



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

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

January 3, 2017
PERMIT MODIFICATION APPROVAL
Horizontal 6A / Horizontal 6A Well - 1

SWN PRODUCTION COMPANY, LLC
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit Modification Approval for JAMES SEABRIGHT BRK 10H
47-009-00175-00-00

Modified Surface and Bottom Hole Locations

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: JAMES SEABRIGHT BRK 10H
Farm Name: SEABRIGHT, JAMES K & MARTHA MAY
U.S. WELL NUMBER: 47-009-00175-00-00
Horizontal 6A / Horizontal 6A Well - 1
Date Issued: January 3, 2017

Promoting a healthy environment.

01/06/2017

WW-6B
(10/14)

API NO. 47-9 - 0017SK0D
OPERATOR WELL NO. James Seabright BRK 10H
Well Pad Name: James Seabright BRK Pad

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-Brooke 1-Buffalo 247-Bethany
Operator ID County District Quadrangle

2) Operator's Well Number: James Seabright BRK 10H Well Pad Name: James Seabright BRK Pad

3) Farm Name/Surface Owner: James H. Seabright, Les Deane & James H. Seabright Public Road Access: Bealls Ridge Road

4) Elevation, current ground: 1129' Elevation, proposed post-construction: 1129'

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

(b) If Gas Shallow Deep
Horizontal

6) Existing Pad: Yes or No yes *10-17-16*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Target Formation- Marcellus, Target Top TVD- 6037', Target Base TVD- 6077' Anticipated Thickness- 40', Associated Pressure- 3634

8) Proposed Total Vertical Depth: 6064'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 13638'

11) Proposed Horizontal Leg Length: 7221.72'

12) Approximate Fresh Water Strata Depths: 250'

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

14) Approximate Saltwater Depths: 868'

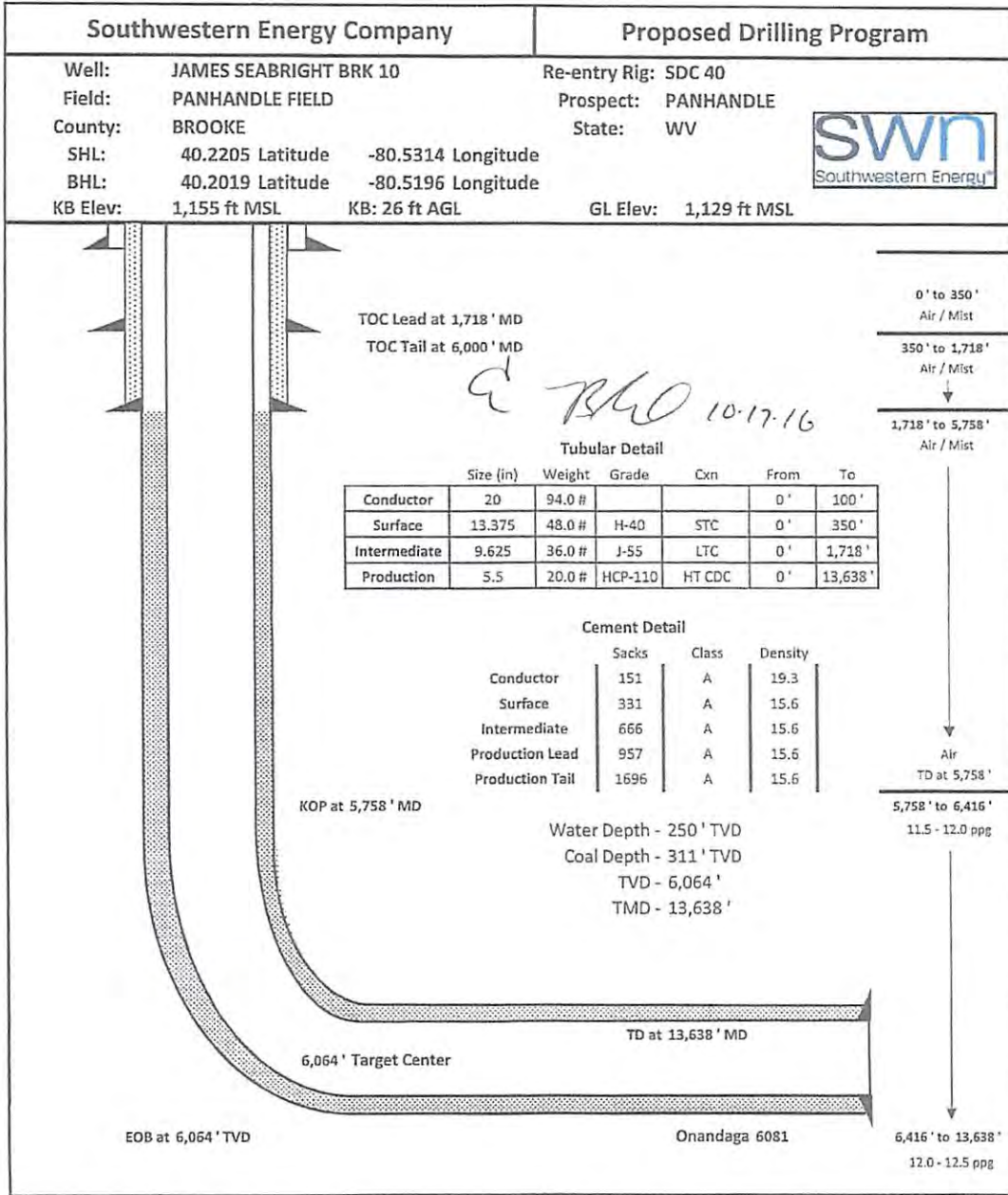
15) Approximate Coal Seam Depths: 311'

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

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: _____
Depth: _____
Seam: _____
Owner: _____

Office of Oil & Gas 01/06/2017
OCT 20 2016



Received
Office of Oil & Gas
OCT 20 2016

01/06/2017

October 18, 2016

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

RE: Proposed New Well James Seabright BRK 6H, James Seabright 8H, & James Seabright 10H


Dear Ms. Adkins

SWN has reviewed the area of the above mentioned well and discovered no shallow wells within 500' of the lateral. This well is situated on the Seabright's property, in Buffalo District, Brooke 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

RETTEW

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

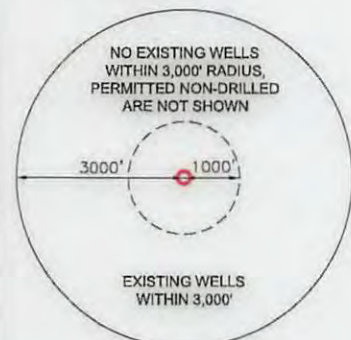
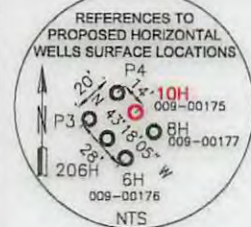
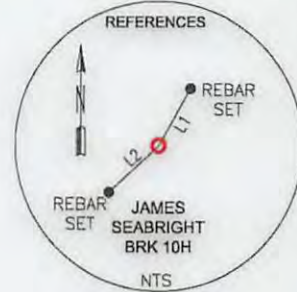
GRID NORTH
UTM, NAD83 DATUM, ZONE 17, US FT

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 29°14'41" E	270.40'	SHL TO REF. PNT.	1/2" REBAR SET
L2	S 47°03'29" W	283.48'	SHL TO REF. PNT.	1/2" REBAR SET
L3	S 42°17'41" E	766.90'	SHL TO GIS CORNER	
L4	S 74°39'03" W	1490.18'	SHL TO GIS CORNER	
L5	S 77°58'36" E	480.05'	SHL TO LP	
L6	S 23°00'00" E	7221.72'	LP TO BHL	

BHL

SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,452,333.879 EASTING: 539,870.262
KICKOFF POINT LOCATION (KOP): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,452,457.960 EASTING: 539,931.597
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,452,303.399 EASTING: 540,013.372
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,450,277.197 EASTING: 540,873.443

TRACT	SURFACE OWNER	TAX PARCEL	ACRES
1	JAMES K. SEABRIGHT AND MARTHA MAY SEABRIGHT, HUSBAND AND WIFE, LIFE INTEREST, JAMES H. SEABRIGHT, REMAINDER	03-B39-0008-0000	173.00±
2	JAMES B. CALDWELL	03-B39-0009-0000	182.63±
3	LINDA REEVES GREATHOUSE AND JAMES RUSSELL GREATHOUSE, HER HUSBAND	03-B39-0012-0000	202.41±
4	LINDA REEVES GREATHOUSE AND JAMES RUSSELL GREATHOUSE, HER HUSBAND	03-B44-0003-0000	73.57±
5	MILDRED MAIN	03-B44-0004-0000	19.58±
6	FORNEY AND SONS HOLDING CO., LLC	03-B44-0005-0000	180.00±



NOTES ON SURVEY

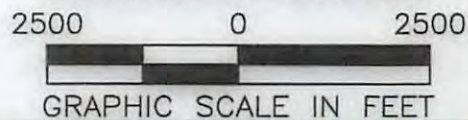
- COORDINATES SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
- SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND FIELD LOCATIONS.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- NO DWELLINGS AND BUILDINGS WITHIN 625 FEET OF PROPOSED OF 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



SEE ADJOINING SURFACE OWNERS SHEET FOR NAMES



COMPANY:
SWN **SWN**
Production Company, LLC 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)

JAMES SEABRIGHT BRK
OPERATOR'S WELL #: 10H
API WELL #: 47 9 00175 MOD
STATE COUNTY PERMIT

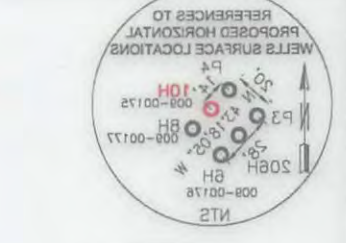
WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW
WATERSHED: SUGARCAMP RUN, BUFFALO CREEK ELEVATION: 1129.0' (DESIGN)±
DISTRICT: BUFFALO COUNTY: BROOKE QUADRANGLE: BETHANY, WV-PA
SURFACE OWNER: JAMES K. & MARTHA MAY SEABRIGHT; LIFE ESTATE & JAMES H. SEABRIGHT ACREAGE: 173.00±
OIL & GAS ROYALTY OWNER: MARTHA MAY SEABRIGHT, LE, & JAMES H. SEABRIGHT ACREAGE: 173.00±
DRILL DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION
CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY) 01/06/2017
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 6,064' TVD 13,638' 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: ○ PROPOSED SURFACE HOLE / BOTTOM HOLE * EXISTING / PRODUCING WELLHEAD X ABANDONED WELL X PLUGGED & ABANDONED WELL △ CUT CONDUCTOR	REVISIONS:	DATE: 10-17-2016
— TIE LINE - - - LEASE BOUNDARY - - - MARCELLUS DHP - - - ABANDONED PATH		DRAWN BY: B. HERMAN SCALE: 1" = 2500' DRAWING NO: 087569036 WELL LOCATION PLAT

RETTEW
 RETTEW Associates, Inc.
 27 Treadle Street, Suite 101
 Bladensburg, MD 20730
 Phone: (800) 238-8235
 Email: rette@rettew.com
 Website: www.rettew.com

SURFACE HOLE LOCATION (SHL):	UTM (NAD83, ZONE 17, METERS): EASTING: 540,873.282 NORTHING: 4,452,333.879
KICKOFF POINT LOCATION (KOP):	UTM (NAD83, ZONE 17, METERS): EASTING: 540,931.597 NORTHING: 4,452,452.880
LANDING POINT LOCATION (LPL):	UTM (NAD83, ZONE 17, METERS): EASTING: 540,913.272 NORTHING: 4,452,303.399
BOTTOM HOLE LOCATION (BHL):	UTM (NAD83, ZONE 17, METERS): EASTING: 540,873.443 NORTHING: 4,450,277.197



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 TAX PARCEL MAPS PROVIDED BY CLIENT AND FIELD LOCATIONS.
- THIS PLAN 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 WELLS 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 PLAN 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.



CHARLESTON, WV 25034
 801 57TH STREET
 OFFICE OF OIL & GAS
 WVDEP

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

WATERSHED: SUGARCAMP RUN, BUFFALO CREEK
 DISTRICT: BUFFALO
 COUNTY: BROOKE

SURFACE OWNER: JAMES K. & MARTHA MAY SEABRIGHT; LIFE ESTATE & JAMES H. SEABRIGHT
 OIL & GAS ROYALTY OWNER: MARTHA MAY SEABRIGHT, LE, & JAMES H. SEABRIGHT

ACREAGE: 173.00±
 QUADRANGLE: BETHANY, WV-PA
 ELEVATION: 1129.0' (DESIGN)±

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

ESTIMATED DEPTH: 6,064' TVD 13,638' TMD

TARGET FORMATION: MARCELLUS

CONVERSION: CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY) _____
 DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION

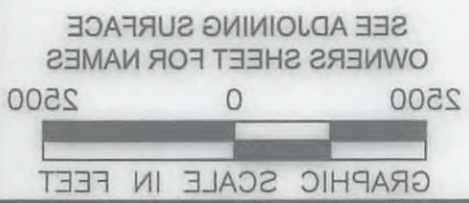
LEGEND:

	PROPOSED SURFACE HOLE \ BOTTOM HOLE
	EXISTING \ PRODUCING WELLS
	ABANDONED WELL
	PLUGGED & ABANDONED WELL
	CUT CONDUCTOR
	ABANDONED PATH
	MARCELLUS DHP
	LEASE BOUNDARY
	TIE LINE

REVISIONS:
 DATE: 10-17-2016
 DRAWN BY: B. HERMAN
 SCALE: 1" = 2500'
 DRAWING NO: 087589036
 WELL LOCATION PLAN

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 29°14'1" E	270.40'	SHL TO REF. PNT. 1/2" REBAR SET	
L2	S 47°03'29" W	283.48'	SHL TO REF. PNT. 1/2" REBAR SET	
L3	S 42°17'41" E	286.90'	SHL TO GIS CORNER	
L4	S 74°28'03" W	1480.18'	SHL TO GIS CORNER	
L5	S 77°58'38" E	480.02'	SHL TO LP	
L6	S 23°00'00" E	2251.73'	LP TO BHL	

TRACT	SURFACE OWNER	TAX PARCEL	ACRES
1	JAMES K. SEABRIGHT AND MARTHA MAY SEABRIGHT, HUSBAND AND WIFE LIFE INTEREST, JAMES H. SEABRIGHT, REMAINDER	03-B3-008-0000	173.00±
2	JAMES B. CALDWELL	03-B3-008-0000	183.83±
3	LINDA REEVES GREATHOUSE AND JAMES RUSSELL GREATHOUSE, HER HUSBAND	03-B3-007-0000	202.41±
4	LINDA REEVES GREATHOUSE AND JAMES RUSSELL GREATHOUSE, HER HUSBAND	03-B4-002-0000	273.27±
5	MILNER MAIN	03-B4-004-0000	19.88±
6	FORNEY AND SONS HOLDING CO., LLC	03-B4-002-0000	180.00±

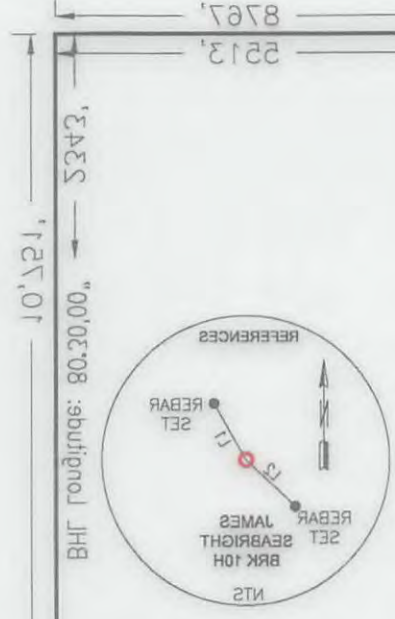


SEE ADJOINING SURFACE OWNERS SHEET FOR NAMES

API WELL #: 47
 OPERATOR'S WELL #: JAMES SEABRIGHT BRK 10H
 STATE: COUNTY: PERMIT: 00175MD

DATE: 10-17-2016
 DRAWN BY: B. HERMAN
 SCALE: 1" = 2500'
 DRAWING NO: 087589036
 WELL LOCATION PLAN

PROPERTY NUMBER 250118323
 PAD ID 3001182010



BHL Latitude: 40°13'30"
 BHL Longitude: 80°20'00"
 BHL Longitude: 80°20'00"
 BHL Latitude: 40°13'30"
 BHL Longitude: 80°20'00"
 BHL Latitude: 40°13'30"

MONDAY OCTOBER 17 2016 04:42PM
 C:_RETTEW\WV\171018\087589036-SEABRIGHT\10H WELL PLAN.DWG



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

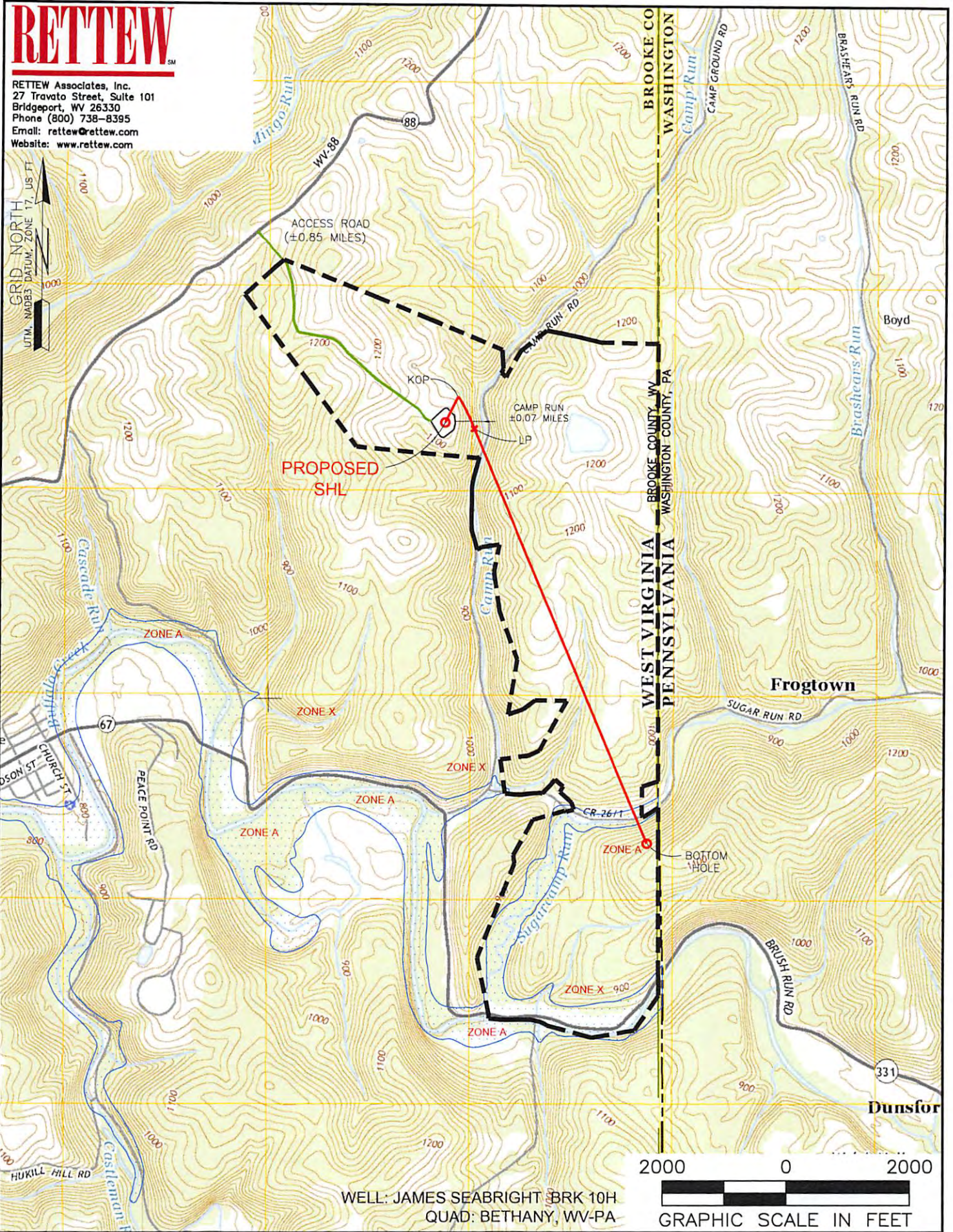
ADJOINING SURFACE OWNERS

TRACT	ADJOINING SURFACE OWNER	TAX PARCEL	ACRES
A	MARK WEAVER OWEN AND VIRGINIA K. BEALL	03-B34-0049-0000	243.93±
B	NORMA J. SHIDOCK	03-B34-0050-0000	195.25±
C	JOHN DANA GARNER	03-B39-0003-0000	12.78±
D	TAMMY M. WITHERS	03-B39-0004-0000	13.00±
E	TAMMY M. WITHERS	03-B39-0006-0000	11.07±
F	PHILIP M. GREATHOUSE AND MARY GREATHOUSE	03-B39-0007-0000	13.01±
G	LARRY THOMAS MAIN, II	03-B44-0004-0001	2.11±
H	LARRY AND DEBBIE DOUGLAS	03-B44-0012-0000	11.00±
I	STATE OF WEST VIRGINIA, DEPARTMENT OF COMMERCE, DIVISION OF NATURAL RESOURCES	03-B44-0014-0000	171.67±
J	GENE C. VALENTINE TRUST, DATED NOVEMBER 26, 1986	03-B43-0028-0000	822.26±
K	MILDRED MAIN	03-B44-0006-0000	12.53±
L	CURTIS LEE NEEL AND LOUANN L. NEEL, JOINT TENANTS WITH RIGHT OF SURVIVORSHIP	03-B44-0007-0000	3.97±
M	DONNA M. WEEKLEY	03-B44-0002-0000	1.42±
N	VICKI G. HAMILTON AND SHAWN P. HAMILTON, HER HUSBAND	03-B44-0001-0000	13.60±
O	RAYMOND L. TREDWAY AND LINDSEY G. TREDWAY, JOINT TENANTS WITH RIGHT OF SURVIVORSHIP	03-B39-0011-0000	170.38±
P	JAMES K. AND MARTHA MAE SEABRIGHT, LE, JAMES H. SEABRIGHT AND CECELIA M. SEABRIGHT, REMAINDER	03-B39-0010-0000	160.04±
Q	MARK WEAVER OWEN AND VIRGINIA K. BEALL	03-B38-0019-0000	249.00±

01/06/2017

REVISIONS:	COMPANY:	
	OPERATOR'S	JAMES SEABRIGHT BRK
	WELL #:	10H
	LOCATION:	BUFFALO DISTRICT, BROOKE COUNTY, WEST VIRGINIA
		DATE: 10-17-2016
		DRAWN BY: B. HERMAN
		SCALE: N/A
		DRAWING NO:087569036
		ADJOINING OWNERS

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



NAME AND DISTANCE TO THE NEAREST STREAM:
 CAMP RUN IS LOCATED ±0.07 MILES EAST OF THE CENTER OF THE DRILL PAD.

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

COMPANY:
 

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 LAGER THAN 2500 SQ FT: >625 FEET

OPERATOR'S JAMES SEABRIGHT BRK
WELL #: 10H 9-00175409

LOCATION: BUFFALO DISTRICT,
 BROOKE COUNTY, WEST VIRGINIA

FEMA FLOOD INFORMATION:
 BY GRAPHIC PLOTTING ONLY FEMA FIRM INCORPORATED AREA OF BROOKE COUNTY, WEST VIRGINIA; MAP NUMBER 54009C0135D; EFFECTIVE DATE: APRIL 19, 2010.

SURFACE HOLE LOCATION:
 GEOGRAPHIC (NAD83):
 LATITUDE: 40.220478'
 LONGITUDE: -80.531405'

BOTTOM HOLE LOCATION:
 GEOGRAPHIC (NAD83):
 LATITUDE: 40.201901'
 LONGITUDE: -80.519746'

LEGEND:

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- ABANDONED WELL
- PLUGGED & ABANDONED WELL
- CUT CONDUCTOR
- LEASE BOUNDARY
- MARCELLUS DHP
- ACCESS ROAD
- ACCESS ROAD TO PREV. SITE
- HIGHWAY/INTERSTATE
- COUNTY ROAD

REVISIONS:

	DATE: 10-17-2016
	DRAWN BY: B. HERMAN
	SCALE: 1" = 2000'
	DRAWING NO: 087569036
	TOPOGRAPHIC MAP