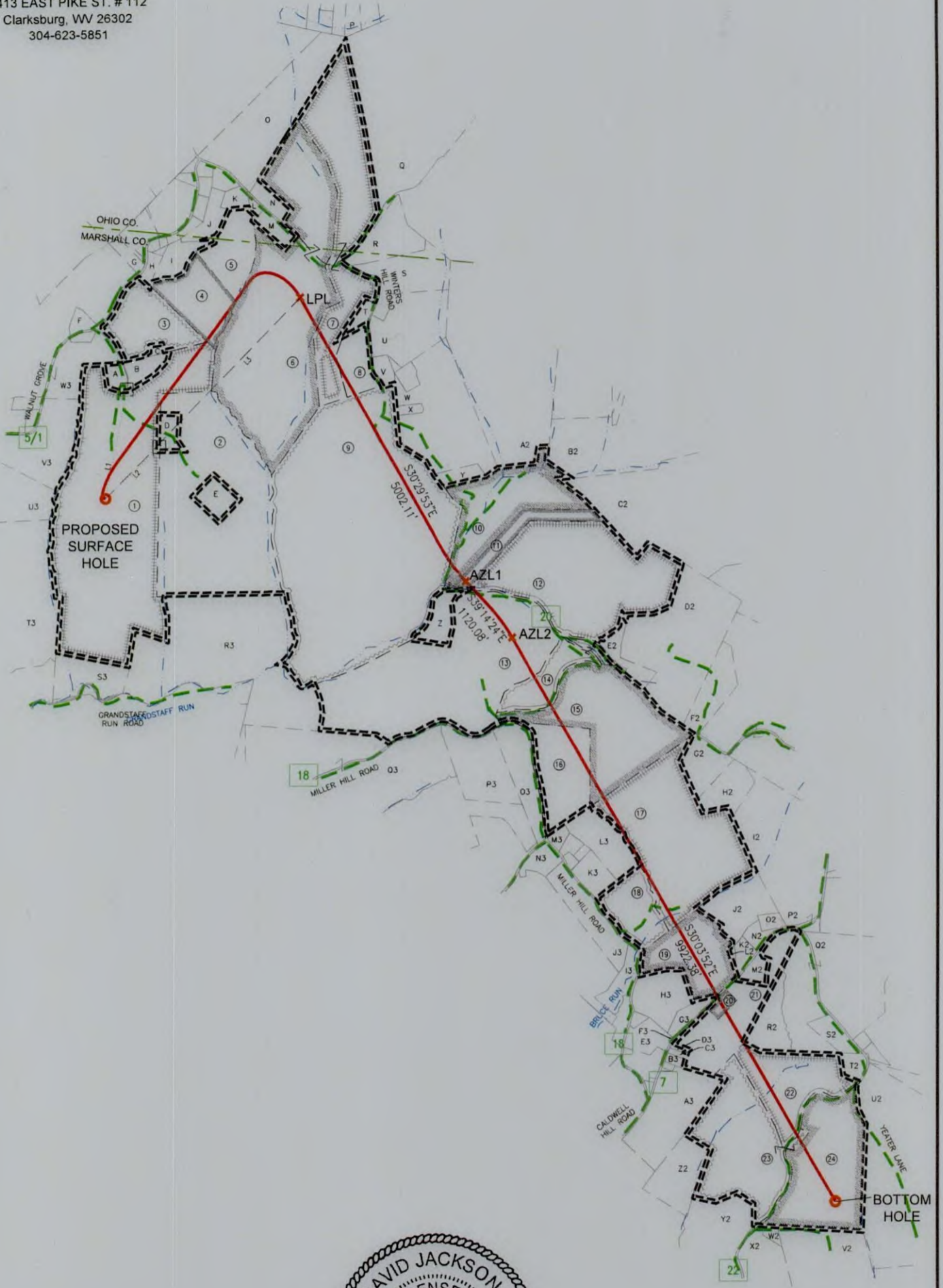
CONVERT  PLUG & ABANDON  CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY) **04/03/2026**

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 6,489 TVD 24,554 TMD

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

<b>LEGEND:</b> ○ PROPOSED SURFACE HOLE / BOTTOM HOLE * EXISTING / PRODUCING WELLHEAD LPL * LANDING POINT LOCATION (W) EXISTING WATER WELL (S) EXISTING SPRING	— SURVEYED BOUNDARY — DRILLING UNIT = = = LEASE BOUNDARY — PROPOSED PATH	<b>REVISIONS:</b> DATE: 01-29-2026 DRAWN BY: N. MANO SCALE: 1" = 2000' DRAWING NO: WELL LOCATION PLAT
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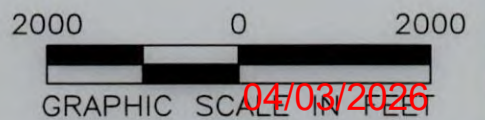
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P.S. 708

*David L Jackson*



04/03/2026

REVISIONS:		COMPANY:			
		OPERATOR'S MICHAEL SOUTHWORTH MSH		API #:	DATE: 01-29-2026
		WELL #: 1010H		47-051-02573	DRAWN BY: N. MANO
		DISTRICT: SANDHILL	COUNTY: MARSHALL	STATE: WV	SCALE: N/A
				DRAWING NO:	
				WELL LOCATION PLAT 2	


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

WELL BORE TRACTS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	LITMAN BARRY A & KIMBERLY S (S/R)	12-2-10
	SURFACE OWNER (S)	TAX PARCEL
2	REINEKE RICHARD S (S)	12-2-9
3	VELLENOWETH SCOTT U ET UX (S)	12-2-1.1
4	BLATT THERESA L (S)	12-2-23
5	BLATT THERESA L (S)	6-T18-19
6	BAIRD FAMILY TRUST (S)	12-2-2
7	BAIRD FAMILY TRUST (S)	6-T18-6
8	MCFARLAND DANIEL W & VICKI L (S)	12-2-24
9	TUBAUGH NORMA HUNTER ET AL (S)	12-2-5
10	GANTZER GREGORY (S)	12-3-12
11	GANTZER GREGORY (S)	12-3-11.1
12	MCVICKER R G JR (S)	12-3-11
13	TOTH JOHN J SR & ALICE J REVOCABLE TRUST (S)	12-8-1
14	TOTH JOHN J SR & ALICE J REVOCABLE TRUST (S)	12-8-11
15	TOTH JOHN J SR & ALICE J REVOCABLE TRUST (S)	12-8-12
16	TOTH JOHN J SR & ALICE J REVOCABLE TRUST (S)	12-8-9.1
17	KILGORE JAMES E ET UX - LIFE (S)	12-8-13
18	HUNTER-BOCK SALLY A (S)	12-8-14.3
19	OHIO COUNTY COAL RESOURCES INC (S)	12-8-15
20	KIGER BRANDY LYNN (S)	12-8-16.2
21	MERINAR HOWARD ET AL (S)	12-8-16
22	MERINAR MICHAEL L & VICKI L (S)	12-12-1.2
23	MERINAR BRIAN M (S)	12-12-1
24	MERINAR TIMOTHY R & ANGELA D (S)	12-12-1.3

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	RADCLIFFE JOHN D & ANNA M	12-2-10.1
B	LITMAN BARRY A	12-2-10.2
C	LITMAN BARRY A & KIMBERLY S	12-2-1.2
D	GREGORY DONNA R - TOD	12-2-9.1
E	REINEKE RICHARD S	12-2-9.2
F	LITMAN JAMES L ET UX - TOD	12-2-1
G	LIEBERS CHRISTOPHER J	12-2-19
H	SEIDLER ROBERT T ET UX	12-2-17
I	BLATT THERESA L	12-2-22
J	BLATT THERESA L	6-T18-20
K	BLATT THERESA	6-T18-18
L	BLATT THERESA L	6-T18-33
M	MCCREARY STEWART LEE & MCCREARY SHERRY	6-T18-35
N	SZYMALIS STANLEY	6-T18-34
O	BLATT THERESA L	6-T18-17
P	FITZSIMMONS DAVID H & B K	6-T13-5.9
Q	GLAUSER CHAD R	6-T18-7
R	TUBAUGH CHAD ERIC	12-3-1.2
S	TUBAUGH JOHN D & CANDY L	12-3-1.1
T	GANTZER GREGORY	12-2-25
U	TUBAUGH NORMA J	12-3-1
V	MCFARLAND DANIEL W JR	12-2-4.1
W	HUNTER RODNEY J	12-3-14
X	HUNTER MARILYN DARLENE	12-3-14.2
Y	MCFARLAND BRIAN MATTHEW	12-3-12.1
Z	PARKER PETER	12-2-6
A2	MCNINCH NEIL L ET AL; C/O MCNINCH MICHAEL	6-T18-10
B2	ESTEP JERRY R ET AL	12-3-2
C2	THOMAS J W ET UX	12-3-9
D2	TOTH JOHN J SR & ALICE - TRUST	12-7-1
E2	LYNSKEY JOHN T	12-3-10
F2	TOTH JOHN J SR & ALICE - TRUST	12-7-2
G2	HUNTER GARY P	12-7-21
H2	TOTH JOHN J ET UX - TRUST	12-7-20
I2	HILLBERRY GARRY L ET UX	12-7-18
J2	GARRISON DAN R & SANDRA ET AL	12-8-15.6
K2	GARRISON DAN R ET AL	12-8-15.5
L2	CONSOLIDATION COAL COMPANY MURRAY ENERGY C/O LAND DEPT	12-8-15.7
M2	MERINAR MICHAEL S & JAMIE K	12-8-16.1
N2	GARRISON SANDRA L	12-8-15.2
O2	GARRISON SANDRA L	12-8-15.4
P2	HILLBERRY GARRY L ET UX	12-7-18
Q2	MERINAR HOWARD ET AL	12-7-16
R2	MERINAR HOWARD ET AL	12-7-15
S2	MERINAR MICHAEL S & JAMIE K	12-7-16.1
T2	MERINAR JAMIE K	12-12-1.1
U2	MERINAR HOWARD L & MARY LOU	12-12-2
V2	HOFFMAN DALE E ET UX	12-12-14
W2	HAZLETT JAMES BENTON	12-11-14.1
X2	HAZLETT JAMES BENTON	12-11-14
Y2	ULLOM BRIAN KEITH & SARAH ANN	12-11-14.3
Z2	STORCH JOSEPH WILLIAM ET UX	12-11-13
A3	STORCH LOIS M - TOD	12-11-12.2
B3	MCCARDLE CLIFFORD B	12-8-20
C3	MCCARDLE CLIFFORD B	12-8-19
D3	MCCARDLE CLIFFORD B	12-8-18
E3	STORCH LOIS M	12-8-25
F3	STORCH LOIS M	12-8-17
G3	HELLSTERN JOHN J JR ET UX	12-8-15.1
H3	STORCH LOIS M	12-8-15.3
I3	FONNER TRAVIS R & STACEY L	12-8-27
J3	FONNER TRAVIS R & STACEY L	12-8-28
K3	WINTERS DAVID L - LIFE	12-8-14.2
L3	WINTERS DAVID L - LIFE	12-8-14
M3	RICHEY BRANDON WAYNE	12-8-14.4
N3	SCHULTZ CHARLES E IRREVOCABLE TRUST	12-8-29.1
O3	GODDARD THERESA M	12-8-9
P3	GODDARD THERESA M	12-8-8
Q3	TOTH JOHN J SR & ALICE - TRUST	12-8-4
R3	TDL&G LLC	12-2-8
S3	G F P CORP	12-2-12
T3	WV BRIGHTMONT LLC	12-2-14
U3	EDGE WILLIAM F JR - TOD ET AL	12-2-15
V3	EDGE WILLIAM F JR - TOD ET AL	12-2-16
W3	GIZA ALEXANDER C & CHRISTOPHER C	12-2-16.1

\*Highlighted Parcels may be impacted during drilling.

04/03/2026

REVISIONS:	COMPANY:		
	OPERATOR'S MICHAEL SOUTHWORTH MSH	API #:	DATE: 01-29-2026
	WELL #:	47-051-02573	DRAWN BY: N. MANO
	DISTRICT: SANDHILL	COUNTY: MARSHALL	SCALE: N/A
		STATE: WV	DRAWING NO:
			WELL LOCATION PLAT 3

WW-6A1  
(5/13)

Operator's Well No. Michael Southworth MSH 1010H

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

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

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

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

RECEIVED  
Office of Oil and Gas

FEB 27 2026

WV Department of  
Environmental Protection

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

\*Horizontal well unit utilization - Subject to unitization filing with the West Virginia Oil and Gas Conservation Commission.

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

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

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

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

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

Well Operator: Expand Operating, LLC  
By: Julia Wynne  
Its: Staff Landman

EXHIBIT "A" Michael Southworth MSH 1010H Marshall County, West Virginia Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WV-6A1, by Expand Operating LLC, Operator						
#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG	% INTEREST NOT LEASED BY EXPAND APPALACHIA LLC
1	12-2-10	Robert B. Elliott, married, dealing in his sole and separate property	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	676/179 33/110 1094/490	0%
		Mable L. Riggle, widow	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	722/602 33/110 1094/490	
		Elm Grove United Methodist Church	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	722/606 33/110 1094/490	
		Salvation Army	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	723/110 33/110 1094/490	
		Dolores E. Williams, divorced	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	723/382 33/110 1094/490	
		Gregory Williams, single	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	723/376 33/110 1094/490	
2	12-2-9	Richard S. Reineke and Charlene R. Reineke, husband and wife	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	676/341 33/110 1094/490	0%
3	12-2-1.1	Scott U. Vellenoweth and Christina S. Vellenoweth	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	789/371 33/110 1094/490	0%
4	12-2-23	Theresa L. Blatt	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	725/569 27/386 1094/490	0%
5	6-T18-19	Theresa L. Blatt	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	827/501 883/303 1094/490	0%
6	12-2-2	Betty Idle Baird	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	718/407 33/110 1094/490	0%
7	6-T18-6	Betty Idle Baird	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	844/750 883/303 1094/490	0%
8	12-2-24	Daniel McFarland and Vicki L. McFarland	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	685/160 33/110 1094/490	0%
9	12-2-5	Norma M. Hunter Tubaugh	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	673/538 33/110 1094/490	0%
10	12-3-12	Daniel William McFarland and Vicki L. McFarland	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	684/271 33/110 1094/490	0%
11	12-3-11.1	Daniel William McFarland and Vicki L. McFarland	Chesapeake Appalachia, LLC SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	684/271 33/110 1094/490	0%
12	12-3-11	R.G. McVicker, Jr. and Patricia L. McVicker	Noble Energy, Inc. CNX Gas Company, LLC HG Energy II Appalachia, LLC Antero Appalachia II LLC (subject to unitization filing dated 2/11/2026)	N/A	850/290 35/1 39/1, 37/169 2/535	100%
13	12-8-1	Peggy Sue Mowder	Great Lakes Energy Partners, L.L.C. Chesapeake Appalachia, L.L.C. SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	655/85 23/368 33/110 1094/490	0%
		Carl W. Goddard, Jr. and John Harvey Goddard, Sr.	Great Lakes Energy Partners, L.L.C. Chesapeake Appalachia, L.L.C. SWN Production Company Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	655/354 23/368 33/110 1094/490	
		Sandhill Land Ventures, LP	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1178/52 1094/490	
14	12-8-11	Sandhill Land Ventures, LP, by Sandhill Land Company, LLC, GP	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1203/533 1094/490	0%
15	12-8-12	Sandhill Land Ventures, LP, by Sandhill Land Company, LLC, GP	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1203/533 1094/490	0%
16	12-8-9.1	Sandhill Land Ventures, LP, by Sandhill Land Company, LLC, GP	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1203/533 1094/490	0%

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#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG	% INTEREST NOT LEASED BY EXPAND APPALACHIA LLC
17	12-8-13	James E. Kilgore and Phyllis L. Kilgore; Heather L. Sells, Holly L. Kilgore	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1222/449 1094/490	0%
18	12-8-14.3	Sally Stollar, f/k/a Sally Hunter-Bock	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1218/405 1094/490	0%
19	12-8-15	CNX Gas Company LLC	Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1258/647	0%
20	12-8-16.2	Brandy Lynn Kiger	Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1251/268	0%
		Austin Wilson	Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1251/307	
21	12-8-16	Michael L. Merinar and Vicki L. Merinar	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1222/57 1094/490	0%
		Howard L. Merinar	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1222/512 1094/490	
		Bounty Minerals, LLC	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1229/298 1094/490	
22	12-12-1.2	Michael L. Merinar and Vicki L. Merinar	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1222/57 1094/490	0%
23	12-12-1	Brian Merinar	TH Exploration, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1136/374 54/238	0%
24	12-12-1.3	Timothy R. Merinar and Angela D. Merinar	TH Exploration, LLC (subject to unitization filing dated 2/11/2026)	N/A	1136/663	100%
R2	12-7-15	Michael L. Merinar and Vicki L. Merinar	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1222/57 1094/490	0%
		Howard L. Merinar	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1222/512 1094/490	
		Bounty Minerals, LLC	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1229/298 1094/490	
G3	12-8-15.1	Royalty Owner (subject to unitization filing dated 2/11/2026)	N/A	N/A	N/A	100%
L3	12-8-14	David L. Winters; Mindy S. Travis and Tina M. Bowman	SWN Production Company, LLC Expand Appalachia LLC	at least 1/8th per WW Code §22-6-8	1216/573 1094/490	0%
<p>*Co-tenancy utilization - At least 75% of the royalty owners have consented to the lawful use or development of the oil or natural gas mineral property on the tract. The interests of the remaining co-tenants will be secured pursuant to the Co-tenancy</p> <p>*Horizontal well unit utilization - Subject to unitization filing with the West Virginia Oil and Gas Conservation Commission.</p> <p>*Potentially Impacted Parcels - Parcels that may be impacted during drilling.</p>						
End of Exhibit "A"						

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*Click here to enter text.*

January 22, 2026

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

**RE:** Expand's proposed New Well: Michael Southworth MSH 1010H in Marshall County, West Virginia, Drilling under Walnut Grove Road, Winters Hill Road, Locust Grove Road, Sand Hill Road, and Haxlett Hill Road.

Dear Mr. Brewer:

Expand Operating LLC ("Expand") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to Expand's right to drill under Walnut Grove Road, Winters Hill Road, Locust Grove Road, Sand Hill Road, and Haxlett Hill Road. Please be advised that Expand has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Julia Wynne".

Julia Wynne  
Sr. Staff Landman  
Expand Operating LLC

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**Expand Energy Corporation**

Insert street address / Insert city, state, zip

Insert office phone / m: Insert mobile phone / Insert email address

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WW-6AC  
(1/12)

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

Date of Notice Certification: 2/20

API No. 47- 051 - \_\_\_\_\_  
Operator's Well No. Michael Southworth MSH 1010H  
Well Pad Name: Michael Southworth MSH

**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>532,867.474</u>
County: <u>051-Marshall</u>	UTM NAD 83 Northing: <u>4,429,246.275</u>
District: <u>Sandhill</u>	Public Road Access: <u>Walnut Grove Road</u>
Quadrangle: <u>Valley Grove</u>	Generally used farm name: <u>Michael Southworth MSH</u>
Watershed: <u>Grandstaff Run of Wheeling 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.

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:  *PLEASE CHECK ALL THAT APPLY		<b>OOG OFFICE USE ONLY</b>
<input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED		<input type="checkbox"/> RECEIVED/ NOT REQUIRED
<input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED		<input checked="" type="checkbox"/> RECEIVED
<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  <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)		<input type="checkbox"/> RECEIVED/ NOT REQUIRED
<input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION	RECEIVED Office of Oil and Gas  FEB 27 2026  WV Department of Environmental Protection	<input checked="" type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 5. PUBLIC NOTICE		<input checked="" type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		<input checked="" type="checkbox"/> RECEIVED

**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.

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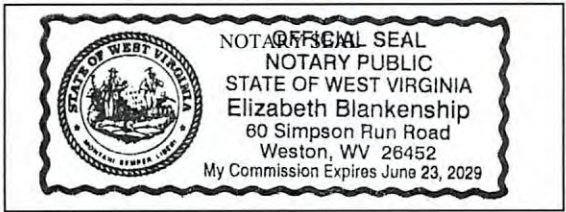
WW-6AC  
(1/12)

**Certification of Notice is hereby given:**

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

Well Operator:	<u>Expand Operating LLC</u>	Address:	<u>1300 Fort Pierpont Dr., Suite 201</u>
By:	<u>Brittany Woody</u>		<u>Morgantown, WV 26508</u>
Its:	<u>Senior Regulatory Analyst</u>	Facsimile:	<u>304-884-1690</u>
Telephone:	<u>304-209-5688</u>	Email:	<u>Brittany.Woody@expandenergy.com</u>

*Brittany Woody*



Subscribed and sworn before me this 11 day of January 2024  
*Elizabeth Blankenship* Notary Public  
 My Commission Expires 6/23/2029

**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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**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:** 2/26 **Date Permit Application Filed:** 2/26

**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: Barry A. Litman & Kimberly S. Litman  
Address: 202 Elliots Lane  
Wheeling WV 26003

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: ACNR, Inc Attn: Steve Bair  
Address: 46226 National Road  
St. Clairsville OH 43950

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

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

Name: See Attachment 13A  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

\*Please attach additional forms if necessary

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(8-13)

API NO. 47- 051 -  
OPERATOR WELL NO. Michael Southworth MSH 10  
Well Pad Name: Michael Southworth MSH

**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 WY Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Well Location Restrictions**

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

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(8-13)

API NO. 47- 051 -  
OPERATOR WELL NO. Michael Southworth MSH 10  
Well Pad Name: Michael Southworth MSH

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.**

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**Time Limits and Methods for Filing Comments.**

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

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

**Comment Requirements**

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

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

**Permit Denial or Condition**

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

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

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

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

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04/03/2026

**Notice is hereby given by:**

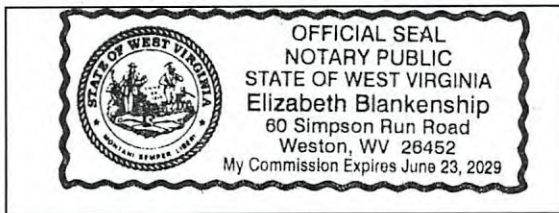
Well Operator: Expand Operating LLC  
Telephone: 304-209-5688  
Email: Brittany.Woody@expandenergy.com



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

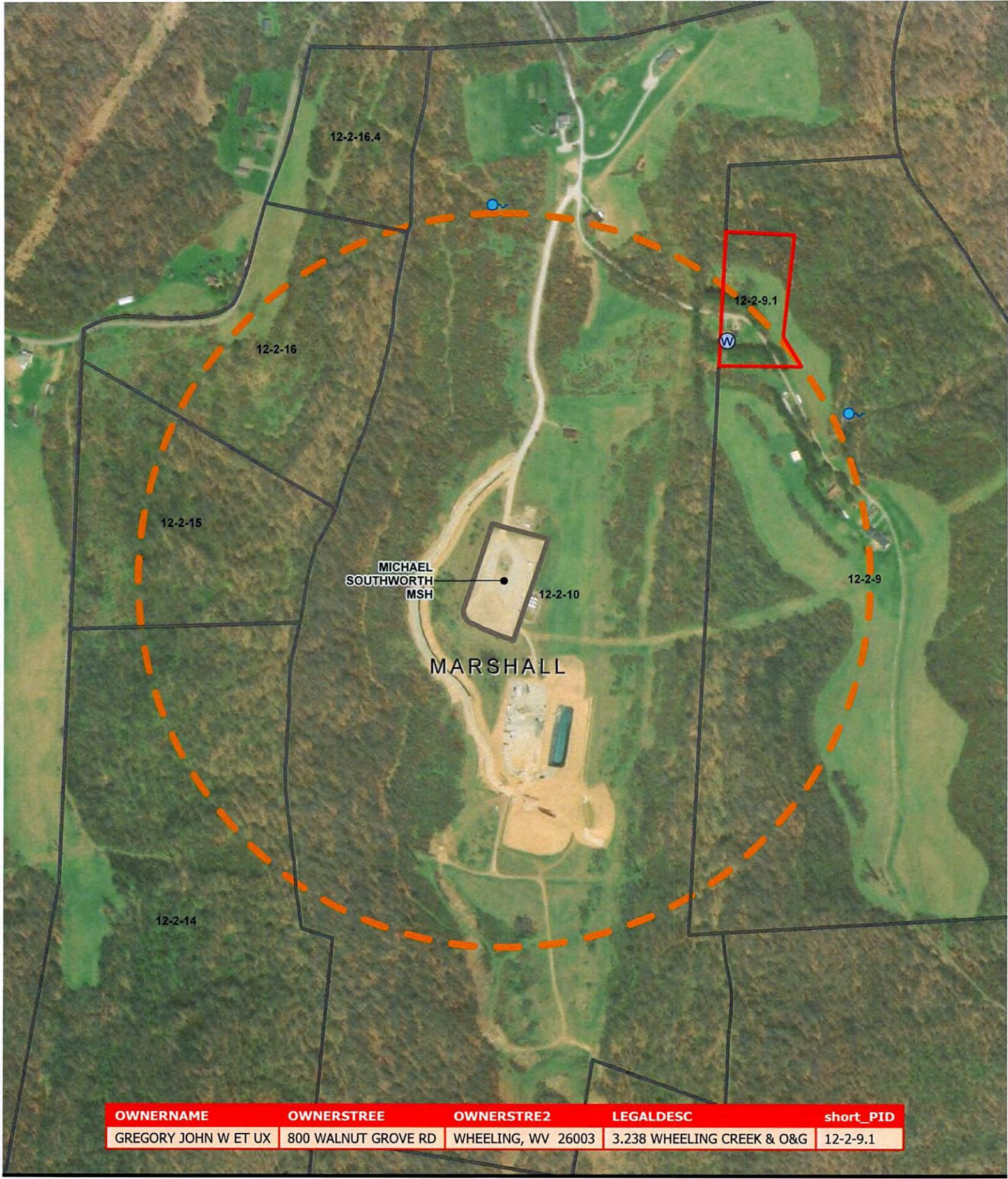
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Subscribed and sworn before me this 11 day of January 2026  
Elizabeth Blankenship Notary Public  
My Commission Expires 6/23/2029

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WV Department of  
Environmental Protection



OWNERNAME	OWNERSTREE	OWNERSTRE2	LEGADESC	short_PID
GREGORY JOHN W ET UX	800 WALNUT GROVE RD	WHEELING, WV 26003	3.238 WHEELING CREEK & O&G	12-2-9.1

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.

# Water Purveyor Map



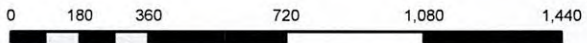
- Water Sources
- Type
  - Spring
  - Water Well
  - Pond
  - 1500 ft Buffer

**WELL PAD:**  
**Michael Southworth MSH**

**COUNTY:**  
**MARSHALL**

04/03/2026

Scale: 1:6,033



Owner Name	Address	PID	Source
Gregory John W ET UX	800 Walnut Grove Road Wheeling WV 26003	12-2-9.1	W

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WV Department of  
Environmental Protection

WW-6A3  
(1/12)

Operator Well No. Michael Southworth MSH

**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:** 12/18/2025      **Date of Planned Entry:** 12/25/2025

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

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

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**Notice is hereby provided to:**

SURFACE OWNER(s)

Name: Barry A. Lilman & Kimberly S. Litman  
Address: 202 Elliotts Lane  
Wheeling, WV 26003

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

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

COAL OWNER OR LESSEE

Name: ACNR Inc Attn: Steve Bair  
Address: 46226 National Road  
St. Clairsville, OH 43950      RECEIVED  
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MINERAL OWNER(s)

Name: Robert B. Elliott  
Address: 1081 West Alexander Road  
Valley Grove, WV 26060      FEB 27 2026  
WV Department of Environmental Protection

\*please attach additional forms if necessary

**Notice is hereby given:**

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State:	<u>West Virginia</u>	Approx. Latitude & Longitude:	<u>40.019920, -80.615190</u>
County:	<u>Marshall</u>	Public Road Access:	<u>Walnut Grove</u>
District:	<u>Sandhill</u>	Watershed:	<u>Grandstaff Run of Wheeling Creek</u>
Quadrangle:	<u>Valley Grove</u>	Generally used farm name:	<u>Michael Southworth MSH</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:	<u>SWN PRODUCTION COMPANY, LLC</u>	Address:	<u>1300 Fort Pierpont Dr., Suite 201</u>
Telephone:	<u>304-884-1610</u>		<u>Morgantown, WV 26508</u>
Email:	<u>Brittany_Woody@swn.com</u>	Facsimile:	<u>304-884-1690</u>

**Oil and Gas Privacy Notice:**

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04/03/2026

WW-6A3  
(1/12)

Operator Well No. Michael Southworth MSH

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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:** 3/1/2024      **Date of Planned Entry:** 3/8/2024

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

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

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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: Salvation Army, Wheeling  
Address: 1555 King Street  
Alexandria VA 22314  
\*please attach additional forms if necessary

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WV Department of  
Environmental Protection

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Quadrangle: <u>Valley Grove</u>	Generally used farm name: <u>Michael Southworth MSH</u>

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**Notice is hereby given by:**

Well Operator: <u>SWN PRODUCTION COMPANY, LLC</u>	Address: <u>1300 Fort Pierpont Dr., Suite 201</u>
Telephone: <u>304-884-1610</u>	<u>Morgantown, WV 26508</u>
Email: <u>Brittany_Woody@swn.com</u>	Facsimile: <u>304-884-1690</u>

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**04/03/2026**

WW-6A3  
(1/12)

Operator Well No. Michael Southworth MSH

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

COAL OWNER OR LESSEE  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

MINERAL OWNER(s)  
Name: Pikewood Energy Corporation  
Address: 4000 Combs Farm Drive  
Morgantown WV 26508  
\*please attach additional forms if necessary

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**FEB 27 2026**  
WV Department of  
Environmental Protection

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District: <u>Sandhill</u>	Watershed: <u>Grandstaff Run of Wheeling Creek</u>
Quadrangle: <u>Valley Grove</u>	Generally used farm name: <u>Michael Southworth MSH</u>

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Telephone: <u>304-884-1610</u>	<u>Morgantown, WV 26508</u>
Email: <u>Brittany_Woody@swn.com</u>	Facsimile: <u>304-884-1690</u>

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**04/03/2026**

WW-6A3  
(1/12)

Operator Well No. Michael Southworth MSH

**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:** 12/15/2025      **Date of Planned Entry:** 12/25/2025

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

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

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**Notice is hereby provided to:**

SURFACE OWNER(s)

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

COAL OWNER OR LESSEE

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

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**FEB 27 2026**

MINERAL OWNER(s)

Name: Coombs Resources Corporation, an Ohio Corporation  
Address: 4000 Coombs Farm Road, Suite 106  
Morgantown WV 26508  
\*please attach additional forms if necessary

WV Department of  
Environmental Protection

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**Notice is hereby given by:**

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

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

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**04/03/2026**

WW-6A3  
(1/12)

Operator Well No. Michael Southworth MSH

**STATE OF WEST VIRGINIA**  
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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: Elm Grove United Methodist Church  
Address: 125 Kruger St  
Wheeling WV 26003  
\_\_\_\_\_

\*please attach additional forms if necessary

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Office of Oil and Gas  
  
**FEB 27 2026**  
  
WV Department of  
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Email: <u>Brittany_Woody@swn.com</u>	Facsimile: <u>304-884-1690</u>

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**04/03/2026**

WW-6A3  
(1/12)

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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: Mable L. Riggle  
Address: 1284 Dry Ridge Road  
Cameron, WV 26033

\*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>40.019920, -80.615190</u>
County:	<u>Marshall</u>	Public Road Access:	<u>Walnut Grove</u>
District:	<u>Sandhill</u>	Watershed:	<u>Grandstaff Run of Wheeling Creek</u>
Quadrangle:	<u>Valley Grove</u>	Generally used farm name:	<u>Michael Southworth MSH</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: Brittany\_Woody@swn.com

Address: 1300 Fort Pierpont Dr., Suite 201  
Morgantown, WV 26508  
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).

04/03/2026

WW-6A4  
(1/12)

Operator Well No. M. SOUTHWORTH MSH 1010H

**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:** 02/17/2026 **Date Permit Application Filed:** 2/26

**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: Barry A. Litman & Kimberly S. Litman  
Address: 202 Elliotts Lane  
Wheeling, WV 26003

Name: \_\_\_\_\_  
Address: \_\_\_\_\_ **RECEIVED**  
**Office of Oil and Gas**  
**FEB 27 2026**

**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>532,867.474</u>
County: <u>Marshall</u>	Northing: <u>4,429,246.275</u>
District: <u>Sandhill</u>	Public Road Access: <u>Grandstaff Run</u>
Quadrangle: <u>Valley Grove, WV</u>	Generally used farm name: <u>Michael Southworth</u>
Watershed: <u>Grandstaff Run of Wheeling Creek (HUC-10)</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: Expand Energy Company, LLC  
Address: 1300 Fort Pierpont Dr., Suite 201  
Morgantown, WV 26508  
Telephone: (304) 209-5685  
Email: steve.pauley@expandenergy.com  
Facsimile: \_\_\_\_\_

Authorized Representative: Steven Pauley  
Address: 1300 Fort Pierpont Dr., Suite 201  
Morgantown, WV 26508  
Telephone: (304) 209-5685  
Email: steve.pauley@expandenergy.com  
Facsimile: \_\_\_\_\_

**Oil and Gas Privacy Notice:**

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

04/03/2026





**WEST VIRGINIA  
DEPARTMENT OF TRANSPORTATION**

Michael J. DeMers  
Deputy Secretary of Transportation

1900 Kanawha Boulevard East • Building Five • Room 109  
Charleston, West Virginia 25305-0440 • (304) 558-0444

Stephen T. Rumbaugh, P.E.  
Secretary of Transportation  
Commissioner of Highways

October 6, 2025

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 Michael Southworth Well Pad, Marshall County**  
**Michael Southworth MSH 1H Well Site**  
**Michael Southworth MSH 5H Well Site**  
**Michael Southworth MSH 201H Well Site**  
**Michael Southworth MSH 610H Well Site**  
**Michael Southworth MSH 810H Well Site**  
**Michael Southworth MSH 1010 Well Site**

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2011-0026 which has been transferred to Expand Operating, LLC for access to the State Road for a well site located off Marshall County Route 5/1 SLS MP 0.193.

This operator is in compliance with §22-6A-20 of the WV Code. Operator has signed a STATEWIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated March 6, 2023. This letter is valid for permitting purposes for one year from the date of this letter.

Very Truly Yours,

Lacy D. Pratt  
Central Office O&G Coordinator

RECEIVED  
Office of Oil and Gas

FEB 27 2026

WV Department of  
Environmental Protection

Cc: Brittany Woody  
SWN Production Company, LLC  
OM, D-6  
File

## Attachment VI Frac Additives

Product Name	Product Use	Chemical Name	CAS Number
HCL	Solvent	Hydrochloric Acid	7647-01-0
		Water	7732-18-5
FSTI-CI-02	Corrosion Inhibitor	2-Butoxyethanol	111-76-2
		Ethylene glycol	107-21-1
		N,N-Dimethylformamide	68-12-2
		benzyl chloridequaternized	72480-70-7
		Cinnamaldehyde	104-55-2
		Isopropyl alcohol	67-63-0
		Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)- .omega.-hydroxy-	9016-45-9
		1-Decanol	112-30-1
		1-Octanol	111-87-5
		Triethyl phosphate	78-40-0
Ferriplex 80	Iron Control	Sodium Erythorbate	6381-77-7
Tolicide 4Frac	Biocide	Tetrakis(Hydroxymethyl) Phosphonium Sulfate	55566-30-8
		Quaternary ammonium compounds	68424-85-1
		Ethanol	64-17-5
		Water	7732-18-5
Plexslick 930	Friction Reducer	Hydrotreated Petroleum Distillate	64742-47-8
		Water	7732-18-5
		copolymer of 2-propenamide	69418-26-4
		Oleic Acid Diethanolamide	93-83-4
		Alcohol Ethoxylate Surfactants	68551-12-2
		Ammonium Chloride	12125-02-9
		Sodium Chloride	7647-14-5
Plexaid 655NM	Scale Inhibitor	ORGANIC PHOSPHONIC ACIDS SALTS	15827-60-8
		Water	7732-18-5
Plexslick V996	Friction Reducer	Hydrotreated Petroleum Distillate	64742-47-8
		Water	7732-18-5
		copolymer of 2-propenamide	69418-26-4
		Alcohol Ethoxylate Surfactants	68551-12-2
		Sodium Chloride	7647-14-5
Plexaid 655WG	Scale Inhibitor	ORGANIC PHOSPHONIC ACIDS SALTS	15827-60-8
		Water	7732-18-5
		Glycerin	67-56-1
Clearal 270	Biocide	Glutaraldehyde	111-30-8
		Didecyldimethylammonium Chloride	7173-51-5
		Quaternary Ammonium compounds, Benzyl-C12-C16-alkyldimethyl, Chlorides	68424-85-1
		Ethanol	64-17-5
		Water	7732-18-5
StimSTREAM SC 398 CW	Scale Inhibitor	Ethylene glycol	107-21-1
		CHEMSTREAM-Polymer-10001	CHEMSTREAM-Polymer-10001
		CHEMSTREAM-Polymer-10002	CHEMSTREAM-Polymer-10002
		Water	7732-18-5
StimSTREAM FR 9800	Friction Reducer	Chemstream-Alkane-00001	Chemstream-Alkane-00001
		Chemstream-Polymer-00001	Chemstream-Polymer-00001
		Ethoxylated alcohols (C12-16)	68551-12-2
		Water	7732-18-5
StimSTREAM FR 2800	Friction Reducer	Distillates (petroleum), hydrotreated light	64742-47-8
		Alcohols, C11-14-iso, C13-rich, ethoxylated	78330-21-9
		Water	7732-18-5
StimSTREAM FR 9725	Friction Reducer	Distillates (petroleum), hydrotreated light	64742-47-8
		Ammonium Chloride	12125-02-9
		Water	7732-18-5
StimSTREAM SC 398 C	Scale Inhibitor	CHEMSTREAM-Polymer-10001	CHEMSTREAM-Polymer-10001
		CHEMSTREAM-Polymer-10002	CHEMSTREAM-Polymer-10002
		Water	7732-18-5

As of 7/5/2023

RECEIVED  
Office of Oil and Gas

FEB 27 2025

WV Department of  
Environmental Protection

04/03/2026

WW-6A7  
(6-12)

OPERATOR: Expand Operating LLC

WELL NO: Michael Southworth MSH 1010H

PAD NAME: Michael Southworth MSH

REVIEWED BY: \_\_\_\_\_

SIGNATURE: *Bethany Whady*

### WELL RESTRICTIONS CHECKLIST

#### HORIZONTAL 6A WELL

#### Well Restrictions

**\*\*Pad Built 2/11/2011**

At Least 100 Feet from Pad and LOD (including any E&S Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland; OR

DEP Waiver and Permit Conditions

At Least 300 Feet from Pad and LOD (including any E&S Control Feature) to any Naturally Producing Trout Stream; OR

DEP Waiver and Permit Conditions

At Least 1000 Feet from Pad and LOD (including any E&S Control Feature) to any Groundwater Intake or Public Water Supply; OR

DEP Waiver and Permit Conditions

At Least 250 Feet from an Existing Water Well or Developed Spring to Well Being Drilled; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

At Least 625 Feet from an Occupied Dwelling Structure to Center of the Pad; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

At Least 625 Feet from Agricultural Buildings Larger than 2500 Square Feet to the Center of the Pad; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

RECEIVED  
Office of Oil and Gas

FEB 27 2026

NY Department of  
Environmental Protection

04/03/2026

**SHEET INDEX**

1	COVER
2	EVACUATION PLAN WITH AERIAL MAP
3	EVACUATION PLAN WITH USGS MAP
4-7	WELL PAD & ACCESS ROAD PLAN
8-10	WELL PAD & ACCESS ROAD PROFILES
11	RECLAMATION PLAN
12-14	DETAILS

# EXPAND OPERATING, LLC

## AS-BUILT PLANS FOR

### MICHAEL SOUTHWORTH PAD

### MARSHALL COUNTY, WV

## JANUARY 2026

911 EMERGENCY ADDRESS:  
MICHAEL SOUTHWORTH WELL PAD  
235 ELLIOTS LN WHEELING, WV 26003



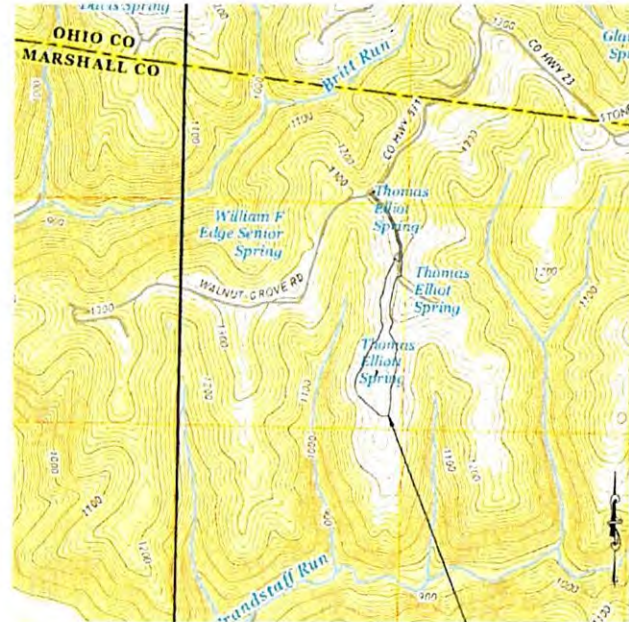
LOCAL EMERGENCY SERVICES	
NAME:	NUMBER:
AMBULANCE	911
HOSPITAL EMERGENCY ROOM	(304) 243 - 3000
FIRE DEPARTMENT	911
POLICE DEPARTMENT	911
POISON CONTROL CENTER	(800) 222 - 1222

**LOCATION COORDINATES**

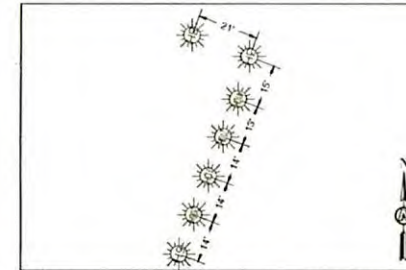
ACCESS ROAD ENTRANCE:		
LATITUDE: 40.01709 N	LONGITUDE: 80.613672 W	(DECIMAL DEGREES)
LATITUDE: 40°01'01.55" N	LONGITUDE: 80°36'49.22" W	(DEGREES-MINUTES-SECONDS)
NORTHING: 554514.6775	EASTING: 1656587.2860	(WV SP-83. FEET)
WELL PAD CENTER:		
LATITUDE: 40.012836 N	LONGITUDE: 80.614806 W	(DECIMAL DEGREES)
LATITUDE: 40°00'46.21" N	LONGITUDE: 80°36'53.30" W	(DEGREES-MINUTES-SECONDS)
NORTHING: 552966.5226	EASTING: 1656250.6218	(WV SP-83. FEET)

**SITE DATA**

TOTAL DISTURBED AREA:	15.65 ACRES
ROAD DISTURBED AREA:	7.21 ACRES
PAD DISTURBED AREA:	8.44 ACRES
ACCESS ROAD LENGTH:	2,679 FEET
ACCESS ROAD AVERAGE WIDTH:	23 ± FEET
PAD ELEVATION:	1272.0



WHEELING QUADRANGLE REFERENCE MAP



State of  
SPREADER WORK  
2/12/2024

**DRIVING DIRECTIONS**

- 1) BEGIN AT BETHLEHEM STAGING YARD ON E. BETHLEHEM BLVD. (LAT. 40.039375, LONG. -80.679643)
- 2) TURN RIGHT ON E. BETHLEHEM BLVD. TOWARD JUNIOR AVE., 1.2 MILES.
- 3) TURN RIGHT ONTO KRUGER ST., 0.1 MILES
- 4) TURN LEFT ONTO LOUNEZ AVE., 0.1 MILES
- 5) CONTINUE ONTO STONE CHURCH RD., 3.2 MILES
- 6) TURN RIGHT ONTO WALNUT GROVE RD., 0.6 MILES
- 7) TURN LEFT ONTO ELLIOT LANE, 0.2 MILES
- 8) TURN RIGHT TO ENTER MICHAEL SOUTHWORTH SITE

**WEST VIRGINIA 811**  
**CALL BEFORE YOU DIG!**  
**IT'S THE LAW!**

MISS UTILITY OF WEST VIRGINIA  
1-800-245-4848  
WEST VIRGINIA STATE LAW  
(SECTION XIV, CHAPTER 24-C)  
REQUIRES THAT YOU CALL TWO  
BUSINESS DAYS BEFORE YOU DIG IN  
THE STATE OF WEST VIRGINIA.  
IT'S THE LAW!!!

NO.	DATE	DESCRIPTION
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PREPARED BY

1700 ANMOORE ROAD  
BRIDGEPORT, WV 26330  
WWW.ASCENTWV.COM  
(204) 533-3461

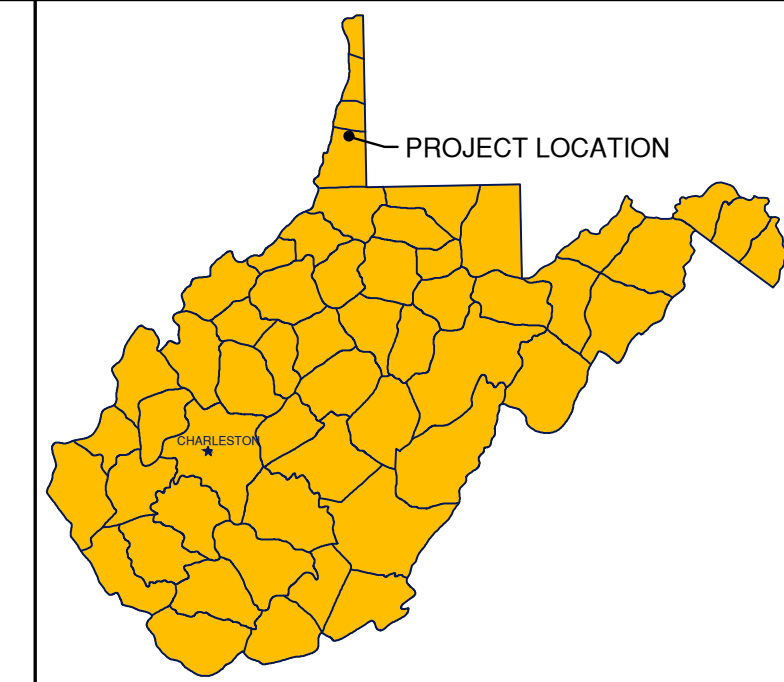
PROJECT NUMBER	3150	DRAWN	EMS
DATE	1/5/2026	DESIGN	EMS
SCALE	AS SHOWN	CHECKED	MRN

AS-BUILT PLANS FOR  
EXPAND OPERATING, LLC  
MICHAEL SOUTHWORTH WELL PAD  
SANDHILL DISTRICT  
MARSHALL COUNTY, WV

TITLE	COVER SHEET
PLAN STATUS	SHEET NO.
	1

# EXPAND OPERATING, LLC AS-BUILT PLANS FOR MICHAEL SOUTHWORTH PAD MARSHALL COUNTY, WV JANUARY 2026

911 EMERGENCY ADDRESS:  
MICHAEL SOUTHWORTH WELL PAD  
235 ELLIOTTS LN WHEELING, WV 26003



LOCATION MAP NOT TO SCALE

**SHEET INDEX**

1	COVER
2	EVACUATION PLAN WITH AERIAL MAP
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4-7	WELL PAD & ACCESS ROAD PLAN
8-10	WELL PAD & ACCESS ROAD PROFILES
11	RECLAMATION PLAN
12-14	DETAILS

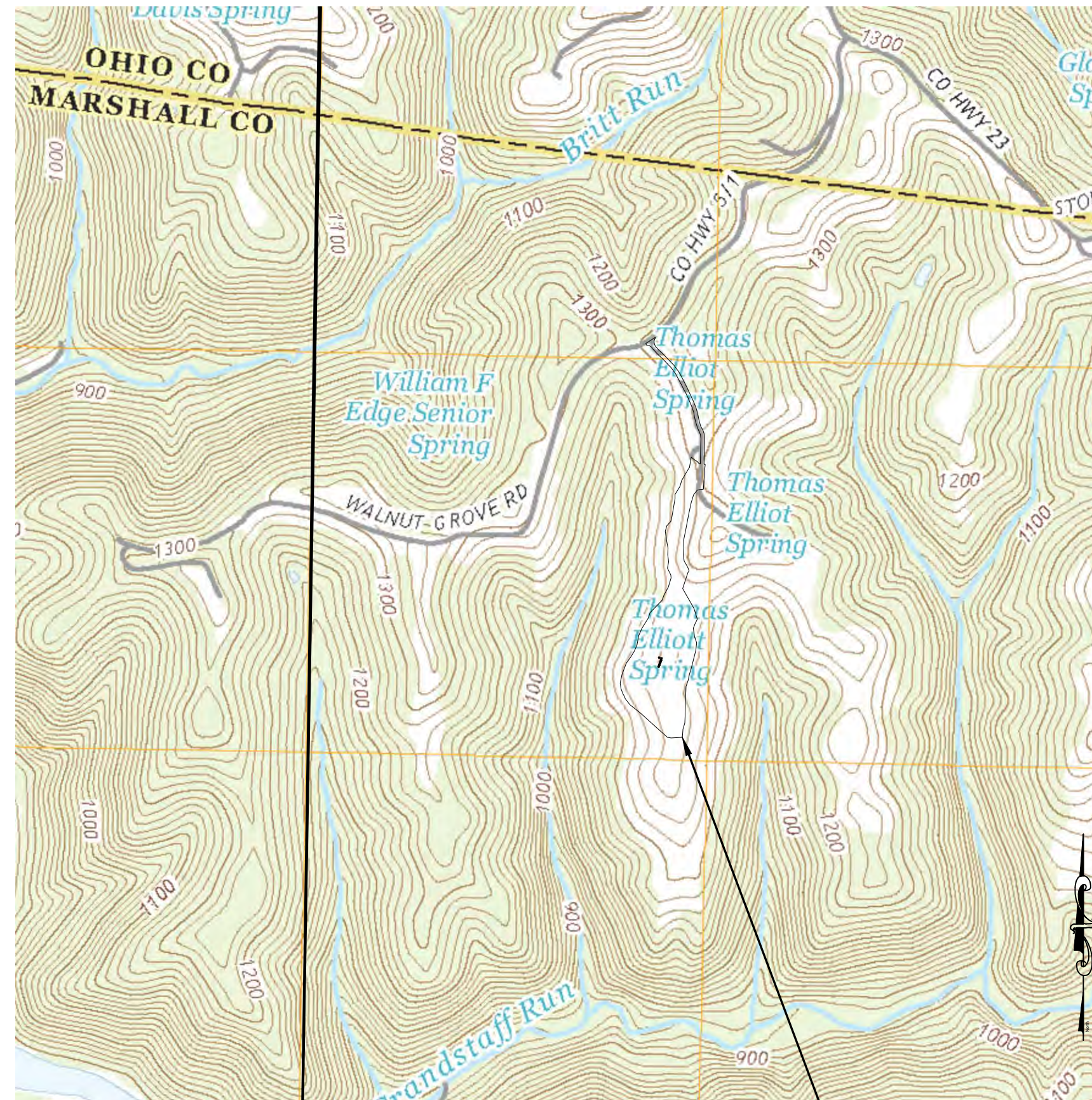
LOCAL EMERGENCY SERVICES	
NAME:	NUMBER:
AMBULANCE	911
HOSPITAL EMERGENCY ROOM	(304) 243 - 3000
FIRE DEPARTMENT	911
POLICE DEPARTMENT	911
POISON CONTROL CENTER	(800) 222 - 1222

**LOCATION COORDINATES**

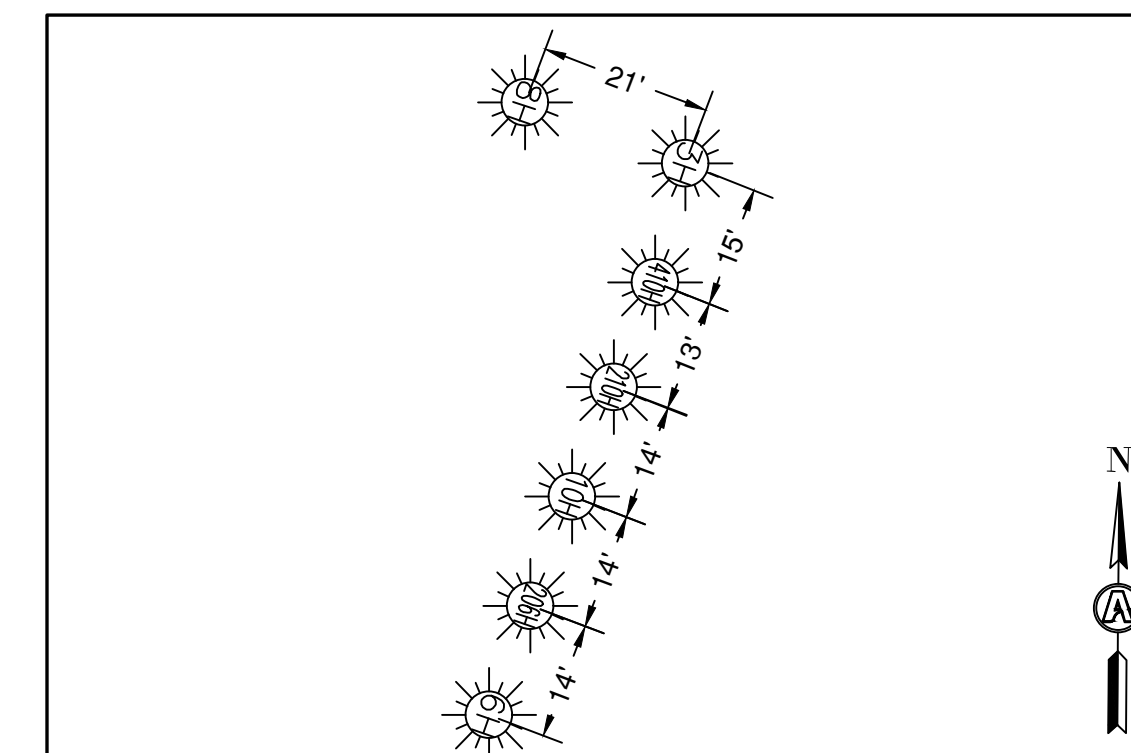
<b>ACCESS ROAD ENTRANCE:</b>			
LATITUDE: 40.01709 N	LONGITUDE: 80.613672 W	(DECIMAL DEGREES)	
LATITUDE: 40°01'01.55" N	LONGITUDE: 80°36'49.22" W	(DEGREES*MINUTES*SECONDS)	
NORTHING: 554514.6775	EASTING: 1656587.2860	(WV SP-83, FEET)	
<b>WELL PAD CENTER:</b>			
LATITUDE: 40.012836 N	LONGITUDE: 80.614806 W	(DECIMAL DEGREES)	
LATITUDE: 40°00'46.21" N	LONGITUDE: 80°36'53.30" W	(DEGREES*MINUTES*SECONDS)	
NORTHING: 552966.5226	EASTING: 1656250.6218	(WV SP-83, FEET)	

**SITE DATA**

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ROAD DISTURBED AREA:	7.21 ACRES
PAD DISTURBED AREA:	8.44 ACRES
ACCESS ROAD LENGTH:	2,679 FEET
ACCESS ROAD AVERAGE WIDTH:	23 ± FEET
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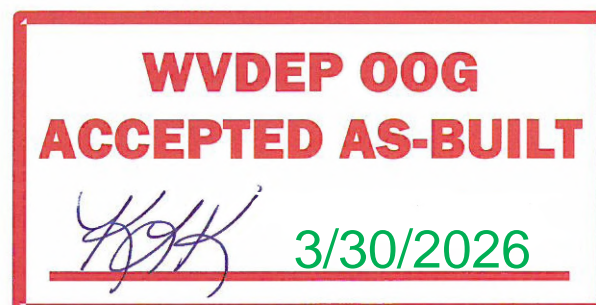


1000 0 1000 2000  
WHEELING QUADRANGLE REFERENCE MAP



WELL HEAD LAYOUT  
NOT TO SCALE

04/03/2026



**DRIVING DIRECTIONS**

- BEGIN AT BETHLEHEM STAGING YARD ON E. BETHLEHEM BLVD. (LAT: 40.039375, LONG: -80.679643)
- TURN RIGHT ON E. BETHLEHEM BLVD. TOWARD JUNIOR AVE., 1.2 MILES.
- TURN RIGHT ONTO KRUGER ST., 0.1 MILES
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- TURN LEFT ONTO ELLIOT LANE, 0.2 MILES
- TURN RIGHT TO ENTER MICHAEL SOUTHWORTH SITE

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NO.	DATE	DESCRIPTION

PREPARED FOR:



SEAL:



PREPARED BY:



1700 ANMOORE ROAD  
BRIDGEPORT, WV 26330  
WWW.ASCENTWV.COM  
(304) 933 - 3463

PROJECT NUMBER:	3150	DRAWN:	EMS
DATE:	1/5/2026	DESIGN:	EMS
SCALE:	AS SHOWN	CHECKED:	MRN

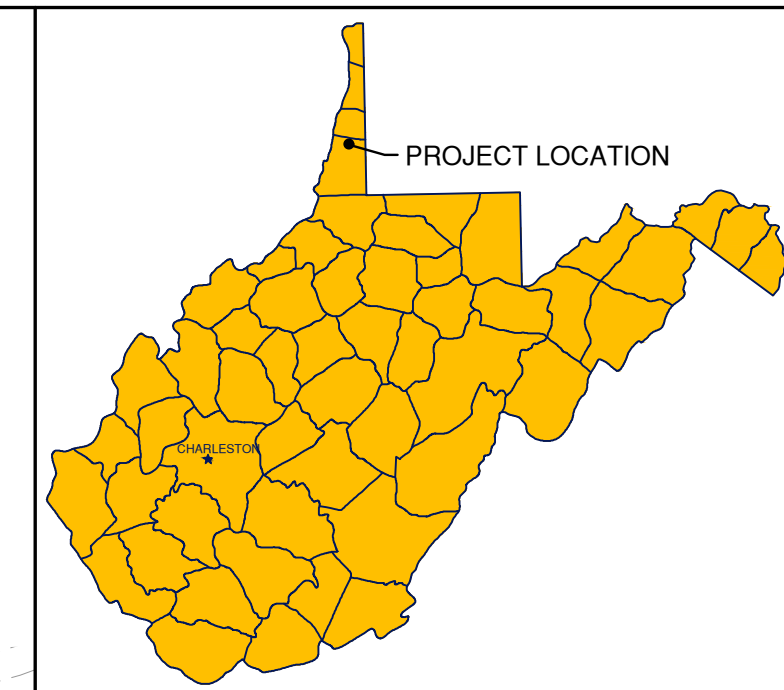
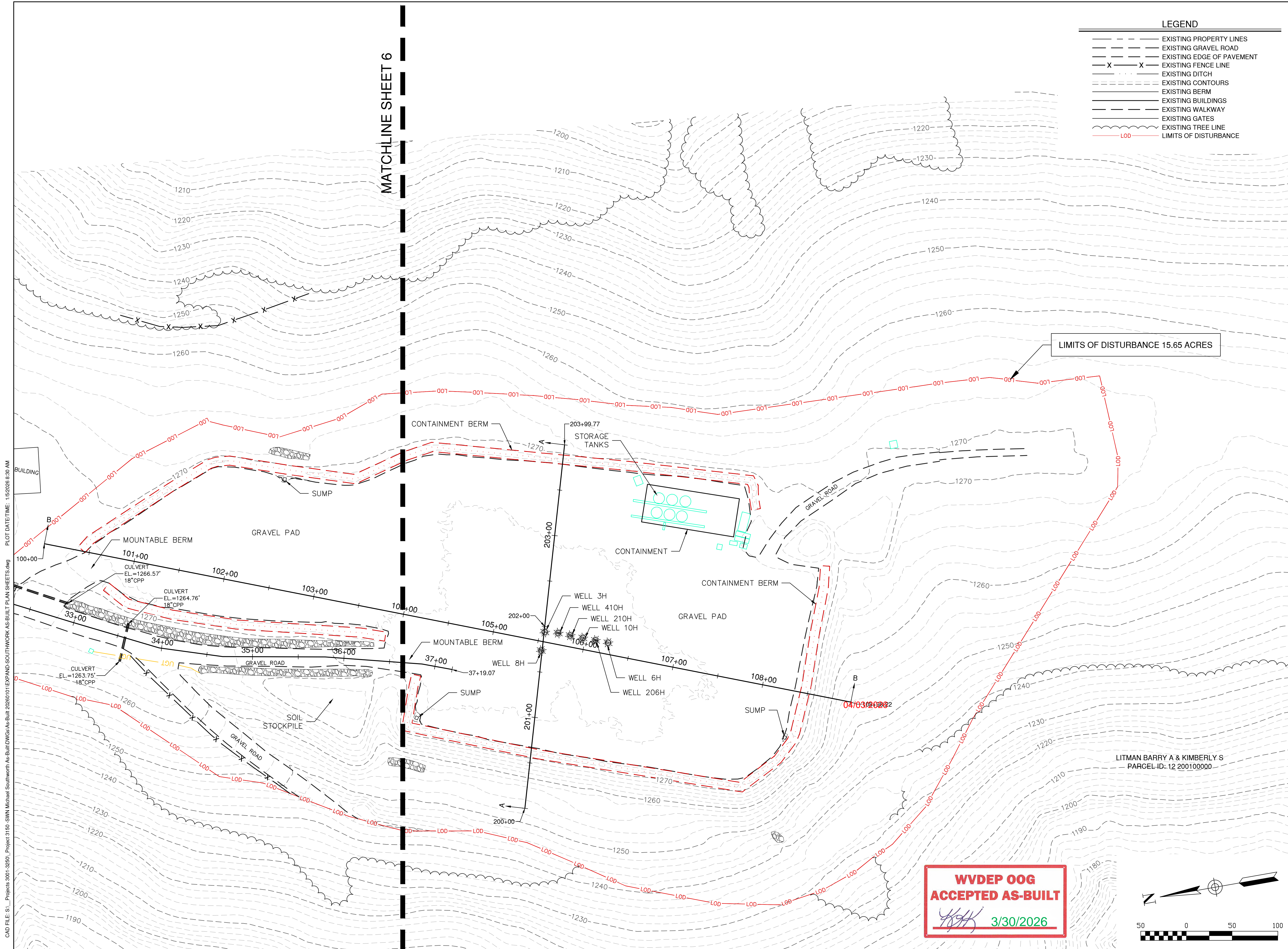
AS-BUILT PLANS FOR  
EXPAND OPERATING, LLC  
MICHAEL SOUTHWORTH WELL PAD  
SANDHILL DISTRICT  
MARSHALL COUNTY, WV

TITLE:  
COVER SHEET

PLAN STATUS: SHEET No.  
1



MISS UTILITY OF WEST VIRGINIA  
1-800-245-4848  
WEST VIRGINIA STATE LAW  
(SECTION XIV: CHAPTER 24-C)  
REQUIRES THAT YOU CALL TWO  
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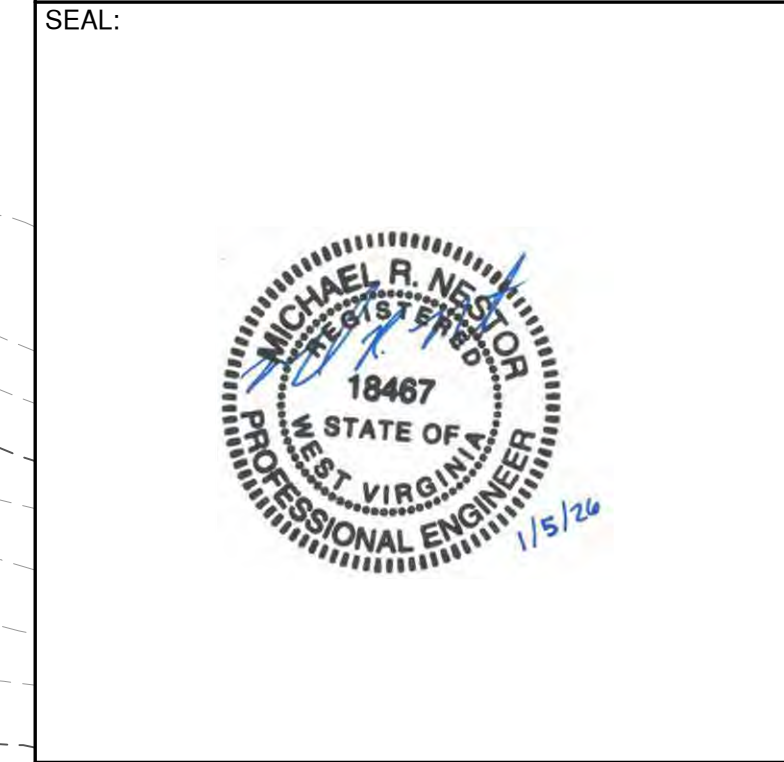


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NO.	DATE	DESCRIPTION
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SEAL:



PREPARED BY:



PROJECT NUMBER:	3150	DRAWN:	EMS
DATE:	1/5/2026	DESIGN:	EMS
SCALE:	AS SHOWN	CHECKED:	MRN

AS-BUILT PLANS FOR  
EXPAND OPERATING, LLC  
MICHAEL SOUTHWORTH WELL PAD  
SANDHILL DISTRICT  
MARSHALL COUNTY, WV

TITLE:  
**AS-BUILT SITE PLAN**

PLAN STATUS:	SHEET No.
	<b>7</b>

CAD FILE: S:\Projects\3001-2620 - Project 3150 - SWM Michael Southworth As-Built\DWG\AS-Built\20260101\EXPAND SOUTHWORK AS-BUILT PLAN SHEET 6.dwg  
 PLOT DATE/TIME: 1/5/2026 8:30 AM

