



west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Thursday, May 27, 2021
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit Modification Approval for CARL ROTTER OHI 210H
47-069-00331-00-00

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 positioned above the printed name and title.

James A. Martin
Chief

Operator's Well Number: CARL ROTTER OHI 210H
Farm Name: CARL J. & GRACE A. ROTTER
U.S. WELL NUMBER: 47-069-00331-00-00
Horizontal 6A New Drill
Date Modification Issued: 5/27/21

Promoting a healthy environment.

05/28/2021

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 3-Liberty 648-Valley Grove
Operator ID County District Quadrangle

2) Operator's Well Number: Carl Rotter OHI 210H Well Pad Name: Carl Rotter OHI

3) Farm Name/Surface Owner: Carl J. & Grace A. Rotter Public Road Access: Rogers Road

4) Elevation, current ground: 1336' Elevation, proposed post-construction: 1336'

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- 6732', Target Base TVD- 6791', Anticipated Thickness- 59', Associated Pressure- 4414

8) Proposed Total Vertical Depth: 6766'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 21522'

11) Proposed Horizontal Leg Length: 14,332.68'

12) Approximate Fresh Water Strata Depths: 586'

13) Method to Determine Fresh Water Depths: Salinity Profile Analysis using deepest nearby water well

14) Approximate Saltwater Depths: 832' Salinity Profile analysis of Pottsville Sandstone

15) Approximate Coal Seam Depths: 721'

16) Approximate Depth to Possible Void (coal mine, karst, other): Possible Void 721'

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: Tunnel Ridge
Depth: 721'
Seam: Pittsburgh
Owner: Tunnel Ridge

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Environmental Protection

WW-6B
(04/15)

API NO. 47-~~0069~~ - 00331 MOD
 OPERATOR WELL NO. Carl Rotter OHI 210H
 Well Pad Name: Carl Rotter OHI

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#	126'	126'	CTS
Fresh Water	13 3/8"	New	H-40	48#	760'	760'	713 sx/CTS
Coal	See	Surface	Casing				
Intermediate	9 5/8"	New	J-55	36#	2168'	2168'	755 sx/CTS
Production	5 1/2"	New	P-110 HP	20#	21522'	21522'	Tail 3990sx/ 100' Inside Intermediate
Tubing							
Liners							

Bryan Hester
4.21.21

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"	0.380	2730	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	1.19/5% Excess
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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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 unites, horizontal separation units, water and oil storage tanks. Max press and anticipated max rate- 9000 lbs @ 100 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 14

22) Area to be disturbed for well pad only, less access road (acres): 9

23) Describe centralizer placement for each casing string:

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

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

See Attachment ***

25) Proposed borehole conditioning procedures:

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

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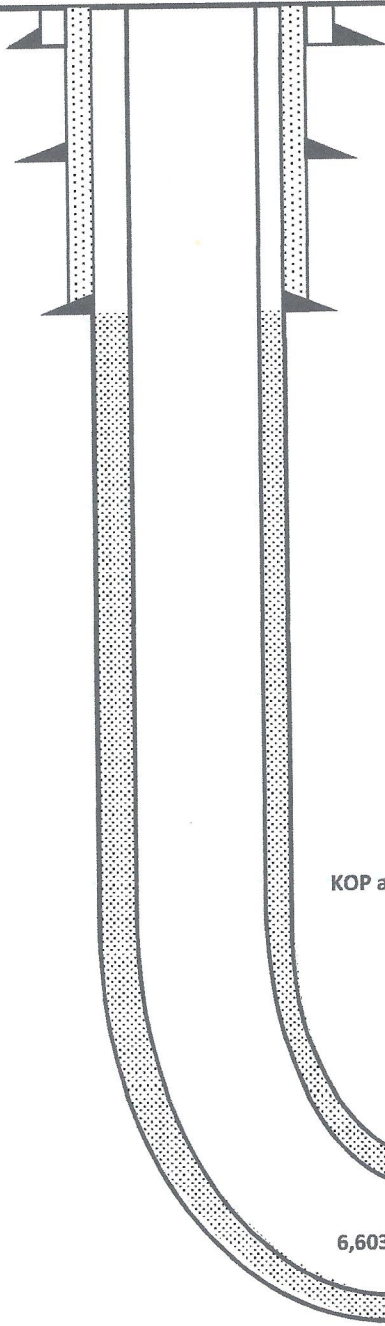
*Note: Attach additional sheets as needed.

Southwestern Energy Company

Proposed Drilling Program

Well: CARL ROTTER OHI 210
 Field: PANHANDLE FIELD \\
 County: OHIO
 SHL: 40.1015 Latitude -80.5424 Longitude
 BHL: 40.0680 Latitude -80.5187 Longitude
 KB Elev: 1,362 ft MSL

Re-entry Rig: TBD
 Prospect: Marcellus Shale
 State: WV
 KB: 26 ft AGL
 GL Elev: 1,336 ft MSL



Coal Seam at 721'

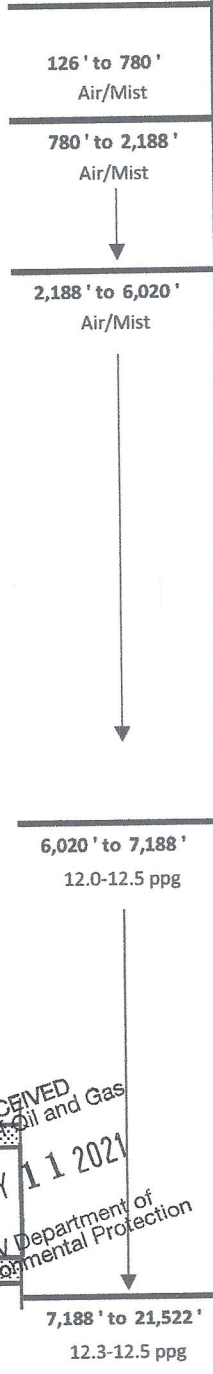
PROD TOC Lead @ 2,268' MD
 PROD TOC Tail @ 5,911' MD

TUBULAR DETAIL

Casing String	Casing Size (in)	Weight (Min)	Grade (Min)	Planned Interval	
				From	To
Conductor	20	94.0 #	J-55	0'	126'
Surface/Coal	13.375	48.0 #	H-40	0'	760'
Intermediate	9.625	36.0 #	J-55	0'	2,168'
Production	5.5	20.0 #	P-110 HP	0'	21,522'

CEMENT DETAIL

	Sacks	Class	Density
Conductor:	151	A	19.3
Surface:	713	A	15.6
Intermediate:	755	A	15.6
Production:	3990	A	14.5-15.6



KOP at 6,020' MD

Freshwater Depth - 586' TVD
 Coal Void Depth - 721' TVD
 Saltwater Depth - 832' TVD
 TVD - 6,766'
 TMD - 21,522'

6,603' Target Center TVD

TD at 21,522' MD
 6,766' TVD

EOB at 7,188' MD

SHL Onondaga 6,628' TVD

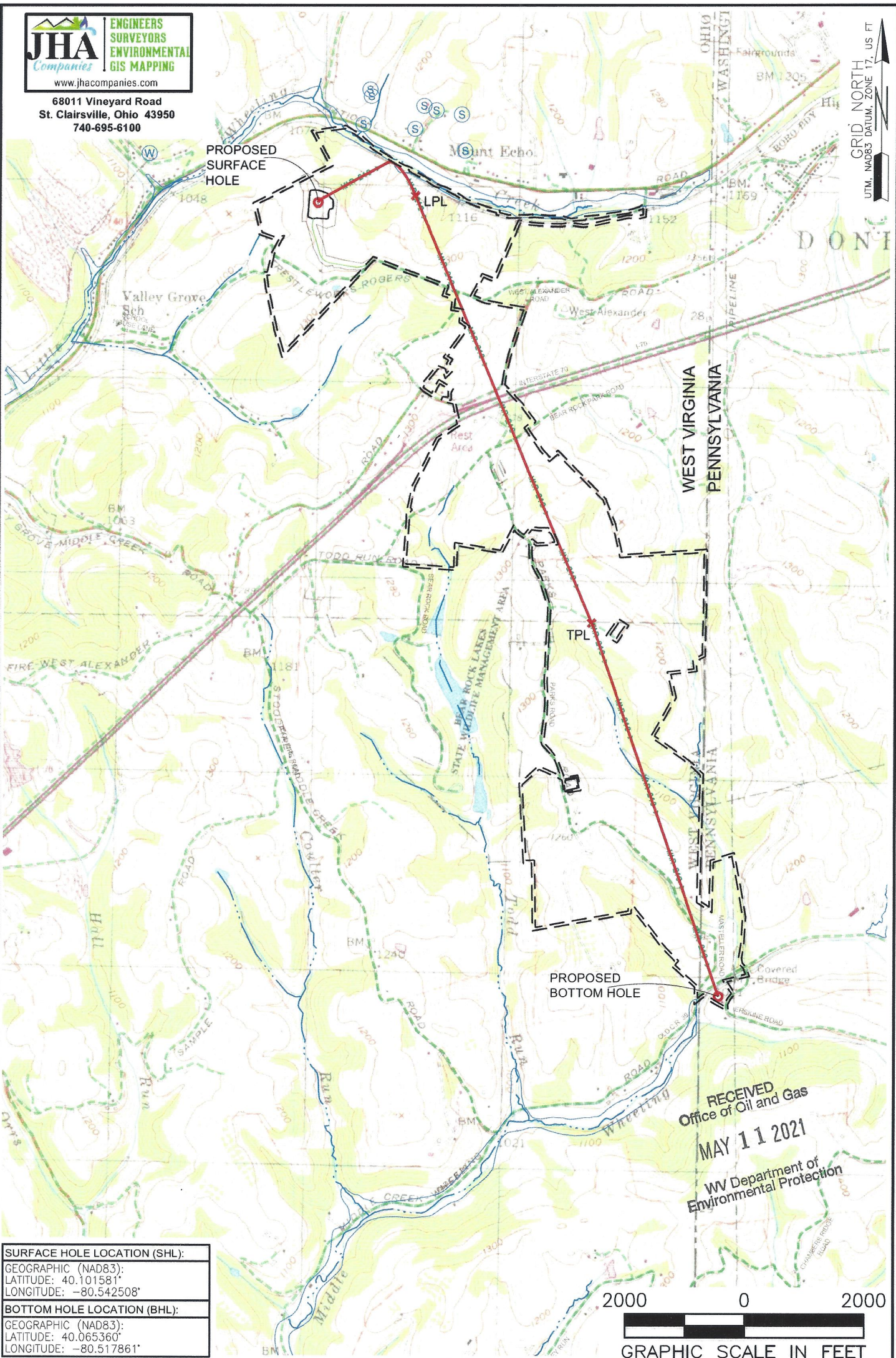
Onondaga 6,791' TVD

7,188' to 21,522'
 12.3-12.5 ppg

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



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

SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.101581°
LONGITUDE: -80.542508°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.065360°
LONGITUDE: -80.517861°

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

LEGEND:

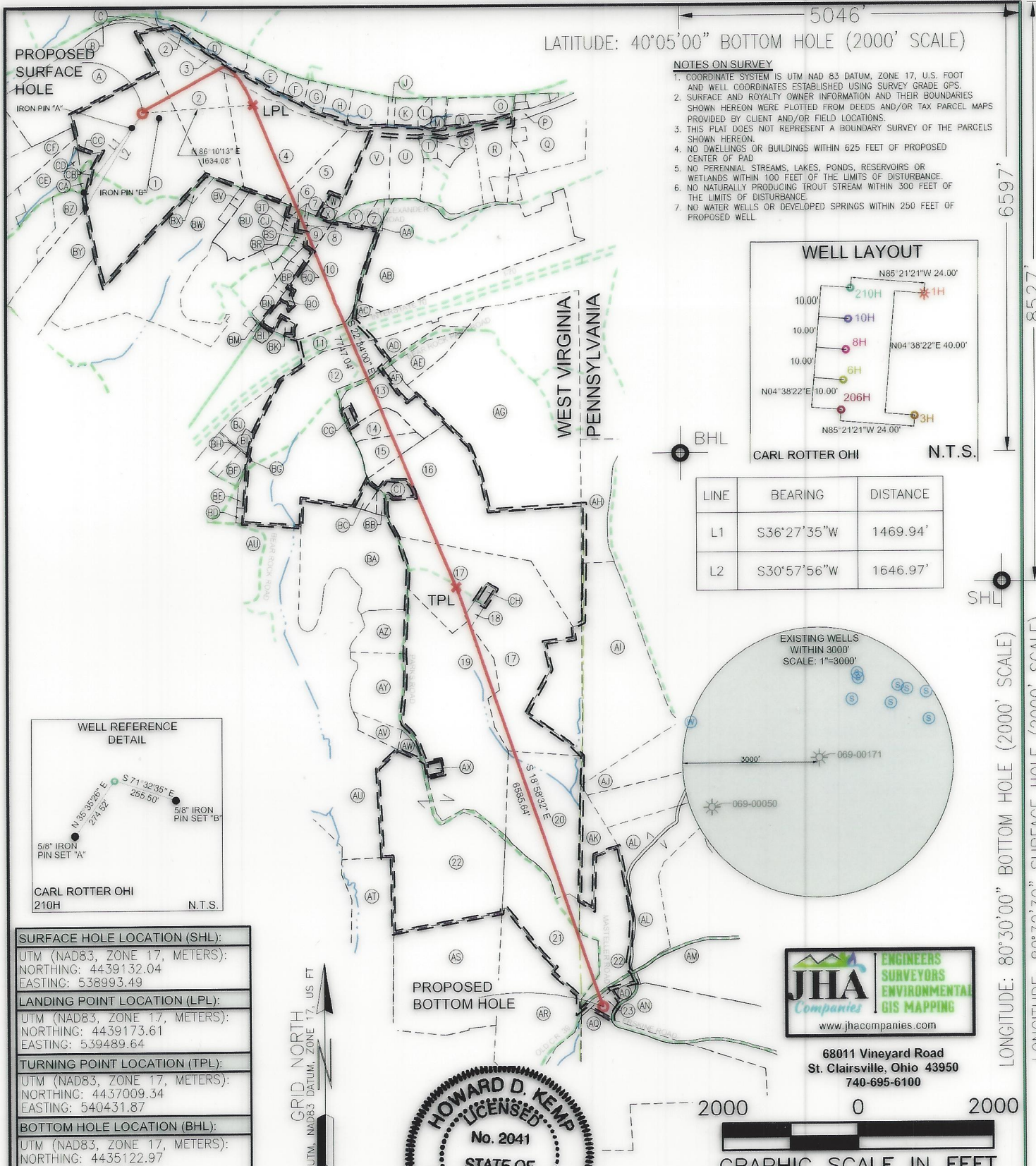
- PROPOSED SURFACE HOLE / BOTTOM HOLE
- ⊙ EXISTING / PRODUCING WELLHEAD
- ✱ LPL
- FLOOD PLAIN
- NATURAL WATERWAY
- ACCESS ROAD
- PUBLIC ROAD
- ACCESS ROAD TO PREV. SITE
- LEASE BOUNDARY
- PROPOSED PATH

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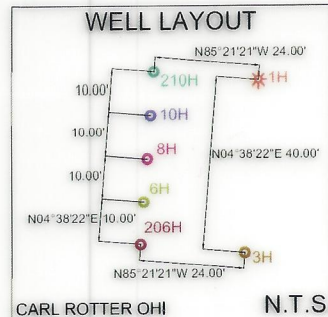
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: CARL ROTTER OHI	WELL # 210H	SERIAL # XXXX
ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201, MORGANTOWN, WV 26508	COUNTY: OHIO	CODE: 9	DISTRICT: LIBERTY
SURFACE OWNER: CARL J. & GRACE A. ROTTER	USGS 7 1/2 QUADRANGLE MAP NAME: VALLEY GROVE, WV		

LATITUDE: 40°07'30" SURFACE HOLE (2000' SCALE) 303'

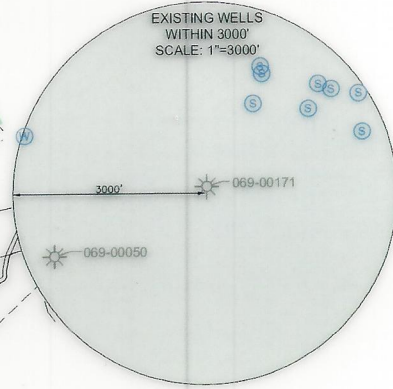
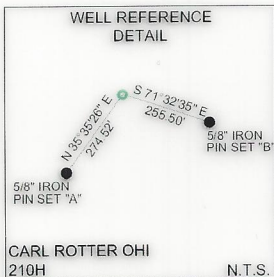
LATITUDE: 40°05'00" BOTTOM HOLE (2000' SCALE)



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



LINE	BEARING	DISTANCE
L1	S36°27'35"W	1469.94'
L2	S30°57'56"W	1646.97'



SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4439132.04 EASTING: 538993.49
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4439173.61 EASTING: 539489.64
TURNING POINT LOCATION (TPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4437009.34 EASTING: 540431.87
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4435122.97 EASTING: 541116.03



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



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

<p>(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS</p> <p>WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034</p>	MINIMUM DEGREE OF ACCURACY: 1/200 PROVEN SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)	COMPANY: SWN Production Company, LLC OPERATOR'S WELL #: CARL ROTTER OHI 210H API WELL #: 47 STATE COUNTY PERMIT
	WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input checked="" type="checkbox"/> DEEP <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/>	WATERSHED: UPPER OHIO SOUTH DISTRICT: LIBERTY COUNTY: OHIO SURFACE OWNER: CARL J. & GRACE A. ROTTER OIL & GAS ROYALTY OWNER: CARL J. & GRACE A. ROTTER

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: 6,766' IVD 21,322' IVD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

DESIGNATED AGENT: BRITTANY WOODY ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND:	REVISIONS:	DATE: 04-29-2021
<ul style="list-style-type: none"> PROPOSED SURFACE HOLE / BOTTOM HOLE EXISTING / PRODUCING WELLS HEAD LPL* LANDING POINT LOCATION EXISTING WATER WELL EXISTING SPRING NATURAL WATERWAY SURVEYED BOUNDARY LEASE BOUNDARY PROPOSED PATH PUBLIC ROAD 	<ul style="list-style-type: none"> DATE: 04-29-2021 API NO: 47-069-00331 DRAWN BY: R. GRIMES SCALE: 1" = 2000' DRAWING NO: 2018-0153 WELL LOCATION PLAT 	

WELL BORE TABLE FOR SURFACE/ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	ROTTER Carl J & GRACE A (S/R)	3-L11-54
TRACT	SURFACE OWNER	TAX PARCEL
2	GRIFFITH SHARON & WARREN	3-L11-60.1
3	TUNNEL RIDGE LLC	3-L12-32
4	WATKINS THERESA & MARK	3-L11-60
5	TUNNEL RIDGE LLC	3-L12-25
6	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS	REALTREE RD., FKA TRESTLEWORK ROGERS RD., AKA ROGERS ROAD
7	JSNE LLC	3-L11-46.8
8	TUNNEL RIDGE LLC	3-L11-46.16
9	KLAGES LLOYD A JR & AMY	3-L12-30
10	HALL ROBERT H. & LAURA L., HALL DAVID LEE & SANDRA SUE, PASCO THOMAS P. & MARY	3-L15-1.1
11	STATE OF WEST VIRGINIA, DEPARTMENT OF HIGHWAYS	INTERSTATE 70
12	PAGENDARM JOS F & P M	3-L15-2.2
13	BERGHOFF GERALD W	3-L15-2.6
14	ERNEST LAWRENCE F & DEBORAH	3-L15-3
15	ERNEST LAWRENCE F & DEBORAH K	3-L15-4.1
16	OLIVER LUCAS B	3-L15-4
17	TUNNEL RIDGE LLC	3-L15-4.6
18	TUNNEL RIDGE LLC	3-L15-4.4
19	DAVIS JOHN RICHARD JR, DAVIS DEBRA L, DAVIS JOSEPH DAVID	6-T10-1
20	BRIGGS KAREN LYNN & HENRY WILLIAM	6-T10-4.2
21	HORR DONNIE L, BRIGGS KAREN L, HORR GLENN B	6-T10-4
22	HORR DONNIE L, BRIGGS KAREN L, HORR GLENN B	680-005-00-00-0003-00
23	HANCHER MATTHEW W	680-005-00-00-0010-00

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
AI	MOORE HEIDI L & BENJAMIN R	230-006-00-00-0010-00
AJ	GREAVES THOMAS & MARTHA,	230-006-00-00-0012-01
AK	BRIGGS KAREN LYNN	680-005-00-00-0003-01
AL	GREAVES THOMAS & MARTHA	680-005-00-00-0004-02
AM	DUNN WILLIAM C & SALLIE A	680-005-00-00-0004-01
AN	DUNN WILLIAM C & SALLIE A	680-005-00-00-0010-02
AO	HANCHER MATTHEW W & KELLY	680-005-00-00-0010-03
AQ	MOORE THOMAS E	680-005-00-00-0002-00
AR	HORR DONNIE L & MICHELLE	6-T10-4.1
AS	WINESBURG MICHAEL J	6-T10-5.4
AT	WILD LIFE LEAGUE OF OHIO CO	6-T10-2
AU	CONSERVATION COMM OF W VA	6-T5-1
AV	DAVIS JOHN RICHARD & ADA I	6-T5-2.3
AW	DAVIS JOHN RICHARD JR & ADA I	6-T5-6
AX	DAVIS DEBRA L	6-T5-5
AY	DAVIS JOHN R & ADA I	6-T5-2.1
AZ	GIVENS HERSCHEL L & JONES DORTHY S	6-T5-2.2
BA	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	6-T5-2
BB	JEWETT CLARENCE G AND TRACY	3-L15-4.2
CI	OLIVER LUCAS B C/O MCCAMIC JEFF	3-L15-4.5
BC	MORGAN SALLY A	3-L15-2.4
BD	NIETZELT EDWARD L	3-L14-38
BE	ERNEST KELLY MICHAEL	3-L14-35
BF	ERNEST DEBORAH J	3-L14-31.5
BG	ERNEST DEBORAH J	3-L14-34
BH	TULLY JAMES M & VERONICA	3-L14-31.1
BI	TULLY JAMES M	3-L14-31.4
BJ	TULLY JAMES M & VERONICA	3-L14-31.2
BK	WOOD BRENTON R & KELLY S	3-L15-1.2
BL	TUNNEL RIDGE LLC	3-L14-39
BM	NUNES ANDREW J	3-L11-48.9
BN	TUNNEL RIDGE LLC	3-L14-54
BO	HALL ROBERT H & LAURA L	3-L15-7
BP	HALL ROBERT H & LAURA L	3-L11-48.1
BQ	KLAGES LLOYD A JR & AMY	3-L11-48.10
BR	TUNNEL RIDGE LLC	3-L11-46.14
BS	TUNNEL RIDGE LLC	3-L11-46.15
CJ	JSNE LLC	3-L11-46.8
BT	TUNNEL RIDGE LLC	3-L11-46.2
BU	WOLEN JOHN J & MICHELLE L	3-L11-46.11
BV	POWERS JEFFREY B	3-L11-46.20
BW	KLAGES LLOYD A JR	3-L11-46.18
BX	SCHMIDT TODD R	3-L11-46.22
BY	WATSON GARY L & ROSE	3-L11-55.1
BZ	WEASE DUANE L & RHONDA L	3-L11-55.2
CA	ROTTER C J & GRACE A	3-L11-53
CB	ROTTER C J & GRACE A	3-L11-52
CC	DAVIS DONNA E & DANIEL R	3-L11-50
CD	DAVIS DONNA EVANS & DANIEL R	3-L11-49.2
CE	DAVIS DONNA EVANS & WEASE RHONDA EVANS	3-L11-49
CF	ROTTER CARL J & GRACE A	3-L11-64
CG	GYEKIS ROBERT J & VICKI L	3-L15-2.3
CH	TUNNEL RIDGE LLC	3-L15-4.3

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	NOLAN JOHN A JR	3-L11-61
B	NOLAN JOHN A JR	3-L11-66
C	NOLAN JOHN A JR	3-L11-63
D	MAZGAJ MILDRED J	3-L11-62
E	MAZGAJ MILDRED J	3-L11-67
F	FORDYCE TERRY L	3-L12-23
G	FORDYCE SHAUN LEMOINE & JASON ERIC	3-L12-24
H	GOUDY JUDITH A TRUSTEE JUDITH A GOUDY TRUST	3-L12-29
I	PLOCK DOUGLAS J & CHRISTINE M	3-L12-28
J	McCAVE SCOTT C	3-L12-10.3
K	G W RENTALS LLC	3-L12-10
L	WHEELING COIN LLC	3-L12-10.7
M	SHRIVER DANIEL L JR & CHRISTINA E	3-L12-10.5
N	ONEIL MICHELE	3-L12-10.4
O	ONEIL MICHELE I	3-L12-11
P	FRYE RICHARD L & CHERYL L	3-L12-31
Q	FRYE RICHARD L	3-L12-15
R	SHRIVER DANIEL L & GOLDIE ANN	3-L12-21
S	SHRIVER DANIEL L JR & GOLDIE ANN	3-L12-21.5
T	SHRIVER DANIEL L & GOLDIE	3-L12-21.3
U	MCFARLAND DENNIS E & BRIS NANCY M	3-L12-22
V	TUNNEL RIDGE LLC	3-L12-25.1
W	KLAGES LLOYD A JR	3-L12-25.2
X	ENGLISH MARGARET B	3-L12-25.3
Y	TUNNEL RIDGE LLC	3-L12-18.1
Z	TUNNEL RIDGE LLC	3-L12-18.2
AA	TRIPLE P LLC	3-L12-18.3
AB	TRIPLE P LLC	3-L12-18
AC	TURNER FRANCES A	3-L12-18.6
AD	TRIPLE P LLC	3-L12-18.8
AE	TRIPLE P LLC	3-L12-18.9
AF	BERGHOFF BRAD W	3-L15-2.9
AG	BERGHOFF GERALD W	3-L15-5
AH	TUNNEL RIDGE LLC	230-006-00-00-0015-00

REVISIONS:	COMPANY:  		DATE: 04-29-2021
	OPERATOR'S	CARL ROTTER OHI	API NO: 47-069-00331
	WELL #:	210H	DRAWN BY: R. GRIMES
	DISTRICT: LIBERTY	COUNTY: OHIO	STATE: WV
			SCALE: N/A
			DRAWING NO: 2018-0153
			WELL LOCATION PLAT

05/28/2021

WW-6A1
(5/13)

Operator's Well No. Carl Rotter OHI 210H

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

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

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

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
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

RECEIVED
Office of Oil and Gas
MAY 11 2021
WV Department of
Environmental Protection

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 Co., LLC

By: Gavin Nadeau

Its: Landman

EXHIBIT "A"
Carl Rotter OHI 210H
Ohio County, West Virginia
Washington County, West Virginia

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

#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG
1)	03-0L11-0054-0000	Carl J. Rotter and Grace A. Rotter, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	791/16 885/248
2)	03-0L11-0060-0001	Lloyd A. Klages and Bertha L. Klages, husband and wife	Great Lakes Energy Partners, L.L.C. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	778/278 808/521 883/515
3)	03-0L12-0032-0000	Tunnel Ridge, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	16.75%	865/672 883/778
4)	03-0L11-0060-0000	Lloyd A. Klages and Bertha L. Klages, husband and wife	Great Lakes Energy Partners, L.L.C. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	778/278 808/521 883/515
5)	03-0L12-0025-0000	Lloyd A. Klages and Bertha L. Klages, husband and wife	Great Lakes Energy Partners, L.L.C. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	778/278 808/521 883/515
6)	REALTREE RD F/K/A TRESTLEWORK ROGERS RD A/K/A ROGERS RD	West Virginia Department of Transportation, Division of Highways	SWN Production Company, LLC	20.00%	994/781
7)	03-0L11-0046-0008	Lloyd A. Klages and Bertha L. Klages, husband and wife	Great Lakes Energy Partners, L.L.C. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	778/278 808/521 883/515
8)	03-0L11-0046-0016	Lloyd A. Klages and Bertha L. Klages, husband and wife	Great Lakes Energy Partners, L.L.C. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	778/278 808/521 883/515
9)	03-0L12-0030-0000	Lloyd A. Klages Jr. and Amy Klages, Husband and Wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	17.00%	878/554 895/498
10)	03-0L15-0001-0001	Frances, L. Hall, widow (Life Estate interest), Robert H. Hall and Laura L. Hall, husband and wife (Remainder Interest), David Lee Hall and Sandra Sue Hall, husband and wife (Remainder Interest), and Mary Pasco and Thomas P. Pasco, wife and husband (Remainder interest)	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	817/638 885/548
11)	170	Frances, L. Hall, widow (Life Estate interest), Robert H. Hall and Laura L. Hall, husband and wife (Remainder Interest), David Lee Hall and Sandra Sue Hall, husband and wife (Remainder Interest), and Mary Pasco and Thomas P. Pasco, wife and husband (Remainder interest) Joseph F. Pagendarm and Patricia M. Pagendarm, his wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC TriEnergy, Inc. TriEnergy Holdings, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00% 12.50%	817/638 885/548 788/687 791/171 798/653 885/272
12)	03-0L15-0002-0002	Joseph F. Pagendarm and Patricia M. Pagendarm, his wife	TriEnergy, Inc. TriEnergy Holdings, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	788/687 791/171 798/653 885/272
13)	03-0L15-0002-0006	Gerald W. Berghoff and Bonnie D. Berghoff, husband and wife	SWN Production Company, LLC	18.00%	977/76
14)	03-0L15-0003-0000	Lawrence F. Ernest and Deborah K. Ernest, husband and wife	American Petroleum Partners Operating, LLC SWN Production Company, LLC	19.00%	935/290 980/572
15)	03-0L15-0004-0001	Lawrence F. Ernest and Deborah K. Ernest, husband and wife	American Petroleum Partners Operating, LLC SWN Production Company, LLC	19.00%	935/290 980/572
16)	03-0L15-0004-0000	Lucas B. Oliver, married, and Jeffrey W. McCamic, Attorney-in-Fact for Jacob S. Oliver McCamic, single	Great Lakes Energy Partners, L.L.C. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	777/589 808/521 883/515
17)	03-0L15-0004-0006	Lucas B. Oliver, married, and Jeffrey W. McCamic, Attorney-in-Fact for Jacob S. Oliver McCamic, single	Great Lakes Energy Partners, L.L.C. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	777/589 808/521 883/515
18)	03-0L15-0004-0004	Lucas B. Oliver, married, and Jeffrey W. McCamic, Attorney-in-Fact for Jacob S. Oliver McCamic, single	Great Lakes Energy Partners, L.L.C. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	777/589 808/521 883/515
19)	06-0T10-0001-0000	John Richard Davis Jr. and Ada I. Davis, husband and wife Debra L. Davis, a widow Joseph David Davis and D'Arcy B. Davis, husband and wife	American Petroleum Partners Operating, LLC SWN Production Company, LLC American Petroleum Partners Operating, LLC SWN Production Company, LLC American Petroleum Partners Operating, LLC SWN Production Company, LLC	19.00%	936/149 980/572 935/274 980/572 936/168 980/572
20)	06-0T10-0004-0002	Karen Lynn Briggs, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	822/401 885/105
21)	06-0T10-0004-0000	Patricia A. Clark, a single woman	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	822/512 885/105
22)	680-005-00-00-0003-00	Patricia Ann Clark, single	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	201201619 201442022
23)	680-005-00-00-0010-00	Matthew Hancher and Kelly Hancher, husband and wife	SWN Production Company, LLC	18.00%	202006691

END OF EXHIBIT "A"

RECEIVED
Office of Oil and Gas

MAY 11 2021

WV Department of
Environmental Protection

05/28/2021

May 10, 2021

Mr. Taylor Brewer
Office of Oil & Gas
601 57th Street
Charleston, WV 25304

CK # 000 1055786
\$ 5,000.00

RE: Proposed Modification: Carl Rotter OHI 210H

Dear Mr. Brewer:

Enclosed please find the required documents to modify this well. We are wanting to extend the lateral. This well is situated on the Rotter's property, in Liberty District, Ohio County, West Virginia.

Enclosed you will find:

- 6B
- Updated WBD
- Mylar plat
- New 6A1

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

Thank you.

Sincerely,



Brittany Woody
Senior Regulatory Analyst
Southwestern Energy Production Company, LLC

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Office of Oil and Gas
MAY 11 2021
WV Department of
Environmental Protection

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



SWN Production Company, LLC
1300 Fort Pierpont Dr, Ste 201
Morgantown, WV 26508
Tel: 304 884 1610
Fax: 304 471 2497
www.swn.com

January 14, 2020

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

RE: SWN's proposed New Well: Carl Rotter OHI 210H in Ohio County, West Virginia, Drilling under Trestleworks Rogers Road, Interstate 70, Stoolfire-West Alexander Road, Bear Rock Road, and Masteller 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 Trestleworks Rogers Road, Interstate 70, Stoolfire-West Alexander Road, Bear Rock Road, and Masteller 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,

Bradley Wilson
Senior Landman
SWN Production Company, LLC

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Office of Oil and Gas
MAY 11 2021
WV Department of
Environmental Protection

The Right People doing the Right Things,
wisely investing the cash flow from our
underlying Assets, will create Value+[®]
05/28/2021

May 10, 2021

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

RE: Proposed New Well: Carl Rotter OHI 210H

Dear Ms. Adkins

SWN has reviewed the area of the above mentioned well and discovered no shallow wells within 500' of the lateral. This well is situated on the Rotter's property, in Liberty District, Ohio County, West Virginia.

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

Thank you.

Sincerely,



Brittany Woody
Senior Regulatory Analyst
Southwestern Energy Production Company, LLC

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MAY 11 2021
WV Department of
Environmental Protection

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