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west virginia department of environmental protection

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

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

Thursday, November 8, 2018  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC  
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit Modification Approval for EDWARD DREMAK OHI 405H  
47-069-00228-00-00

**Lateral Extension**

SWN PRODUCTION COMPANY, LLC

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

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

A handwritten signature in blue ink, appearing to read "James A. Martin", is written over a faint circular stamp.

James A. Martin  
Chief

Operator's Well Number: EDWARD DREMAK OHI 405H  
Farm Name: DREMAK, EDWARD W. & JOANNE V.  
U.S. WELL NUMBER: 47-069-00228-00-00  
Horizontal 6A New Drill  
Date Modification Issued: November 08, 2018

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

1) Well Operator: SWN Production Co., LLC 494512924 069-Ohio 4-Richlar 641-Tiltonsville  
Operator ID County District Quadrangle

2) Operator's Well Number: Edward Dremak OHI 405H Well Pad Name: Edward Dremak OHI Pad

3) Farm Name/Surface Owner: Andrew John Evick Public Road Access: North Fork Road

4) Elevation, current ground: 1080' Elevation, proposed post-construction: 1080'

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

(b) If Gas Shallow  Deep \_\_\_\_\_  
Horizontal  \_\_\_\_\_

6) Existing Pad: Yes or No No *C-110 10.3.18*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Target Formation- Marcellus, Target Top TVD- 5776', Target Base TVD- 5809', Anticipated Thickness- 33', Associated Pressure- 3773

8) Proposed Total Vertical Depth: 5805'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 24701'

11) Proposed Horizontal Leg Length: 16436.65'

12) Approximate Fresh Water Strata Depths: 266'

13) Method to Determine Fresh Water Depths: Determined using nearest fresh water spring

14) Approximate Saltwater Depths: 384' SWN salinity profile

15) Approximate Coal Seam Depths: 277'

16) Approximate Depth to Possible Void (coal mine, karst, other): Possible Void 277'


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

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

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18)

**CASING AND TUBING PROGRAM**

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	H-40	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	H-40	48#	351'	351'	350 sx/CTS
Coal	See	Surface	Casing				
Intermediate	9 5/8"	New	J-55	36#	1744'	1744'	682 sx/CTS
Production	5 1/2"	New	HCP-110	20#	24701'	24701'	lead 746x Tall 4360x inside (interme) 
Tubing							
Liners							

*C. 75/10-3-18*

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

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



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

Drill and stimulate any potential zones between and including the Benson to Marcellus. \*\*If we should encounter a void place basket above and below void area- balance cement to bottom of void and grout from basket to surface. Run casing not less than 20' below void nor more than 50' below void. (\*If freshwater is encountered deeper than anticipated it must be protected, set casing 50' below and cts.)

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

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

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 23.7

22) Area to be disturbed for well pad only, less access road (acres): 8.0

23) Describe centralizer placement for each casing string:

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

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

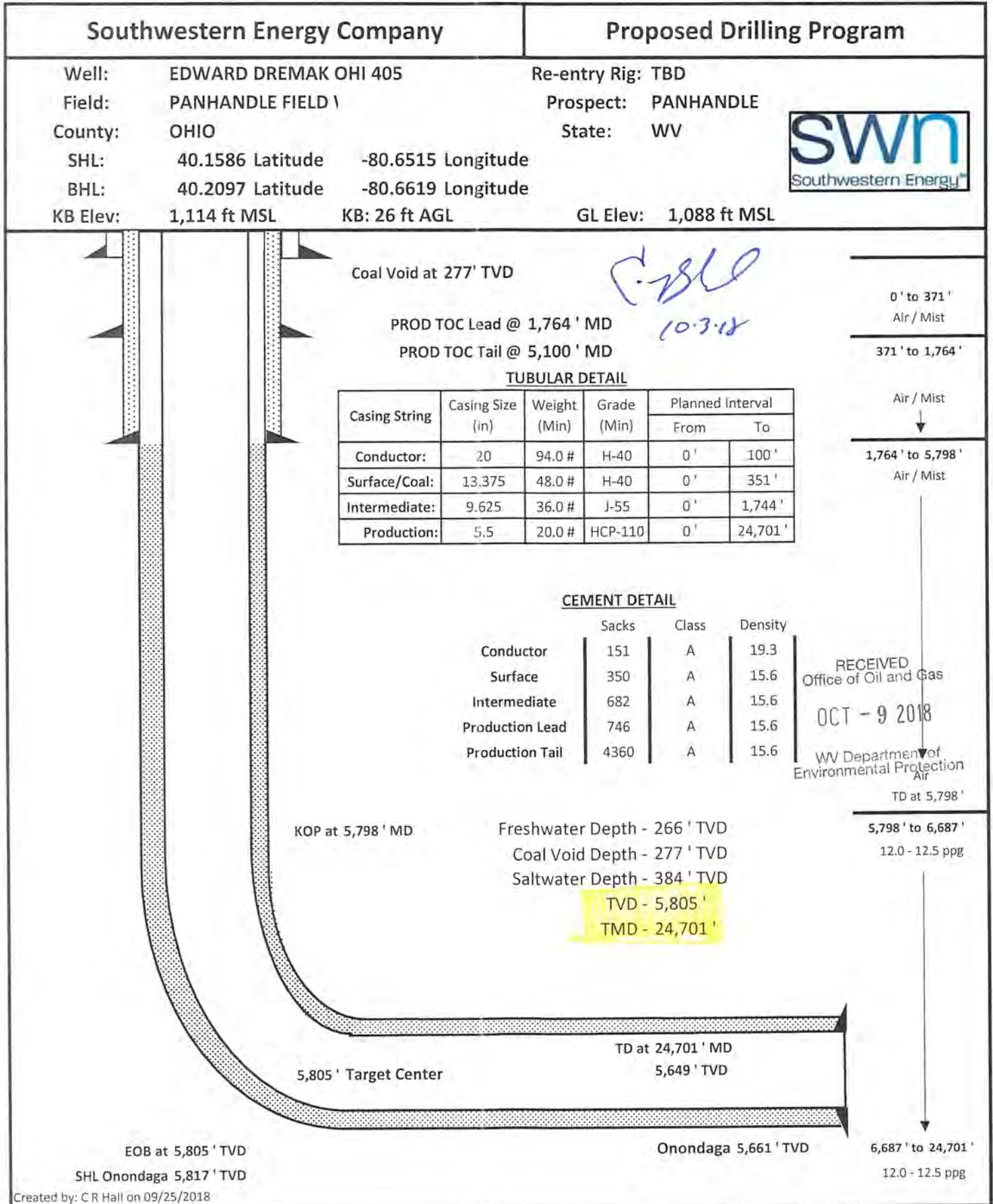
See Attachment \*\*\*

25) Proposed borehole conditioning procedures:

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

\*Note: Attach additional sheets as needed.

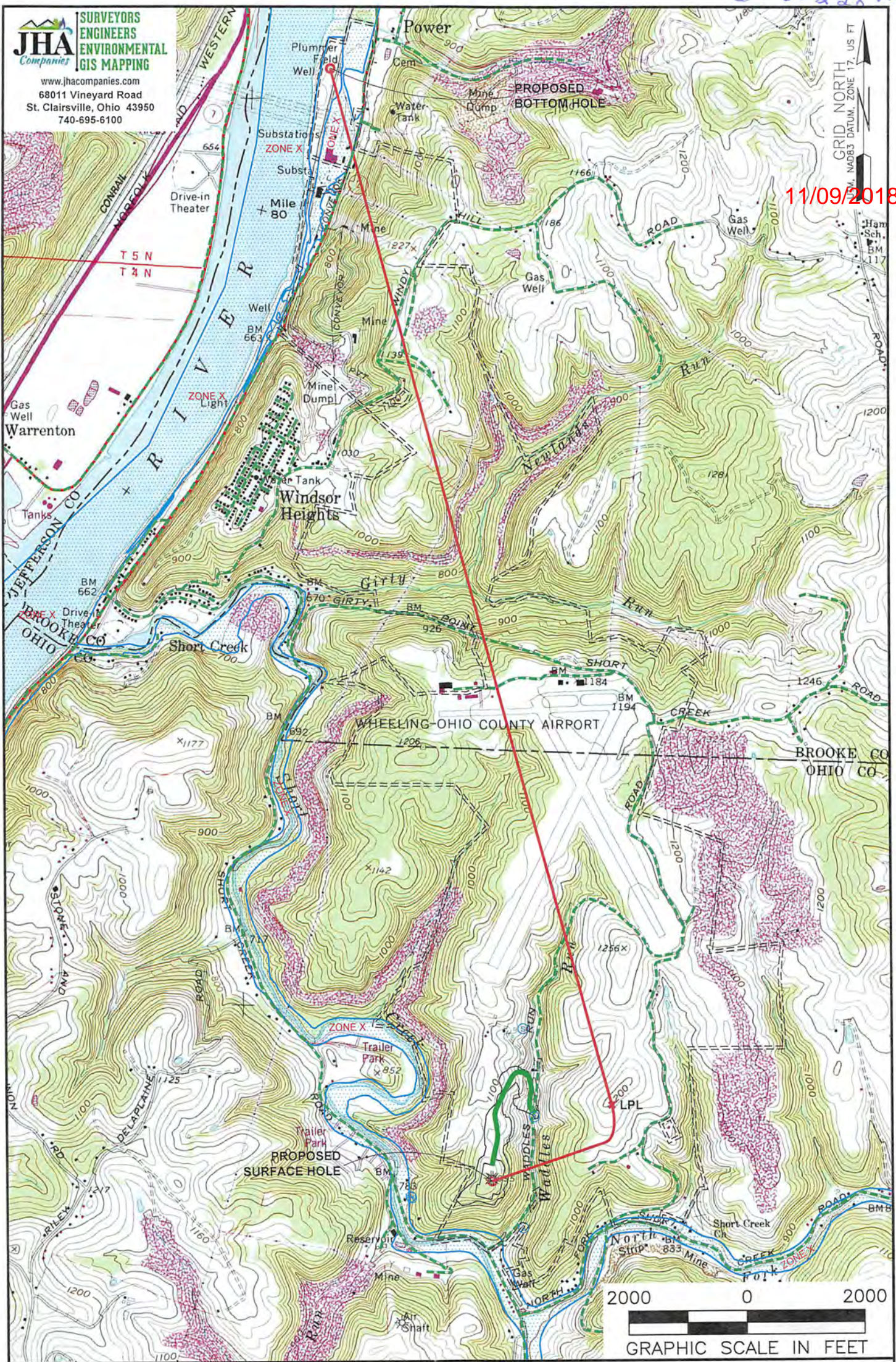
11/09/2018





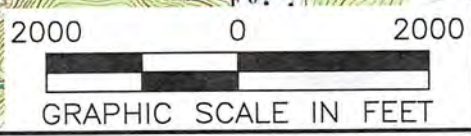
**JHA Companies**  
**SURVEYORS  
 ENGINEERS  
 ENVIRONMENTAL  
 GIS MAPPING**

www.jhacompanies.com  
 68011 Vineyard Road  
 St. Clairsville, Ohio 43950  
 740-695-6100



11/09/2018

GRID NORTH  
NAD83 DATUM, ZONE 17 US FT



**NOTES ON SURVEY**

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

**LEGEND:**

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

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: EDWARD DREMAK OHI	WELL # 405H	SERIAL # XXXX
ADDRESS: P.O. BOX 1300 JANE LEW, WV 26378	COUNTY: OHIO	CODE: 069	DISTRICT: RICHLAND
SURFACE OWNER: ANDREW JOHN EVICK	USGS 7 1/2 QUADRANGLE MAP NAME: TILTONVILLE, OH		



(2,000' SCALE) BOTTOM HOLE LATITUDE: 40°15'00"

10255'

(2,000' SCALE) SURFACE HOLE LATITUDE: 40°10'00"

7354'

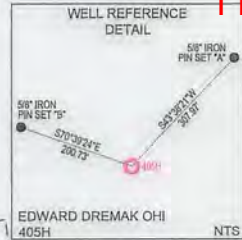
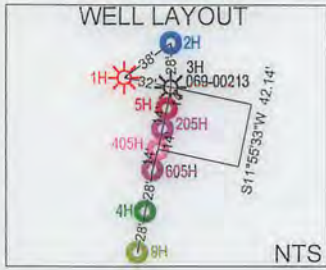


www.jhacompanies.com  
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St. Clairsville, Ohio 43950  
740-695-6100

NOTES ON SURVEY

1. COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
2. 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.
3. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
4. NO DWELLINGS OR BUILDINGS WITHIN 625 FEET OF PROPOSED CENTER OF PAD
5. NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
6. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF THE LIMITS OF DISTURBANCE.
7. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.

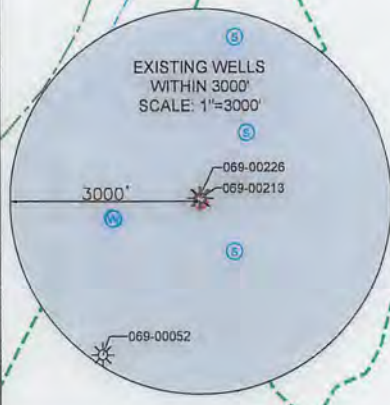
11/09/2018



GRID NORTH  
UTM, NAD83 DATUM, ZONE 17, US

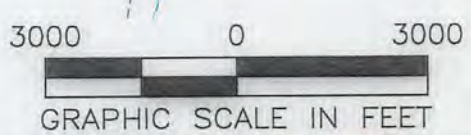
(2,000' SCALE) SURFACE HOLE LONGITUDE: -80°37'30"

(2,000' SCALE) BOTTOM HOLE LONGITUDE: -80°37'30"



<b>SURFACE HOLE LOCATION (SHL):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4445423.83 EASTING: 529679.01
<b>LANDING POINT LOCATION (LPL):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4445819.07 EASTING: 530293.92
<b>BOTTOM HOLE LOCATION (BHL):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4451092.37 EASTING: 528772.74

LINE	BEARING	DISTANCE
L1	S85°36'24"W	744.72'
L2	N77°47'40"W	762.14'



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. 2041 *[Signature]* 10/3/18

COMPANY: **SWN** Production Company, LLC **SWN** Production Company™

<p>(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS</p> <p>WVDEP OFFICE OF OIL &amp; GAS 601 57TH STREET CHARLESTON, WV 25034</p>	MINIMUM DEGREE OF ACCURACY: 1/200 PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)	EDWARD DREMAK OHI OPERATOR'S WELL #: 405H API WELL #: 47 069 00228 STATE COUNTY PERMIT
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WELL TYPE: OIL  WASTE DISPOSAL  PRODUCTION  DEEP  GAS  LIQUID INJECTION  STORAGE  SHALLOW

WATERSHED: UPPER OHIO SOUTH ELEVATION: 1,088.0'

DISTRICT: RICHLAND COUNTY: OHIO QUADRANGLE: TILTONSVILLE, OH

SURFACE OWNER: ANDREW JOHN EVICK ACREAGE: ±34.19

OIL & GAS ROYALTY OWNER: EDWARD W. & JOANNE V. DREMAK ACREAGE: ±34.19

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

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 5,805' TVD 24,701.0' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY

ADDRESS: P.O. BOX 1300 ADDRESS: P.O. BOX 1300

CITY: JANE LEW STATE: WV ZIP CODE: 26378 CITY: JANE LEW STATE: WV ZIP CODE: 26378

<b>LEGEND:</b> PROPOSED SURFACE HOLE / BOTTOM HOLE EXISTING / PRODUCING WELLHEAD LPL* LANDING POINT LOCATION EXISTING WATER WELL EXISTING SPRING SURVEYED BOUNDARY LEASE BOUNDARY PROPOSED PATH	<b>REVISIONS:</b> <table border="1"> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>							DATE: 10-03-2018 DRAWN BY: D. REED SCALE: 1" = 3000' DRAWING NO: 2018-284 WELL LOCATION PLAT





WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	ANDREW JOHN EVICK (S) EDWARD W. & JOANNE V. DREMAK (R)	04-R5-54
2	ANDREW JOHN EVICK	04-R5-49
3	WINDSOR COAL COMPANY	04-R8-B.1
4	THE BOARD OF COMMISSIONERS OF THE COUNTY OF OHIO	04-R5-10
5	THE BOARD OF COMMISSIONERS OF THE COUNTY OF OHIO	04-R5-55
6	BARRY L. & PATRICIA A. GREATHOUSE	03-B46-0018.0000
7	BARRY L. & PATRICIA A. GREATHOUSE	03-B41-0032.0000
8	CHARLES BELL ESTATE	03-B41-0031.0000
9	LAWRENCE R. MOORE & ROSEMARY KINDER	03-B41-0021.0004
10	ROSEMARY KINDER MOORE	03-B41-0030.0000
11	ROSEMARY KINDER MOORE	03-B41-0035.0000
12	MICHAEL A. & LINDA S. WOLEN (SURVIVORSHIP)	03-B41-0036.0000
13	WINDSOR COAL COMPANY	03-B41-0005.0000
14	WINDSOR COAL COMPANY	01-BB41-0003.0000
15	WEST PENN POWER COMPANY	01-BB41-0017.0000
16	WEST PENN POWER COMPANY	01-BB41-0010.0000
17	WEST PENN POWER COMPANY	01-BB41-0013.0000
18	OHIO POWER COMPANY	01-BB41-0001.0000
19	THE BROOKE COUNTY COMMISSION	01-BB41-0008.0000
20	ALLEGHENY ENERGY SUPPLY COMPANY, LLC	01-BB36-0030.0000

11/09/2018

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	ALLIANCE RESOURCE GP, LLC	04-R6-6
B	ALLIANCE RESOURCE GP, LLC	04-R5-52
C	ALLIANCE RESOURCE GP, LLC	04-R5-53
D	WINDSOR COAL COMPANY, LLC	04-R5-50
E	JOHN W. METZ	04-R5-46
F	BURNT MILL ACRES, LLC	04-R5-13
G	S.E.W. TRUST	04-R5-9
H	RODNEY K. & NEDRA C. MCCONNELL	04-R2-20
I	RODNEY K. & NEDRA C. MCCONNELL	03-B46-0014.0000
J	HENRY W. ZEIDLER, JUDITH K. ZEIDLER & MARGARET L. BURGDRAF	03-B46-0015.0000
K	JUDAN GARRETT	03-B46-0017.0000
L	SIDNEY W., JR. & VICKI MOZINGO	03-B46-0007.0000
M	SIDNEY W., JR. & VICTORIA L. MOZINGO	03-B46-0005.0001
N	SIDNEY W., JR. & VICTORIA L. MOZINGO	03-B46-0005.0000
O	ALEX & DARLA ANN MUSHET	03-B46-0004.000
P	EVERT RUNTAN	03-B41-0018.0000
Q	WINDSOR COAL COMPANY	03-B41-0020.0000
R	WINDSOR HEIGHTS VILLAGE	08-W41N-0139.0000
S	NEL A. & JANICE C. ABRAHAMSON	03-B41-0024.0000
T	NEL A. & JANICE C. ABRAHAMSON	03-B41-0021.0005
U	NEL A. & JANICE C. ABRAHAMSON	03-B41-0025.0000
V	LAWRENCE R. & ROSEMARY MOORE	03-B41-0021.0001
W	HAMMOND PUBLIC SERVICE DISTRICT	03-B41-0021.0002
X	STANLEY RAE KRUPINSKI & MEREDITH KINDER MOORE	03-B41-0021.0003
Y	WINDSOR COAL COMPANY	03-B41-0021.0000
Z	WINDSOR COAL COMPANY	01-BB41-0005.0000
AA	OHIO FRANKLIN REAL ESTATE COMPANY	01-BB41-0004.0000
AB	OHIO FRANKLIN REAL ESTATE COMPANY	01-BB41-0002.0000
AC	STATE OF WEST VIRGINIA (OHIO RIVER)	OHIO RIVER
AD	BUSINESS DEVELOPMENT CORPORATION OF THE NORTHEIN PANHANDLE	01-BB36-0002.0000
AE	BUSINESS DEVELOPMENT CORPORATION OF THE NORTHEIN PANHANDLE	01-BB36-0023.0000
AF	BUSINESS DEVELOPMENT CORPORATION OF THE NORTHEIN PANHANDLE	01-BB36-0024.0000
AG	BUSINESS DEVELOPMENT CORPORATION OF THE NORTHEIN PANHANDLE	01-BB36-0001.0000
AH	RALPH PLANTS	01-BB36-0003.0000
AI	WINDSOR COAL COMPANY	01-BB36-0025.0000
AJ	WINDSOR COAL COMPANY	01-BB36-0026.0000
AK	WEST PENN POWER COMPANY	01-BB36-0027.0000
AL	WEST PENN POWER COMPANY	01-BB36-0028.0000
AM	WEST PENN POWER COMPANY	01-BB41-0006.0000
AN	WEST PENN POWER COMPANY	01-BB41-0014.0000
AO	MONONGAHELA POWER COMPANY	01-BB41-0012.0000
AP	WEST PENN POWER COMPANY	01-BB41-0007.0000
AQ	WEST PENN POWER COMPANY	01-BB41-0018.0000
AR	WINDSOR COAL COMPANY	03-B41-0007.0000
AS	WINDSOR COAL COMPANY	03-B41-0009.0000
AT	SYLVESTER & MARY KELLER	03-B41-0038.0000
AU	DONNA MARIE PEREZ	03-B41-0037.0000
AV	RAY PAUL NICHOLAN	03-B41-0042.0000
AW	ROBERT J., JR. & LINDA MILLER	03-B41-0047.0000
AX	BARRY L. & PATRICIA A. GREATHOUSE	03-B41-0082.0000
AY	BARRY L. & PATRICIA A. GREATHOUSE	03-B41-0083.0000
AZ	BARRY L. & PATRICIA A. GREATHOUSE	03-B46-0019.0000
BA	STACY ANN GREATHOUSE & PATRICIA ANN GREATHOUSE	03-B46-0041.0000
BB	DANNY GENE BRITT & MARGARET VIRGINIA	03-B46-0027.0000
BC	TRACY GILBERT	03-B46-0022.0001
BD	BRUCE D. BONAR (I) & WILLIAM BONAR (I)	03-B46-0020.0000
BE	MARC SEAMON	04-R6-2
BF	SHORT CREEK COAL COMPANY (C/O RAYLE COAL COMPANY)	04-R6-17.3
BG	SHORT CREEK COAL COMPANY (C/O RAYLE COAL COMPANY)	04-R6-17
BH	MARC SEAMON	04-R6-37
BI	SHORT CREEK CEMETERY ASSOCIATION, TRUSTEES	04-R5-57
BJ	SHORT CREEK METHODIST CHURCH	04-R5-60
BK	ROBERT L. & GWENDOLYN NOVAK	04-R5-59
BL	ERIC W. & LISA N. GADD	04-R5-55.1
BM	ERIC W. & LISA N. GADD	04-R5-55.3
BN	LUTHER R., II & D.F. SMITH	04-R8-16.1
BO	AMERICAN DISPOSAL SERVICES OF WEST VIRGINIA, INC	04-R8-15
BP	ALLIED WASTE, INC	04-R5-56.1
BQ	ALLIED WASTE, INC	04-R5-56
BR	RODNEY & A.J. SNYDER	04-R8-13
BS	ARTHUR ENNIS, PEGGY CLARK & ALMA SINCAVICH	04-R8-9
BT	GORDON E. & DEBORAH P. DREMAK	04-R8-B.15
BU	OHIO COUNTY COMMISSION	04-R8-B.16
BV	TUNNEL RIDGE, LLC	04-R8-B.17
BW	TUNNEL RIDGE, LLC	04-R8-B.14
BX	TUNNEL RIDGE, LLC	04-R8-B.2
BY	SUSAN L. CAIN	04-R8-B.3
BZ	TUNNEL RIDGE, LLC	04-R8-B.18
CA	LAWRENCE & ROSEMARY MOORE	03-B41-0034.0000
CB	LAWRENCE R. & ROSEMARY K. MOORE	03-B41-0033.0000
CC	RICHARD L. & DEBORAH K. BLACK	04-R5-58.1
CD	RAY W. ARCHER	04-R5-58
CE	BRYAN K. & LAURA L. PETTIT	04-R5-55.4
CF	EDWARD W. & JOANNE V. DREMAK	04-R5-54.1

H6A  
47-069-00228 MOO

REVISIONS:	COMPANY:	 	
	OPERATOR'S	EDWARD DREMAK OHI	
	WELL #:	405H	
	DISTRICT:	COUNTY:	STATE:
	RICHLAND	OHIO	WV
			DATE: 10-03-2018
			DRAWN BY: D. REED
			SCALE: N/A
			DRAWING NO: 2018-284
			WELL LOCATION PLAT



WW-6A1  
(5/13)

Operator's Well No. Edward Dremak OHI 405H

**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"

**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

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

Well Operator: SWN Production Company, LLC  
By: *John Startz*  
Its: John Startz, Senior Staff Landman



69-00228 MOD

**EXHIBIT "A"**

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC, Operator  
 Edward Dremak OHI 405H  
 Ohio and Brooke Counties, West Virginia

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 OCT 19 2018  
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#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG
1)	4-R5-54	Edward W Dremak and Joanne V Dremak	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	16.75%	810/722 884/121
2)	4-R5-49	Edward W Dremak and Joanne V Dremak	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	16.75%	810/673 884/109
3)	4-R8-8-1	Noble Energy Inc, a Delaware Corporation	SWN Production Company, LLC	18.00%	920/01
4)	4-R5-10	Martha Lorentz a/k/a Marcie Lorentz, a single woman	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	14.00%	844/460 885/53
		Marie R. Lorentz, a widow, by and through her Attorney-in-Fact, Nancy Marie Keely	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	844/452 885/53
		Benjamin C. Barlow	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	14.00%	844/456 885/53
		Rebecca Barlow, a single woman	SWN Production Company, LLC	18.00%	915/792
		Jack L. Herrmann and Nancy V. Herrmann, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	845/427 885/65
		Jo Ann Wade f/k/a Jo Ann Herrmann, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	845/431 885/65
		Betty E Herrmann	SWN Production Company, LLC	14.00%	912/006
		Grace Jean Griffin King, a widow	SWN Production Company, LLC	16.00%	911/464
		Jayne E. Brogan & Joseph P. Davis, her husband	SWN Production Company, LLC	16.00%	911/528
		Lindsey Ryan Frohnafel, a single woman	SWN Production Company, LLC	14.00%	911/675
		Makinly Baird, an unmarried woman	SWN Production Company, LLC	14.00%	911/642
		Mary Catherine Grimes and John Grimes, Jr., her husband	SWN Production Company, LLC	14.00%	911/592
		Michael Joseph Walton, a single person	SWN Production Company, LLC	14.00%	911/597



69-00228400

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC Operator Edward Dremak OHI 405H Ohio and Brooke Counties, West Virginia

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Michael Sean Frohnapfel and Jennifer Susan Legg Frohnapfel, his wife	SWN Production Company, LLC	14.00%	911/575
Ronald J. Grant and Christine Grant, his wife	SWN Production Company, LLC	14.00%	911/617
Rose Mary Hermann Watson and Donald C. Watson, her husband	SWN Production Company, LLC	14.00%	911/660
Sandra F. Rodolf, Trustee of the Patricia M. Frohnapfel Revocable Living Trust dated 01/14/2015	SWN Production Company, LLC	14.00%	911/637
Mary Ann Marano Morcee, a married woman , dealing in her sole and separate property, Sandra Rodolf, a married woman, dealing in her sole and separate property, Terrance A. Frohnapfel, a single man, Patricia F. McMahon, a married woman, dealing in her sole and separate property, Robert Russell McKenzie, a married man, dealing in his sole and separate property, Virginia Adele Wisdom, a single woman, Richard Lawrence McKenzie, a married man, dealing in his sole and separate property, Charles Donald McKenzie, a widower	SWN Production Company, LLC	16.00%	947/397
Thomas R. Sharp and Sue Ellen Sharp, his wife	SWN Production Company, LLC	16.00%	911/602
William P. Brogan, a single man	SWN Production Company, LLC	16.00%	911/534
Boland Brogan 1997 Trust	SWN Production Company, LLC	16.00%	915/473
Jerome Bernard Herrmann, a single person	SWN Production Company, LLC	14.00%	915/458
Thomas Neenan and Robin Guyette-Neenan, his wife	SWN Production Company, LLC	14.00%	915/427
David Lee Heinzman, Jr., a single man	SWN Production Company, LLC	14.00%	915/409
James C. Murphy, III, a single person	SWN Production Company, LLC	14.00%	915/415
Stephen Wenz, a single man	SWN Production Company, LLC	14.00%	915/421
Paul G. Seelman and Ana Seelman, his wife	SWN Production Company, LLC	14.00%	915/397
Catherine Seelman Goetz and Andrew Joseph Goetz, her husband	SWN Production Company, LLC	14.00%	915/403
Rita Kathryn Griffin, a single person	SWN Production Company, LLC	14.00%	916/375



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EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC, Operator Edward Dremak OHI 405H Ohio and Brooke Counties, West Virginia

Robert and Kathryn Leach Revocable Trust dated September 12, 2014 by John Leach, Trustee	SWN Production Company, LLC	14.00%	916/370
Robert C. Seelman, III, a single man	SWN Production Company, LLC	14.00%	916/7
Pauline Baird, a widow	SWN Production Company, LLC	18.00%	916/422
Taylor Cofield and Joshua Cofield, her husband	SWN Production Company, LLC	14.00%	916/360
Edward Downey as Trustee of the Doris Downey Trust	SWN Production Company, LLC	16.00%	916/410
Thomas Patrick Griffin, a married man dealing in his sole and separate property	SWN Production Company, LLC	14.00%	916/355
The Jack A. Herrmann and Jean Herrmann Revocable Living Trust Agreement dated December 6, 1999, as amended by Darryl W. Millet, Trustee	SWN Production Company, LLC	16.00%	916/386
Beverly A. Baird, a widow	SWN Production Company, LLC	18.00%	915/231
Gail Seelman Falasco and Ronald Falasco, her husband	SWN Production Company, LLC	14.00%	916/404
Joanne Grace Baird, a widow	SWN Production Company, LLC	14.00%	916/398
The Tom Frohnapfel Revocable Living Trust dated January 20, 2015 by Ann Dee Callison, Trustee	SWN Production Company, LLC	14.00%	916/1
Jo Ann Herrmann Rogowski, a widow	SWN Production Company, LLC	18.00%	916/429
Larry C. Baird, a single man	SWN Production Company, LLC	14.00%	916/380
Leada Seelman, a married woman dealing in her sole and separate property	SWN Production Company, LLC	14.00%	916/416
Mary Anne Marano, a married woman dealing in her sole and separate property	SWN Production Company, LLC	14.00%	916/365
Ted W. Freeman by Rita Johnson, his Attorney-In-Fact	SWN Production Company, LLC	14.00%	916/392
Gail Pennington, a married woman dealing in her own and separate property	SWN Production Company, LLC	18.00%	917/465
James S. Rogers, Jr., a married man dealing in his own and separate property	SWN Production Company, LLC	18.00%	917/455



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**EXHIBIT "A"**

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		Karen R. Goree, a married woman dealing in her own and separate property	SWN Production Company, LLC	18.00%	917/470
		Lynn Stroud, a married woman dealing in her own and separate property	SWN Production Company, LLC	18.00%	917/460
		The Board of Commissioners of Ohio County a/k/a The County Commission of Ohio County	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	802/742 883/415
5)	4-R5-55	Board of Commissioners of the County of Ohio	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	802/742
6)	3-B46-18	Barry L. Greathouse and Patricia A. Greathouse	SWN Production Company, LLC	15.50%	35/373
7)	3-B41-32	Barry L. Greathouse and Patricia A. Greathouse	SWN Production Company, LLC	15.50%	35/373
8)	3-B41-31	Resource Minerals Headwater II, LP	SWN Production Company, LLC	18.00%	42/753
9)	3-B41-21-4	HG Energy II Appalachia, LLC	SWN Production Company, LLC	18.00%	42/260
10)	3-B41-30	Lawrence R. Moore and Rosemary Kinder Moore, husband and wife	SWN Production Company, LLC	18.00%	40/611
11)	3-B41-35	Lawrence R. Moore and Rosemary Kinder Moore, husband and wife	SWN Production Company, LLC	18.00%	40/611
12)	3-B41-36	Michael A. and Linda S. Wolen	SWN Production Company, LLC	18.00%	39/272
13)	3-B41-5	CNX Gas Company, LLC	SWN Production Company, LLC and Equinor USA Onshore Properties, Inc.	18.00%	48/118
14)	1-BB41-3	HG Energy II Appalachia, LLC	SWN Production Company, LLC	18.00%	47/677
15)	1-BB41-17	West Penn Power Company	SWN Production Company, LLC	18.00%	48/524
16)	1-BB41-10	West Penn Power Company	SWN Production Company, LLC	18.00%	48/524
17)	1-BB41-13	West Penn Power Company	SWN Production Company, LLC	18.00%	48/524
18)	1-BB41-1	AEP OHIO, Inc.	SWN Production Company, LLC	18.00%	48/129
19)	1-BB41-8	The Brooke County Commission	SWN Production Company, LLC	18.00%	41/714
20)	1-BB36-30	Allegheny Energy Supply Company, LLC	SWN Production Company, LLC	18.00%	48/529



69-00209-1000  
11/09/2018



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

October 1, 2018

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

**RE:** SWN's proposed New Well: Edward Dremak OHI 405H in Ohio County, West Virginia, Drilling under W.V. State Route 2, Windy Hill Road, Old Ferry Road, and Waddells Run Road.

Dear Ms. Adkins:

SWN Production Company, LLC ("SWN") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to SWN's right to drill under W.V. State Route 2, Windy Hill Road, Old Ferry Road, and Waddells Run Road. Please be advised that SWN has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Thank you.

Sincerely,

John D. Startz, CPL  
Technical Expert Landman  
West Virginia Division

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October 4, 2018

69-00228

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

**RE:** Proposed New Well: Edward Dremak OHI 405H

Dear Ms. Adkins

Enclosed please find the updated 6B, WBD, Mylar, 6A1, and road letter for the above captioned well. We are extending the lateral. This well is situated on the Dremak's property in Ohio County, West Virginia.

If you have any questions or desire additional information, please me at 304-884-1613.

Thank you.

Sincerely,

*Brittany Woody*

Brittany Woody  
Regulatory Analyst  
Southwestern Energy Production Company, LLC

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