



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

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 OHI 10H
47-069-00339-00-00

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.



James A. Martin
Chief

Operator's Well Number: ROTH OHI 10H
Farm Name: ROTH FARMS, LLC
U.S. WELL NUMBER: 47-069-00339-00-00
Horizontal 6A New Drill
Date Modification Issued: 01/09/2023

Promoting a healthy environment.

01/13/2023

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 10H 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- 5743', Target Base TVD- 5799', Anticipated Thickness- 56', Associated Pressure- 3769

8) Proposed Total Vertical Depth: 5788'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 21460'

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11) Proposed Horizontal Leg Length: 14985.37

DEC 21 2022

12) Approximate Fresh Water Strata Depths: 422'

WV Department of Environmental Protection ✓

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

Well Pad Name: Roth OH
Operator Well No: 484512824
Operator ID: 005-Rich

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

1) Well Operator: SWM Production Co., LLC
Operator ID: 005-Rich
County: Boone
District: Quadrangle
Well Pad Name: Roth OH

2) Operator's Well Number: Roth OH 10H
Well Pad Name: Roth OH
Public Road Address: Clearview Avenue
Roth Farms, LLC

3) Elevation, current ground: 1004.0
Elevation, proposed post-completion: 1010.0

4) Well Type: (a) Gas
Oil
Underground Storage
Other
(b) Gas Shallow
Deep
Horizontal

5) Existing Pad, Yes or No: No

6) Proposed Target Formation(s) Depth(s): Antitapal Thickness and Reported Pressure(s)
Target Formation: Antitapal Down Dip Well to the South, Target Log TVD-8748, Target Gas TVD-8700, Antitapal Thickness-30, Associated Pressure-8739

7) Proposed Total Vertical Depth: 5788'

8) Formation at Total Vertical Depth: Macellus

9) Proposed Total Measured Depth: 2160'

10) Proposed Horizontal Log Length: 1488.37'

11) Approximate Fresh Water Screen Depth: 432'

12) Method to Determine Fresh Water Depth: Nearby Well #4-089-00012

13) Approximate Salt-water Depth: 1119', reported in nearby wells

14) Approximate Coal Seam Depth: NYC

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

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

Name	Depth	Screen	Owner
Valley Camp NO 1	170 & 811'	Pittsburgh	Valley Camp Coal

[Signature]
12/13/2023

18)

CASING AND TUBING PROGRAM

TYPE	<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#	467'	467'	585 sx/CTS
Coal	See	Surface	Casing				
Intermediate	9 5/8"	New	J-55	36#	1606'	1606'	634 sx/CTS
Production	5 1/2"	New	P-110 HP	20#	21460'	21460'	Tail 3800sx/ 100' Inside Intermediate
Tubing							
Liners							

TYPE	<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							

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PACKERS

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Kind:				WV Department of Environmental Protection
Sizes:				
Depths Set:				

Strader Gower
12/12/2022

CASING AND LINING PROGRAM

APR 10 11 38
OPERATOR WELL NO. 1001
Well Pad Name: 1001 CH1

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE For Drilling (ft)	INTERVALS In Well (ft)	CEMENT Fill-up (Cu ft) CTS
Conductor	20"	New	L-22	64W	110'	110'	CTS
Flush Water	13 1/2"	New	L-22	84.4W	487'	487'	888 ex CTS
Coal	See	Surface Casing					
Intermediate	9 5/8"	New	L-22	36W	1000'	1000'	894 ex CTS
Production	8 1/2"	New	P-10 HP	20W	2180'	2180'	1000 ex CTS
Tubing							
Lines							

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Butt Pressure (psi)	Anticipated Max Internal Pressure (psi)	Cement Yield (cu ft)
Conductor	20"	30"	0.25"	2150	81	Class A 1.20 20% Excess
Flush Water	13 1/2"	17 1/2"	0.360"	2730	633	Class A 1.20 20% Excess
Coal	See	Surface Casing				
Intermediate	9 5/8"	12 1/4"	0.365"	3920	1788	Class A 1.10 10% Excess
Production	8 1/2"	8 3/4" - 8 1/2"	0.381"	10200	10200	Class A 1.10 10% Excess
Tubing						
Lines						

WORKING

Kind	Notes	Depth Set

10/13/2023

Southwestern Energy Company

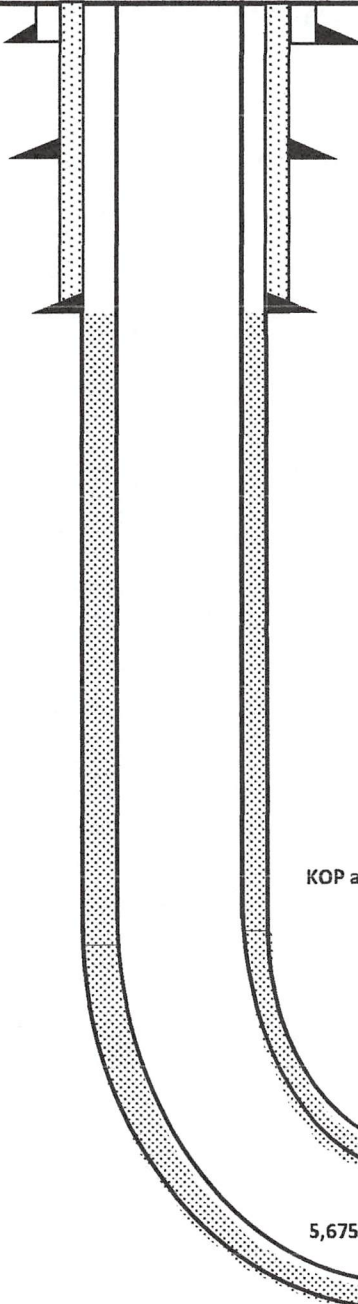
Proposed Drilling Program

Well: ROTH OHI 10
 Field: PANHANDLE FIELD WET
 County: OHIO
 SHL: 40.1511 Latitude -80.6870 Longitude
 BHL: 40.1132 Latitude -80.6634 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



12/2/2022



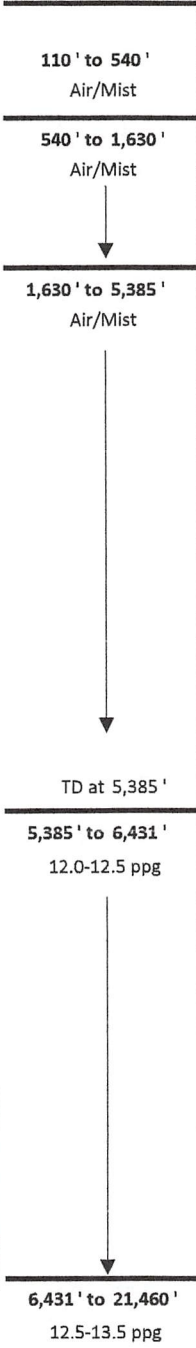
PROD TOC Lead @ 1,910' MD
 PROD TOC Tail @ 6,293' MD

TUBULAR DETAIL

Casing String	Casing Size (in)	Weight (Min)	Grade (Min)	Planned Interval	
				From	To
Conductor	20	94.0 #	J-55	0'	110'
Surface	13.375	54.4 #	J-55	0'	467'
Intermediate	9.625	36.0 #	J-55	0'	1,610'
Production	5.5	20.0 #	P-110 HP	0'	21,460'

CEMENT DETAIL

	Sacks	Class	Density
Conductor	140	A	19.3
Surface	585	A	15.6
Intermediate	634	A	15.6
Production	3800	A	14.5-15.0



KOP at 5,385' MD

Freshwater Depth - 422' TVD
 Coal Void Depth - 200' TVD
 Saltwater Depth - 1,119' TVD
 TVD - 5,675'
 TMD - 21,460'

5,675' Target Center

TD at 21,460' MD
 5,675' TVD

EOB at 6,431' MD

SHL Onondaga 5,679' TVD

Onondaga 5,679' TVD

6,431' to 21,460'

Created by: Sebastian Ziaja on 12/09/2022

Office of Oil and Gas

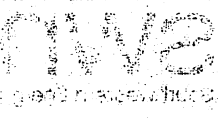
12.5-13.5 ppg

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Strader Gower
 12/12/2022

WV Department of
 Environmental Protection

01/13/2023



Re-entry Rig: 20040
 Project: Marcellus shale
 State: WV

Proposed Drilling Program

13,175.00

1,000 ft MD

10 Elev

KB: 36 ft MD

1,030 ft MD

KB Elev

40.1211 latitude
 -80.6370 longitude

40.1232 latitude
 -80.6384 longitude

Well: ROTH CHINA
 Field: RAINHAMMIE FIELD WEST
 Comp: CHD

PROD TOTAL @ 2,300 MD
 PROD TO BEAD @ 2,970 MD

LOG LOG DETAIL

Log Interval	From	To	Log Interval	From	To
Production	0	1,030	Production	0	1,030
Intermediate	0	1,030	Intermediate	0	1,030
Completion	0	1,030	Completion	0	1,030

CEMENT SCHEDULE

Class	Grade	Quantity	Notes
A	140	10.3	Production
A	282	12.8	Intermediate
A	424	15.3	Completion
A	566	17.8	Production

TVD - 2,970'
 TVD - 2,635'
 Caltwater Depth - 1,719' TVD
 Coal Void Depth - 600' TVD
 Freshwater Depth - 5' TVD

TVD of 2,970' MD
 2,635' TVD

Quadrant 2,635' TVD

20040-001 MD
 RTH CHINA RTH TVD
 20040-001 MD

Handwritten signature
 20040-001 MD

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

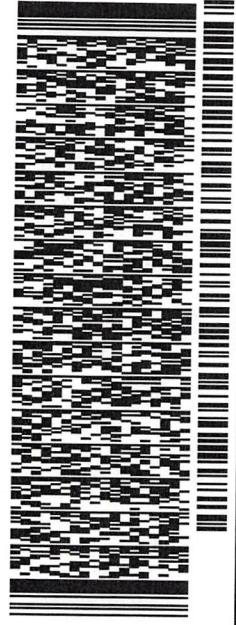
SHIP DATE: 04JAN23
ACTWGT: 0.50 LB
CAD: 107421957/MET4530
BILL SENDER

TO ROTH FARM, LLC

423 CLEARVIEW AVENUE

WHEELING WV 26003

(000) 000-0000 REF: 1695
INV: DEPT:
PO:



581J1DB09/FE2D

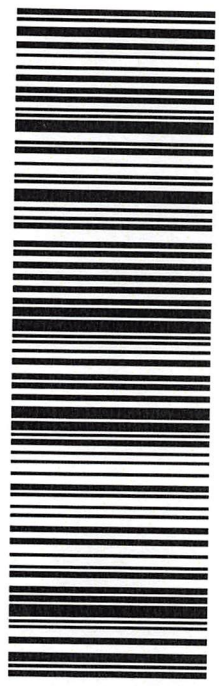
TRK# 7709 3704 4132
0201

MON - 09 JAN 4:30P

EXPRESS SAVER

6LHLGA

ASR 26003
PIT
WV-US



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December 20, 2022

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

RE: Proposed Expedited Modification:

*OK # 1071025
5000*
Roth OHI 10H - 69-00339
Roth OHI 6H - 69-00349
Roth OHI 206H - 69-00350
Roth OHI 8H - 69-00348

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WV Department of
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+V+
A



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

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 <Brittany_Woody@swn.com>, Liz Gee <liz_gee@swn.com>, Mark Musick <mmusick@assessor.org>, "Gayne J. Knitowski" <gayne.j.knitowski@wv.gov>

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

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