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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)

Monday, January 9, 2023  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC  
POST OFFICE BOX 12359  
SPRING, TX 773914954

Re: Permit Modification Approval for ROTH 206H  
47-069-00350-00-00

**Freshwater Casing Depth Shortened, Surface Owner Re-Notice**

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: ROTH 206H  
Farm Name: ROTH FARMS, LLC  
U.S. WELL NUMBER: 47-069-00350-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 01/09/2023

Promoting a healthy environment.

01/13/2023

*OW# 1071134  
500000*

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 005-Rich 641-Tiltonsville  
Operator ID County District Quadrangle

2) Operator's Well Number: Roth OHI 206H Well Pad Name: Roth OHI

3) Farm Name/Surface Owner: Roth Farms, LLC Public Road Access: Clearview Avenue

4) Elevation, current ground: 1004.0 Elevation, proposed post-construction: 1010'

5) Well Type (a) Gas  Oil  Underground Storage

Other \_\_\_\_\_

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

Horizontal

6) Existing Pad: Yes or No No

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- 5744', Target Base TVD- 5800', Anticipated Thickness- 56', Associated Pressure- 3770

8) Proposed Total Vertical Depth: 5789'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 25546'

11) Proposed Horizontal Leg Length: 18481.78

12) Approximate Fresh Water Strata Depths: 422'

13) Method to Determine Fresh Water Depths: Nearby well 47-069-00012

14) Approximate Saltwater Depths: 1119' reported in nearby wells

15) Approximate Coal Seam Depths: 170'

16) Approximate Depth to Possible Void (coal mine, karst, other): Possible Void 200'

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: Valley Camp NO 1

Depth: 170 & 811'

Seam: Pittsburgh

Owner: Valley Camp Coal

*Strader Gower*  
12/12/2022

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Environmental Protection

18)

**CASING AND TUBING PROGRAM**

<b>TYPE</b>	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	20"	New	J-55	94#	110'	110'	CTS
Fresh Water	13 3/8"	New	J-55	54.4#	505'	505'	585 sx/CTS
Coal	See	Surface	Casing				
Intermediate	9 5/8"	New	J-55	36#	1706'	1706'	634 sx/CTS
Production	6"	New	P-110 HP	24#	0'	6500'	
Production	5 1/2"	New	P-110 HP	20#	6500'	25546'	Tail 4002sx/ 100' Inside Intermediate
Liners							

<b>TYPE</b>	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
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"	0.395	3950	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**

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Kind:				
Sizes:				
Depths Set:				

WV Department of Environmental Protection

*Strader Gower*  
12/12/2022

# Southwestern Energy Company

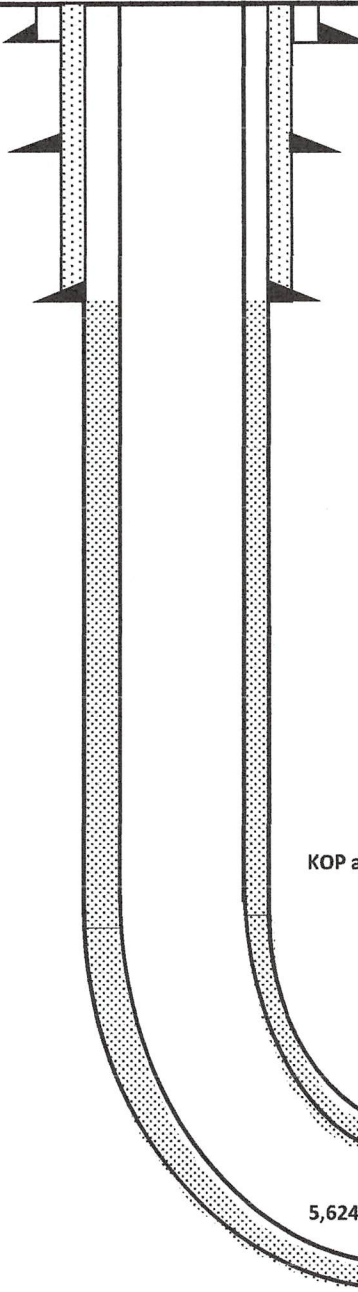
# Proposed Drilling Program

Well: ROTH OHI 206  
 Field: PANHANDLE FIELD WET  
 County: OHIO  
 SHL: 40.1511 Latitude -80.6869 Longitude  
 BHL: 40.1093 Latitude -80.6696 Longitude  
 KB Elev: 1,030 ft MSL KB: 26 ft AGL

Re-entry Rig: SDC 40  
 Prospect: Marcellus Shale  
 State: WV  
 GL Elev: 1,004 ft MSL



12/5/2022



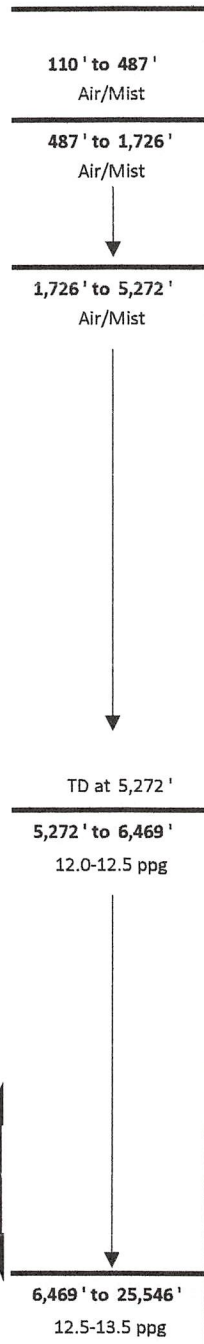
PROD TOC Lead @ 1,706' MD  
 PROD TOC Tail @ 5,272' MD

### TUBULAR DETAIL

Casing String	Casing Size (in)	Weight (Min)	Grade (Min)	Planned Interval	
				From	To
Conductor	20	94.0 #	J-55	0'	126'
Surface	13.375	54.4 #	J-55	0'	467'
Intermediate	9.625	36.0 #	J-55	0'	1,706'
Production	6.0	24.0 #	P-110 HP	0'	6,500'
Production	5.5	20.0 #	P-110 HP	6,500'	25,546'

### CEMENT DETAIL

	Sacks	Class	Density
Conductor	140	A	19.3
Surface	585	A	15.6
Intermediate	634	A	15.6
Production	4002	A	14.5-15.0



KOP at 5,272' MD

Freshwater Depth - 422' TVD  
 Coal Void Depth - 200' TVD  
 Saltwater Depth - 1,119' TVD  
 TVD - 5,789' TVD  
 TMD - 25,546'

5,624' Target Center

TD at 25,546' MD  
 5,789' TVD

EOB at 6,469' MD

SHL Onondaga 5,635' TVD

Onondaga 5,800' TVD

6,469' to 25,546'  
 12.5-13.5 ppg

Created by: Sebastian Ziaja on 12/05/2022

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DEC 21 2022

WV Department of Environmental Protection

*Strader Gower*  
 12/12/2022

01/13/2023

ORIGIN ID:MGWA (304) 884-1610  
BRITTANY WOODY  
SOUTHWESTERN ENERGY COMPANY  
1300 FORT PIERPONT DR  
SUITE 201  
MORGANTOWN, WV 26508  
UNITED STATES US

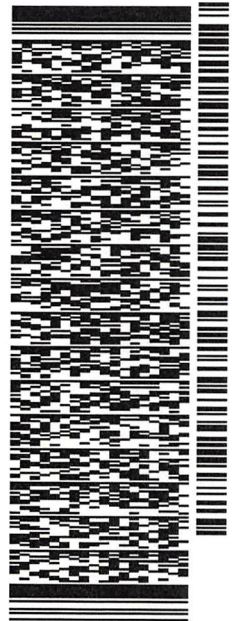
SHIP DATE: 04JAN23  
ACTWTG: 0.50 LB  
CAD: 107421957/NET14530  
BILL SENDER

TO **ROTH FARM, LLC**

**423 CLEARVIEW AVENUE**

**WHEELING WV 26003**

(000) 000-0000 REF: 1685  
INV. DEPT



TRK# 7709 3704 4132  
0201

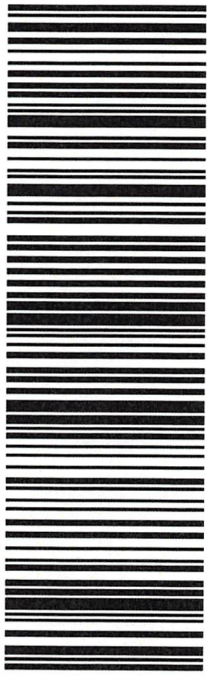
MON - 09 JAN 4:30P

EXPRESS SAVER

**6LHLGA**

WV-US

ASR 26003  
PIT



581J1/DB09/FE2D

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

December 20, 2022

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

**RE: Proposed Expedited Modification:**

Roth OHI 10H - 69-00339  
Roth OHI 6H - 69-00349  
Roth OHI 206H - 69-00350  
Roth OHI 8H - 69-00348

*OK # 1071025  
5000*

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Environmental Protection

Dear Mr. Brewer:

Enclosed please find the required documents to modify the above mentioned wells. We would like to modify the FW Casing Depth on these wells. This well is situated on the Roth's property, in Richland District, Ohio County, West Virginia.

Enclosed you will find:

-6B  
-WBD

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

Thank you.

Sincerely,

*Brittany Woody*

Brittany Woody  
Senior Regulatory Analyst  
Southwestern Energy Production Company, LLC

**R<sup>+</sup>W<sup>+</sup>**  
**A**



Stansberry, Wade A &lt;wade.a.stansberry@wv.gov&gt;

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**Expedited Modification Horizontal H6A Well Work Permit API : (47-069-00339, 47-069-00348, 47-069-00349, 47-069-00350)**

1 message

**Stansberry, Wade A** <wade.a.stansberry@wv.gov>

Mon, Jan 9, 2023 at 10:41 AM

To: Brittany Woody &lt;Brittany\_Woody@swn.com&gt;, Liz Gee &lt;liz\_gee@swn.com&gt;, Mark Musick &lt;mmusick@assessor.org&gt;, "Gayne J. Knitowski" &lt;gayne.j.knitowski@wv.gov&gt;

I have attached a copy of the newly issued well [permit](#) number(s):





**47-061-00339 - ROTH OHI 10H****47-061-00348 - ROTH 8H****47-061-00349 - ROTH 6H****47-061-00350 - ROTH 206H**

These will serve as your copy.

Thank you,

**Wade A. Stansberry****Environmental Resource Specialist 3****West Virginia Department of Environmental Protection****Office of Oil & Gas****601 57th St. SE****Charleston, WV 25304****(304) 926-0499 ext. 41115****(304) 926-0452 fax****[Wade.A.Stansberry@wv.gov](mailto:Wade.A.Stansberry@wv.gov)**

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**4 attachments** **47-069-00350 - mod.pdf**  
3013K **47-069-00348 - mod.pdf**  
2898K **47-069-00339 - mod.pdf**  
3429K **47-069-00349 - mod.pdf**  
2013K**01/13/2023**