



---

west virginia department of environmental protection

---

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)

Monday, November 2, 2020  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

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

Re: Permit Modification Approval for VIOLET COSS BRK 10H  
47-009-00301-00-00

**Cement yield on Casing Plan Updated**

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 blue ink signature of James A. Martin, written in a cursive style.

James A. Martin  
Chief

Operator's Well Number: VIOLET COSS BRK 10H  
Farm Name: LINDA COEN (LIFE ESTATE-VIOLET L COSS  
U.S. WELL NUMBER: 47-009-00301-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 11/02/2020

Promoting a healthy environment.

WW-6B  
(04/15)

API NO. 47-009 - 00201 MOB  
OPERATOR WELL NO. Violet Coss BRK 10H  
Well Pad Name: Violet Coss BRK

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 009-Brook 01-Buffalo 620-Steubenville  
Operator ID County District Quadrangle

2) Operator's Well Number: Violet Coss BRK 10H Well Pad Name: Violet Coss BRK

3) Farm Name/Surface Owner: Linda Coen (Life Estate-Violet L Coss) Public Road Access: Coss Road

4) Elevation, current ground: 1173' Elevation, proposed post-construction: 1173'

5) Well Type (a) Gas x Oil Underground Storage  
Other

(b) If Gas Shallow x Deep  
Horizontal x

6) Existing Pad: Yes or No Yes C-All 3-20-20

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- 5792', Target Base TVD- 5854', Anticipated Thickness- 62', Associated Pressure- 3805

8) Proposed Total Vertical Depth: 5832'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 20,676'

11) Proposed Horizontal Leg Length: 11,010.83

12) Approximate Fresh Water Strata Depths: 334'

13) Method to Determine Fresh Water Depths: Deepest Nearby Springs

14) Approximate Saltwater Depths: 507' Princeton High Salinity Sandstone & Salinity Profile Calculation (Violet Coss 47-009-00146)  
Office of Oil and Gas

15) Approximate Coal Seam Depths: 209' MAR 24 2020

16) Approximate Depth to Possible Void (coal mine, karst, other): Possible Void 209'

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

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

WV Department of  
Environmental Protection

WW-6B  
(04/15)

API NO. 47- 009 -  
 OPERATOR WELL NO. Violet Coss BRK 10H  
 Well Pad Name: Violet Coss BRK

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#	388'	388'	585 sx/CTS
Coal	See	Surface	Casing				
Intermediate	9 5/8"	New	J-55	36#	1630'	1630'	635 sx/CTS
Production	5 1/2"	New	HCP-110	20#	20,676'	20,676'	lead 77 1/2xTail 3468xx100' Inside In
Tubing							
Liners							

*C. TLO*  
*10-15-20*

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	10,500	Class A	1.19/5% Excess
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

October 22, 2020

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

**RE: Proposed Expedited Modification:** Violet Coss BRK 6H, Violet Coss BRK 10H, & Violet Coss BRK 206H

Dear Ms. Adkins

Enclosed please find a modification for the above captioned well. We made changes to the cement yield on page two of the 6B per the DEP inspector's request. This well is situated on the Edge's property, in Sand Hill District, Marshall County, West Virginia. Enclosed documents:

-Updated 6B

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

RECEIVED  
Office of Oil and Gas

OCT 23 2020

WV Department of  
Environmental Protection

CIC# 1053066  
Am to 5000  
Date 10/13/20