



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 5101843, Well #: B & W EDGE MSH
205H

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.

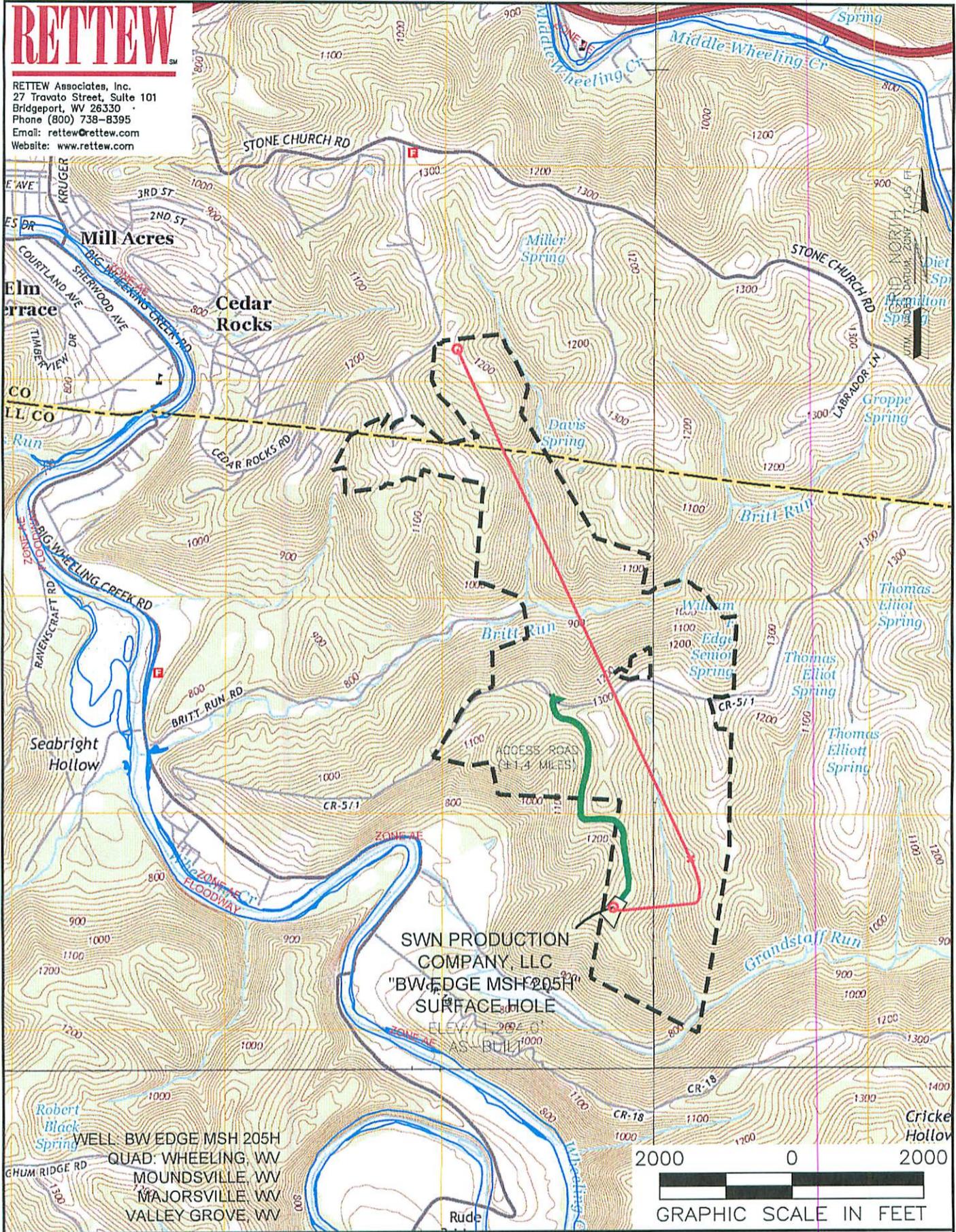
Sincerely,

Gene Smith

for Assistant Chief of Permitting
Office of Oil and Gas



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



NAME AND DISTANCE TO THE NEAREST STREAM:
 UNNAMED TRIBUTARY TO GRANDSTAFF RUN IS LOCATED ±0.17 MILES SE OF THE CENTER OF THE DRILL PAD.

STREAM CROSSING COORDINATES (NAD 83):
 NO NEW CROSSINGS.

COMPANY: **SWN** Production Company, LLC

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

OPERATOR'S: BW EDGE MSH
 WELL #: 205H
 LOCATION: SAND HILL DISTRICT, MARSHALL COUNTY, WEST VIRGINIA

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

SURFACE HOLE LOCATION:
 GEOGRAPHIC (NAD83):
 LATITUDE: 40.006578°
 LONGITUDE: -80.627477°

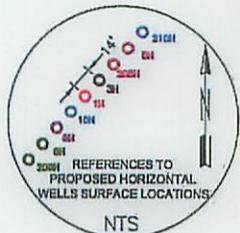
BOTTOM HOLE LOCATION:
 GEOGRAPHIC (NAD83):
 LATITUDE: 40.029894°
 LONGITUDE: -80.635887°

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: J. AIKEN
 SCALE: 1" = 2000'
 DRAWING NO: 087569005
 TOPOGRAPHIC MAP

RETTEW

RETTEW Associates, Inc.
27 Travato Street, Suite 101
Bridgeport, WV 26330
Phone (800) 738-8365
Email: rette@rette.com
Website: www.rette.com



GRID NORTH
UTM, NAD83 DATUM, ZONE 17, US FT

LINE	DESCRIPTION	DISTANCE	DESCRIPTION	MONUMENT
L1	N00°41'32"E	195'	SHL TO REF. PIN	IRON PIN
L2	S81°57'39"W	207'	SHL TO REF. PIN	IRON PIN
L3	N43°24'09"W	193'	SHL TO LANDMARK	POST
L4	N03°41'47"E	1,639'	SHL TO LANDMARK	REBAR
L5	N42°32'13"E	1,486'	SHL TO LP	
L6	N24°41'10"W	8,129'	LP TO BHL	

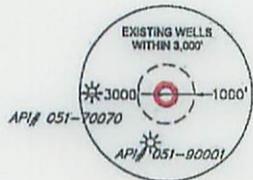
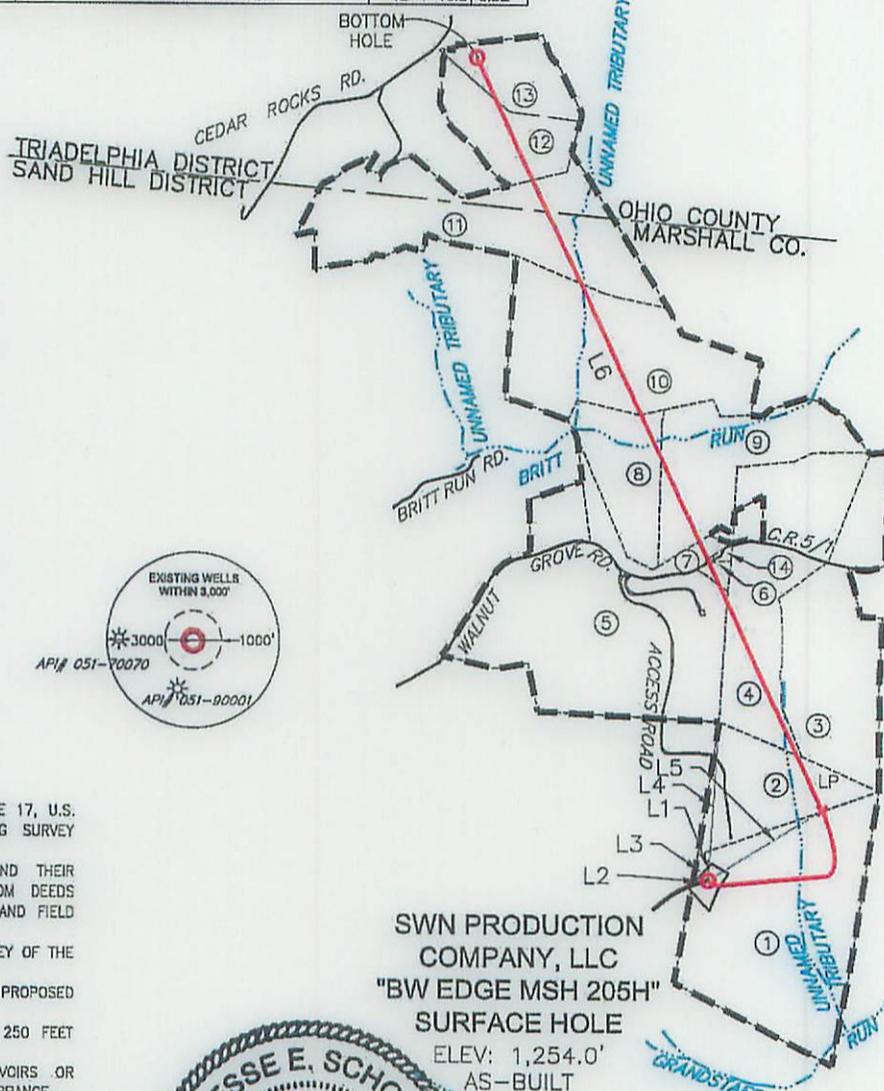
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	EDGE, WILLIAM F. JR. & BARBARA (S)/FLETCHER, JOSEPHINE (R)	12-9-8	87.8±
2	EDGE, WILLIAM F. JR. & BARBARA (S)/FLETCHER, JOSEPHINE (R)	12-9-8.1	28.0±
3	GZA, CHESTER A. (S)/R	12-1-16	53.1±
4	GZA, CHESTER A. (S)/R	12-1-15	53.4±
5	SCHILLHASE, MARK A. & ANOREA K. (S)/R	12-1-18	93.8±
6	SCHILLHASE, MARK A. & ANOREA K. (S)/R	12-1-18.5	0.9±
7	HILLER, VALENT B. (S)/R	12-1-18.3	8.0±
8	MARLARD, PETER E. & SUSAN K. (S)/R	12-1-12	25.4±
9	MCHUGH, KEVIN L. (S)/R	12-1-14	39.0±
9	ISLAND, CAROL ANN (S)/R	12-1-14	39.0±
10	COFFIELD, MICHAEL L. & TYLER R. (S)/R	12-1-13	71.6±
11	HAYMAN, WALTER LEWIS & GLORIA LOUISE (S)/R	12-1-10.1	47.8±
12	SEALL, GREGORY W. & JILL ANN (S)/R	T17-8.3	20.0±
13	SEALL, GREGORY W. & JILL ANN (S)/R	T17-9.1	17.6±
14	SMITH, CHESTER L. & WANDA S. (S)/R	12-1-18.2	0.5±

Latitude: N 40°02'30"

Longitude: W 80°37'30"

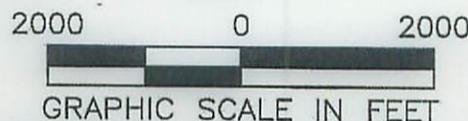
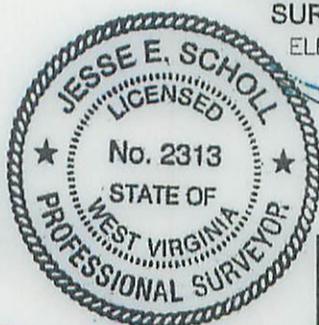
12,780'

SURFACE HOLE LOCATION (SHL):	
GEOGRAPHIC (NAD83):	LATITUDE: 40.006578°
	LONGITUDE: -80.627477°
UTM (NAD83, ZONE 17, FEET):	NORTHING: 14,529,346.803'
	EASTING: 1,744,732.204'
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,428,553.763
	EASTING: 531,795.439
"LANDING POINT" LOCATION (LPL):	
GEOGRAPHIC (NAD83):	LATITUDE: 40.008566°
	LONGITUDE: -80.623276°
UTM (NAD83, ZONE 17, FEET):	NORTHING: 14,530,075.630'
	EASTING: 1,745,905.660'
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,428,775.910
	EASTING: 532,153.109
BOTTOM HOLE LOCATION (BHL):	
GEOGRAPHIC (NAD83):	LATITUDE: 40.029894°
	LONGITUDE: -80.635887°
UTM (NAD83, ZONE 17, FEET):	NORTHING: 14,537,827.590'
	EASTING: 1,742,342.430'
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,431,138.712
	EASTING: 531,067.035



- NOTES ON SURVEY**
- COORDINATES SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
 - 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.
 - THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
 - NO DWELLINGS AND BUILDINGS WITHIN 625 FEET OF PROPOSED CENTER OF PAD.
 - NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
 - NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
 - 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

	(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS	MINIMUM DEGREE OF ACCURACY: 1/200	COMPANY: SWN Production Company, LLC
	WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	PROVEN SURVEY SOURCE OF ELEVATION: GRADE GPS (NAVD 88, US FT)	OPERATOR'S WELL #: BW EDGE MSH 205H API WELL #: 47 051 01843H6A MOD

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

WATERSHED: UPPER OHIO SOUTH ELEVATION: 1,254.0' AS-BUILT

DISTRICT: SAND HILL COUNTY: MARSHALL QUADRANGLE: WHEELING, W.VA-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: 6,377' TVD 15,528' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: DEE SOUTHALL

ADDRESS: P.O. BOX 1300 ADDRESS: P.O. BOX 1300

CITY: JANE LEW STATE: WV ZIP CODE: 26378 CITY: JANE LEW STATE: WV ZIP CODE: 26378

LEGEND:	REVISIONS:	DATE:
PROPOSED SURFACE HOLE / BOTTOM HOLE		01-11-2016
EXISTING / PRODUCING WELLHEAD		
ABANDONED WELL		
PLUGGED & ABANDONED WELL		
CUT CONDUCTOR		
LEASE BOUNDARY		
MARCELLUS DHP		
ABANDONED PATH		

SWN

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

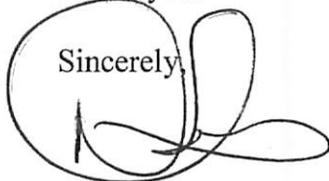
Enclosed please find revised plats for the above mentioned wells. The casing plan will stay the same however the wellbore path has slightly moved. We will also not cover any additional leases.

This well is situated on the BW Edge property, in Sand Hill District, Marshall County, West Virginia.

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

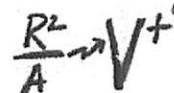
Thank you.

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



The Right People doing the Right Things,