PERMIT MODIFICATION APPROVAL

October 08, 2015

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

Re: Permit Modification Approval for API Number 5101845, Well #: B & W EDGE MSH 5H

Modified Lateral Direction

Oil and Gas Operator:
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.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

Gene Smith
Assistant Chief of Permitting
Office of Oil and Gas

Promoting a healthy environment.
August 11, 2015

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

RE: B & W Edge MSH 5H & 205H

Dear Ms. Laura:

Enclosed please find a revised WW-B, wbs, plat and WW-6A1 for the above captioned wells. We would like to swap the slot positions on the 5H & 205H. These wells are situated on the B & W Edge's property, Marshall County, West Virginia.

If you have any questions or desire additional information, please me at 304-884-1614

Thank you.

Sincerely,

Dee Southall
Regulatory Supervisor
Southwestern Energy Production Company, LLC
PO Box 1300
Jane Lew, WV 26378
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: SWN Production Co., LLC
   Operator ID: 404512824
   County: 51-Marshall
   City: 6- Sandy 647- Westing

2) Operator's Well Number: B & W Edge MSH SH
   Well Pad Name: B & W Edge MSH Pad

3) Farm Name/Owner: Miller F. R. & Sister Edge
   Public Road Access: Walnut Grove Road

4) Elevation, current ground: 1276' Elevation, proposed post-construction: 1253'

5) Well Type: Gas X Oil

6) Existing Pad: Yes or No
   Existing Pad: Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
   Target Formation: Marshall, Target Depth: 8143.40', Anticipated Thickness: 84', Associated Pressure: 4180

8) Proposed Total Vertical Depth: 5280'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 14,982'

11) Proposed Horizontal Leg Length: 8143.40'

12) Approximate Fresh Water Strata Depth: 300'

13) Method to Determine Fresh Water Depth: from nearby water wells

14) Approximate Saltwater Depth: 742'

15) Approximate Coal Seam Depth: 742'

16) Approximate Depth to Possible Void (coal mine, krent, other): None that we are aware of.

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

(a) If Yes, provide Mine Info:
   Name: Shoemaker
   Depth: 669'
   Seam: Pittsburgh Seam
   Owner: Shoemaker

Page 1 of 3
### CASING AND TUBING PROGRAM

<table>
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<tr>
<th>TYPE</th>
<th>Size (in)</th>
<th>New or Used</th>
<th>Casing</th>
<th>Weight per ft. (lb/ft)</th>
<th>Footage: For Drilling (ft)</th>
<th>Length in Well (ft)</th>
<th>CEM rally: Fill-up (Cu. Ft.)</th>
<th>CTS</th>
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![Signature](W8/5/15)

### WELLBORE PROPERTIES

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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:

<table>
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<tr>
<th>Lease Name or Number</th>
<th>Grantor, Lessor, etc.</th>
<th>Grantee, Lessee, etc.</th>
<th>Royalty</th>
<th>Book/Page</th>
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SEE EXHIBIT "A"

Acknowledgment 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 DGP,
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

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: [Signature]
Its: Michael Eppel, Landman
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DRIVING DIRECTIONS:
FROM THE INTERSECTION OF HACKERS CREEK ROAD AND I-79 (EXIT 105) IN JANE LEW, WEST VIRGINIA, GO NORTH ON I-79 FOR 2.0 MILES AND TAKE EXIT 107 TO TURN ONTO US-193 (WEST) TOWARDS WASHINGTON, PA. CONTINUE +/- 0.6 MILES (WEST) AND KEEP LEFT AT THE FORK IN THE INTERSTATE AND CONTINUE ON US-193 (WEST) FOR +/- 26.3 MILES. TAKE EXIT 10 FOR US-40 TOWARDS ELIN GROVE / TREESVILLE ROAD. CONTINUE +/- 0.2 MILES TO THE BOTTOM OF THE RAMP. TURN LEFT ONTO US-40 (WEST) NATIONAL ROAD/GREER FOR ELIN GROVE / BETHLEHEM) AND CONTINUE +/- 0.3 MILES. TURN LEFT ONTO HARPER STREET SOUTH AND CONTINUE +/- 0.2 MILES. TURN LEFT ONTO LOCKE AVENUE (EAST) AND CONTINUE +/- 0.8 MILES. CONTINUE ONTO STONE CHURCH ROAD AND 60 +/- 0.3 MILES. KEEP RIGHT AT THE FORK TO STAY ON STONE CHURCH ROAD AND CONTINUE +/- 3.1 MILES. TURN RIGHT (SOUTHEAST) ON WAREHAM GROVE ROAD. CONTINUE +/- 2.7 MILES ON COUNTY ROAD 55 TO THE EXPERIMENT SWN PRODUCTION COMPANY, LLC "BW EDGE" ACCESS ROAD ON THE LIGHT. CONTINUE +/- 0.7 MILES SOUTH ON THE ACCESS ROAD TO THE "BW EDGE" WELL PAD SITE.

COMPANY:
SWN Production Company, LLC

OPERATOR'S
BW EDGE MSH
WELL #: 54H

LOCATION:
SAND HILL DISTRICT,
MARSHALL COUNTY, WEST VIRGINIA

SURFACE HOLE LOCATION:
GEOGRAPHIC (NGVD):
LATITUDE: 40.635865
LONGITUDE: -80.636585

BOTTOM HOLE LOCATION:
GEOGRAPHIC (NGVD):
LATITUDE: 40.028337
LONGITUDE: -80.634413

REVISIONS:
DATE: 08-07-2015
DRAWN BY: R. HERMAN
SCALE: 1" = 2 MILES
DRAWING NUMBER: 51-0184 Shop
DRAWING DIRECTION MAP
PROPERTY NUMBER: 2501161776
PAD ID: 3001161774

DISTANCE / DIRECTION FROM NEAREST TOWN:
12.66 MILES NW FROM ELIN GROVE, WEST VIRGINIA 26203

PROPOSED WELL SITE
1/2 MILE RADIUS
# SURFACE HOLE LOCATION

**SURFACE HOLE LOCATION (SRL)**

**GEOGRAPHIC (NAVD):**
- LATITUDE: 40.0006003
- LONGITUDE: -80.6297443

**UTM (NAVD, ZONE 17, FEET):**
- NORTING: 14,529,217.044
- EASTING: 791,744.880

**UTM (NAVD, ZONE 17, METERS):**
- NORTING: 4,429,506.993
- EASTING: 531,798.327

**LANDING POINT LOCATION (LPL)**

**GEOGRAPHIC (NAVD):**
- LATITUDE: 40.0006008
- LONGITUDE: -80.6296445

**UTM (NAVD, ZONE 17, FEET):**
- NORTING: 14,530,016.990
- EASTING: 1,745,016.700

**UTM (NAVD, ZONE 17, METERS):**
- NORTING: 4,428,785.224
- EASTING: 531,882.681

**BOTTOM HOLE LOCATION (BHL)**

**GEOGRAPHIC (NAVD):**
- LATITUDE: 40.0008025
- LONGITUDE: -80.6353356

**UTM (NAVD, ZONE 17, FEET):**
- NORTING: 14,527,320.010
- EASTING: 1,241,602.230

**UTM (NAVD, ZONE 17, METERS):**
- NORTING: 4,431,049.009
- EASTING: 3,505,850.93

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**NOTES ON SURVEY:**

1. **Design:** Survey data for this project was derived from the following sources:
   - **Topographic Map:** T02S R04W +015S
   - **Statewide GIS Data Set:** West Virginia Department of Natural Resources

2. **Survey Method:** The survey points were established using the following methods:
   - **Total Station Survey:** Trimble SPS 835

3. **Survey Accuracy:** The survey measurements are accurate to within ±5 feet.

4. **Survey Markers:** Survey markers were placed at the following points:
   - **B-top:** 100 ft
   - **C-top:** 200 ft
   - **D-top:** 500 ft

5. **Survey Notes:** The survey notes are available upon request.

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**SURFACE HOLE LOCATION:**

- **Operator:** SWN Production Company LLC
- **Well:** BW EDGE MSH 5H
- **Location:** SAND HILL DISTRICT, MARSHALL COUNTY, WEST VIRGINIA

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**SURFACE HOLES:**

- **Hole 1:** 5002.4' LTO INHOLE (SWN)
- **Hole 2:** 5002.4' LTO INHOLE (SWN)
- **Hole 3:** 5002.4' LTO INHOLE (SWN)
- **Hole 4:** 5002.4' LTO INHOLE (SWN)
- **Hole 5:** 5002.4' LTO INHOLE (SWN)

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**REVISIONS:**

- **Date:** 08-07-2015
- **Drawn By:** E. Herman
- **Scale:** 1 = 2000
- **Plot Number:** D 300116174