west virginia department of environmental protection

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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

PERMIT MODIFICATION APPROVAL

January 21, 2016

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 bore path

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.

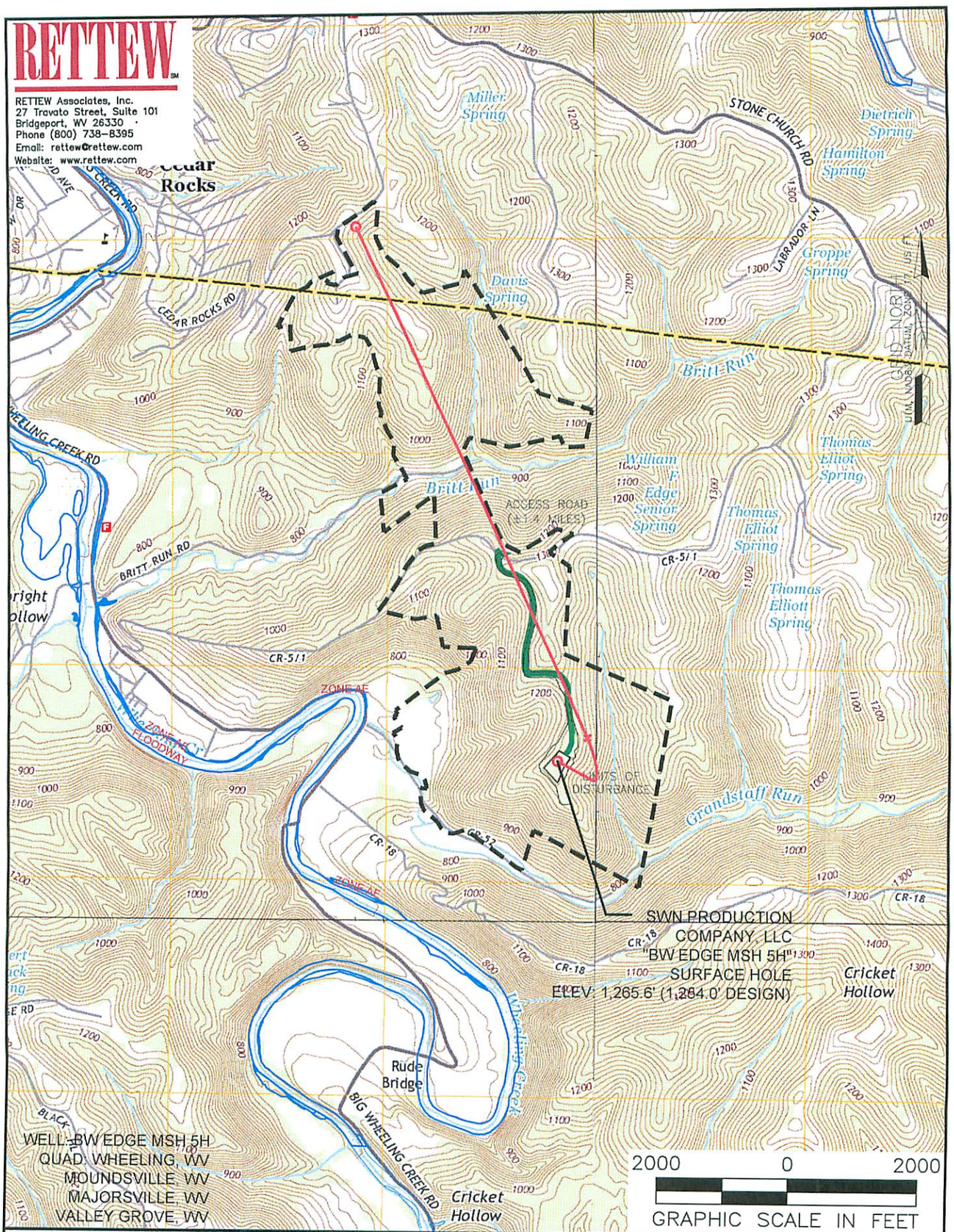
Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

Laura L. Adkins

for Gene Smith
Assistant Chief of Permitting
Office of Oil and Gas

SI-01845 MOD



NAME AND DISTANCE TO THE NEAREST STREAM:	STREAM CROSSING COORDINATES (NAD 83):
UNNAMED TRIBUTARY TO GRANDSTAFF RUN IS LOCATED ±0.17 MILES SE OF THE CENTER OF THE DRILL PAD.	NO NEW CROSSINGS.

WELL RESTRICTIONS:

WELL PAD, LOD, & E & S CONTROL FEATURES TO PERENNIAL STREAM, LAKE, POND, RESERVOIR OR WETLAND: >100 FEET
WELL PAD, LOD, & E & S CONTROL FEATURES TO NATURALLY PRODUCING TROUT STREAM: >300 FEET
WELL PAD, LOD, & E & S CONTROL FEATURES TO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY: >1000 FEET
WELL SHL TO EXISTING WATER WELL OR DEVELOPED SPRING: >250 FEET
CENTER OF PAD TO OCCUPIED DWELLING STRUCTURE: >625 FEET
CENTER OF PAD TO AGRICULTURAL BUILDINGS LARGER THAN 2500 SQ FT: >625 FEET

FEMA FLOOD INFORMATION:

BY GRAPHIC PLOTTING ONLY FEMA FIRM UNINCORPORATED AREA OF MARSHALL COUNTY, WEST VIRGINIA; MAP NUMBER 54051C0019E, EFFECTIVE DATE SEPTEMBER 25, 2009.

COMPANY: SWN Production Company, LLC / SWN Production Company™

OPERATOR'S WELL #: BW EDGE MSH 5H

LOCATION: SAND HILL DISTRICT, MARSHALL COUNTY, WEST VIRGINIA

SURFACE HOLE LOCATION:

GEOGRAPHIC (NAD83):
LATITUDE: 40.006606°
LONGITUDE: -80.627443°

BOTTOM HOLE LOCATION:

GEOGRAPHIC (NAD83):
LATITUDE: 40.029085°
LONGITUDE: -80.638365°

LEGEND:

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- ABANDONED WELL
- PLUGGED & ABANDONED WELL
- CUT CONDUCTOR
- (S) EXISTING SPRING
- (W) EXISTING WATER WELL
- ACCESS ROAD
- ACCESS ROAD TO PREV. SITE
- HIGHWAY/INTERSTATE
- COUNTY ROAD

REVISIONS:	DATE: 01-11-2016
	DRAWN BY: B. HERMAN
	SCALE: 1" = 2000'
	DRAWING NO:078569005
	TOPOGRAPHIC MAP

C:_RETTEWVAULTWIP\087569005-SWN B&W EDGE PAD\SHEETS\SV\PLAT\WV WELL PLATS\087569005-05 WELL PLAT.DWG
MONDAY JANUARY 11 2016 04:02PM

PROPERTY NUMBER 2501161776
PAD ID 3001161674

630'

12,770'

Latitude: 40°02'30"

Longitude: 80°37'30"

RETTEW

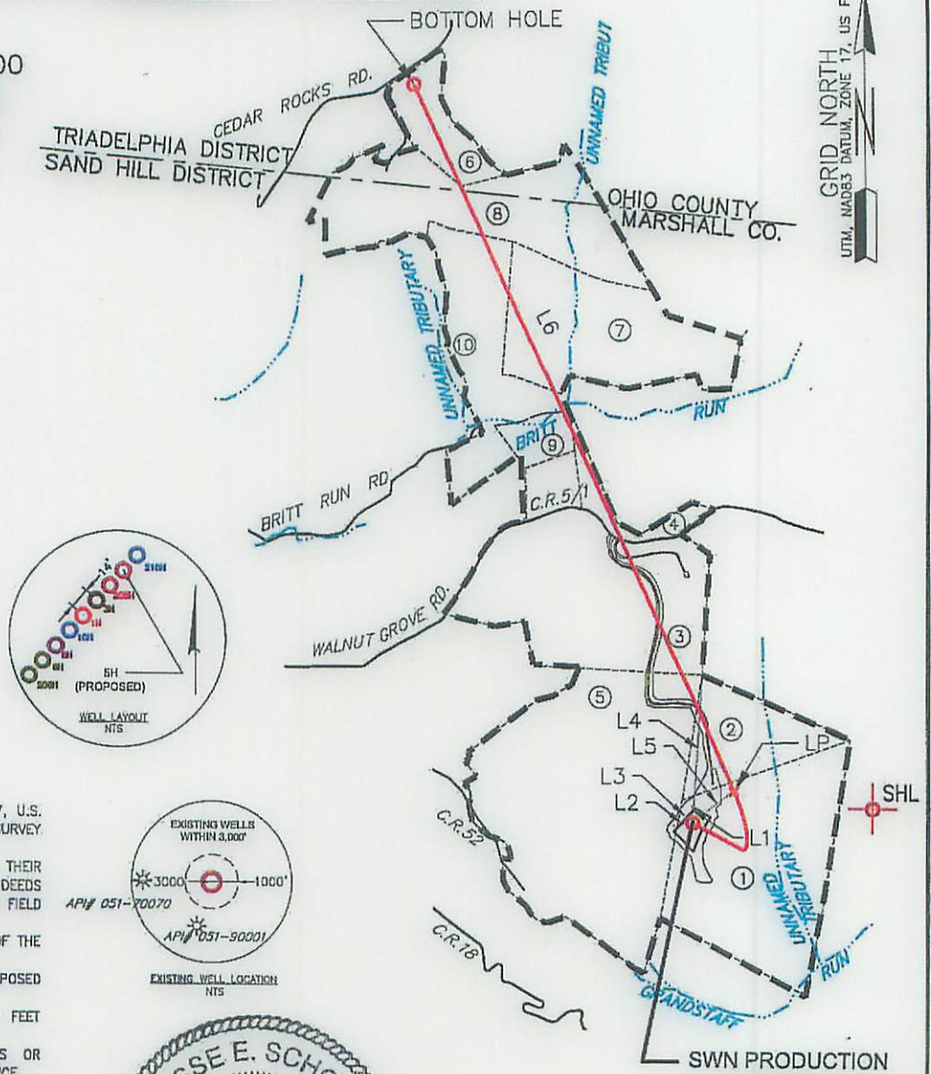
RETTEW Associates, Inc.
27 Travato Street, Suite 101
Bridgeport, WV 26330
Phone (800) 738-8395
Email: rettew@rettew.com
Website: www.rettew.com

LINE	DESCRIPTION	DISTANCE	DESCRIPTION	MONUMENT
L1	N02°36'07"W	185'	SHL TO REF. PIN	IRON PIN
L2	N80°26'40"W	218'	SHL TO REF. PIN	IRON PIN
L3	N47°34'13"W	192'	SHL TO LANDMARK	POST
L4	N03°24'04"E	1,628'	SHL TO LANDMARK	REBAR
L5	N52°24'43"E	549'	SHL TO LP	
L6	N24°25'24"W	6,587.65'	LP TO BHL	

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	EDGE, WILLIAM F. JR. & BARBARA (S)/FLETCHER, JOSEPHINE (R)	12-9-6	87.8±
2	EDGE, WILLIAM F. JR. & BARBARA (S)/FLETCHER, JOSEPHINE (R)	12-9-8.1	28.0±
3	SCHELLHASE, MARK A. & ANDREA M. (S)/(R)	12-1-18	93.8±
4	MILLER, VIOLET S. (S)/(R)	12-1-18.3	8.0±
5	FOLMER, OWEN R. & EDITH (S)/(R)	12-1-19	112.6±
6	CAPPONE, RAYMOND A. & KAREN (S)/(R)	6-T17-15	22.3±
7	COFFIELD, MICHAEL L. & TYLENE R. (S)/(R)	12-1-13	71.6±
8	HARTMAN, WALTER LEWIS & GLORIA LOUISE (S)/(R)	12-1-10.1	47.8±
9	BARTOLOVICH, STEPHEN (S)/(R)	12-1-18.4	7.5±
10	BARTOLOVICH, STEPHEN (S)/(R)	12-1-11	48.5±

2000 0 2000

GRAPHIC SCALE IN FEET



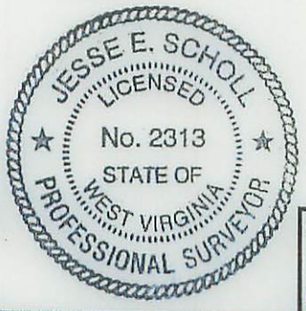
SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83): LATITUDE: 40.006606° LONGITUDE: -80.627443°
UTM (NAD83, ZONE 17, FEET): NORTHING: 14,529,357.039' EASTING: 1,744,741.682'
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,428,556.883' EASTING: 531,798.328'
"LANDING POINT" LOCATION (LPL):
GEOGRAPHIC (NAD83): LATITUDE: 40.007572° LONGITUDE: -80.625798°
UTM (NAD83, ZONE 17, FEET): NORTHING: 14,529,710.820' EASTING: 1,745,200.810'
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,428,664.715 EASTING: 531,938.271
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83): LATITUDE: 40.029085° LONGITUDE: -80.638365°
UTM (NAD83, ZONE 17, FEET): NORTHING: 14,537,530.010' EASTING: 1,741,650.030'
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,431,048.009 EASTING: 530,855.991

NOTES ON SURVEY

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

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. 2313



SWN PRODUCTION COMPANY, LLC
"BW EDGE MSH 5H"
SURFACE HOLE
ELEV: 1,265.60' (1,254.0' DESIGN)

COMPANY: SWN Production Company, LLC — SWN Production Company™

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25034

MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)

OPERATOR'S WELL #: BW EDGE MSH 5H

API WELL #: 47 (STATE) 051 (COUNTY) 01845 HGA (PERMIT) MOD

WELL TYPE: OIL ☐ WASTE DISPOSAL ☐ PRODUCTION ☒ DEEP ☐ GAS ☒ LIQUID INJECTION ☐ STORAGE ☐ SHALLOW ☒

WATERSHED: UPPER OHIO SOUTH

DISTRICT: SAND HILL COUNTY: MARSHALL

ELEVATION: 1265.6 (1,254 DESIGN)

QUADRANGLE: WHEELING, WV-OHIO

SURFACE OWNER: EDGE, WILLIAM F. JR. & BARBARA ACREAGE: 87.8 ±

OIL & GAS ROYALTY OWNER: FLETCHER, JOSEPHINE ACREAGE: 115.8 ±

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: 6,327' TVD 15,433' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC
ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378

DESIGNATED AGENT: DEE SOUTHALL
ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378

LEGEND:
- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- ABANDONED WELL
- PLUGGED & ABANDONED WELL
- CUT CONDUCTOR
- LEASE BOUNDARY
- MARCELLUS DHP
- ABANDONED PATH

REVISIONS:	DATE: 01-11-2016
	DRAWN BY: B. HERMAN
	SCALE: 1" = 2000'
	DRAWING NO:078569005
	WELL LOCATION PLAT

C:_RETTEWVAULTWIP\087569005-SWN B&W EDGE PAD\SHEETS\SV\PLAT\WV WELL PLATS\087569005-05 WELL PLAT.DWG
MONDAY JANUARY 11 2016 04:01PM

PROPERTY NUMBER 2501161776
PAD ID 3001161674

51-01845 MOD

Southwestern Energy®
PO Box 1300
Jane Lew, WV 26378
PHONE: (832) 796-1610

January 12, 2016

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

RE: Modifications for BW Edge MSH 5H & 205H API # 47-051-01845 & 47-051-01843

Dear Ms. Adkins

Enclosed please find revised plats for the above mentioned wells. The casing plan will stay the same however the wellbore path has slightly moved. We will also not cover any additional leases.

This well is situated on the BW Edge property, in Sand HillDistrict, 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

Received
Office of Oil & Gas
JAN 13 2016

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The Right People doing the Right Things.