



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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Tuesday, July 16, 2019
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit Modification Approval for SANDRA PARR BRK 5H
47-009-00245-00-00

Side Track

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: SANDRA PARR BRK 5H
Farm Name: ANTHONY BRUCE PARR, ET AL
U.S. WELL NUMBER: 47-009-00245-00-00
Horizontal 6A New Drill
Date Modification Issued: July 16, 2019

Promoting a healthy environment.

February 14, 2019

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

RE: Modification: Sandra Parr BRK 5H

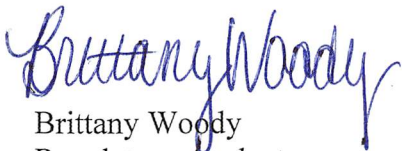
Dear Ms. Adkins

Enclosed please find the new 6B, Casing, and WBD for the above captioned well. We had to do a side track. This well is situated on the Parr's property, in Buffalo District, Brooke County, West Virginia.

If you have any questions or desire additional information, please me at 304-884-1613

Thank you.

Sincerely,



Brittany Woody
Regulatory Analyst
Southwestern Energy Production Company, LLC

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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: SWN Production Co., LLC

<u>494512924</u>	<u>009- Brooke</u>	<u>3- Buffalo</u>	<u>247- Bethany</u>
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Operator ID County District Quadrangle

2) Operator's Well Number: Sandra Parr BRK 5H Well Pad Name: Sandra Parr BRK Pad

3) Farm Name/Surface Owner: Anthony Bruce Parr, ET AL Public Road Access: Atchison Road

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

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

(b) If Gas Shallow Deep
Horizontal

6) Existing Pad: Yes or No Yes *C. Kelly 2-14-19*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Target Formation- Marcellus, Up-Dip Well to the North, Target Top TVD- 6430', Target Base TVD- 6475', Anticipated Thickness- 45', Associated Pressure- 4209

8) Proposed Total Vertical Depth: 6448'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 20580'

11) Proposed Horizontal Leg Length: 4682.78'

12) Approximate Fresh Water Strata Depths: 336'

13) Method to Determine Fresh Water Depths: Robert Caldwell Spring

14) Approximate Saltwater Depths: 759' TVD - Salinity Profile

15) Approximate Coal Seam Depths: 613'

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: _____

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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#	676'	676'	709 sx/CTS
Coal							
Intermediate	9 5/8"	New	J-55	36#	1972'	1972'	745 sx/CTS
Production	5 1/2"	New	HCP-110	23#	0'	6000'	Lead 10/1000' Test 20000' hole in pipe
Production	5 1/2"	New	HCP-110	20#	6000'	14580'	

C. H. O. 2-14-19

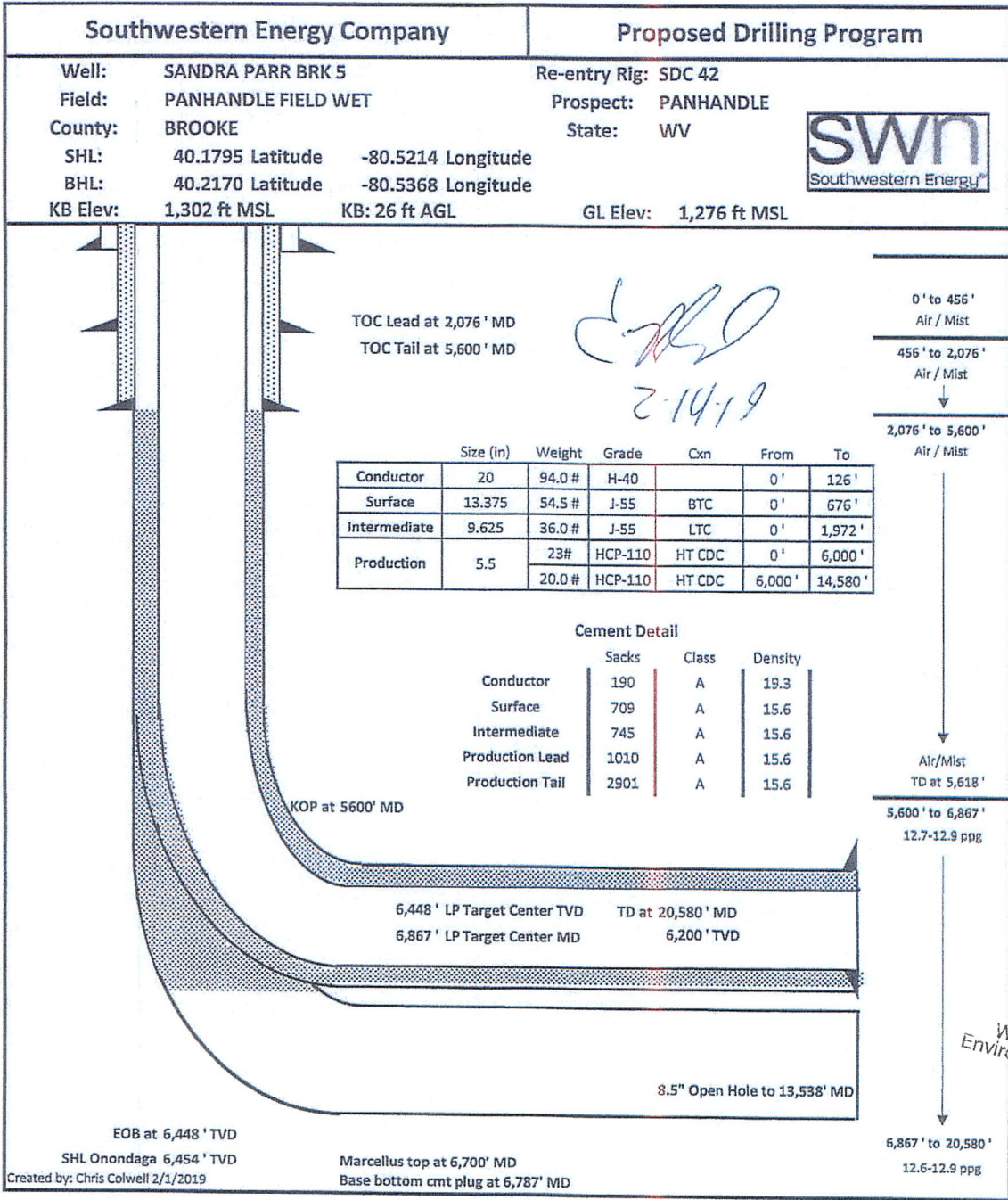
TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	30"	0.25	2120	81	Class A	1.19/50% Excess
Fresh Water	13 3/8"	17.5"	0.380	2740	633	Class A	1.19/50% Excess
Coal							
Intermediate	9 5/8"	12 1/4"	0.395	3950	1768	Class A	1.19/50% Excess
Production	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/50% Excess
Tubing	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/50% Excess
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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July 11, 2019

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

RE: Proposed New Well Sandra Parr BRK 5H

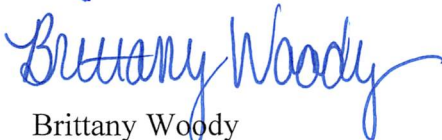
Dear Ms. Adkins

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 Parr's property, in Buffalo District, Brooke County, West Virginia.

If you have any questions or desire additional information, please me at 304-884-1613

Thank you.

Sincerely,



Brittany Woody
Senior Regulatory Analyst

WV Dept. of Environmental Protection
Office of Oil and Gas



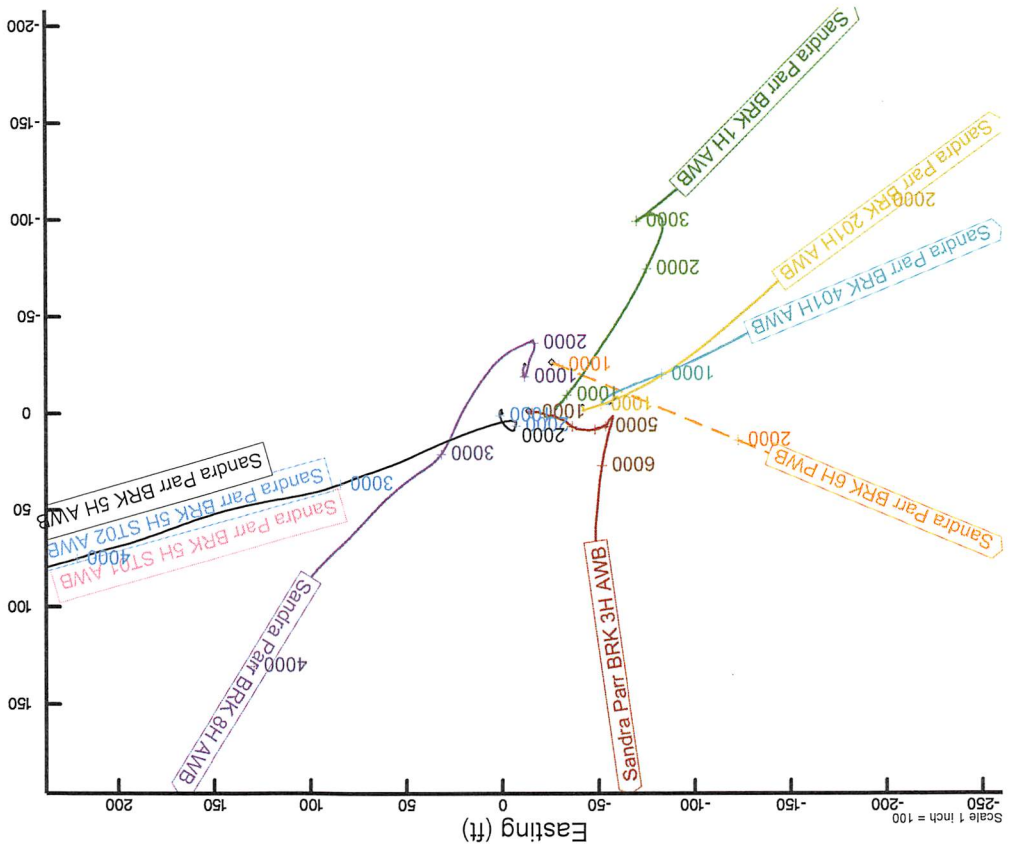
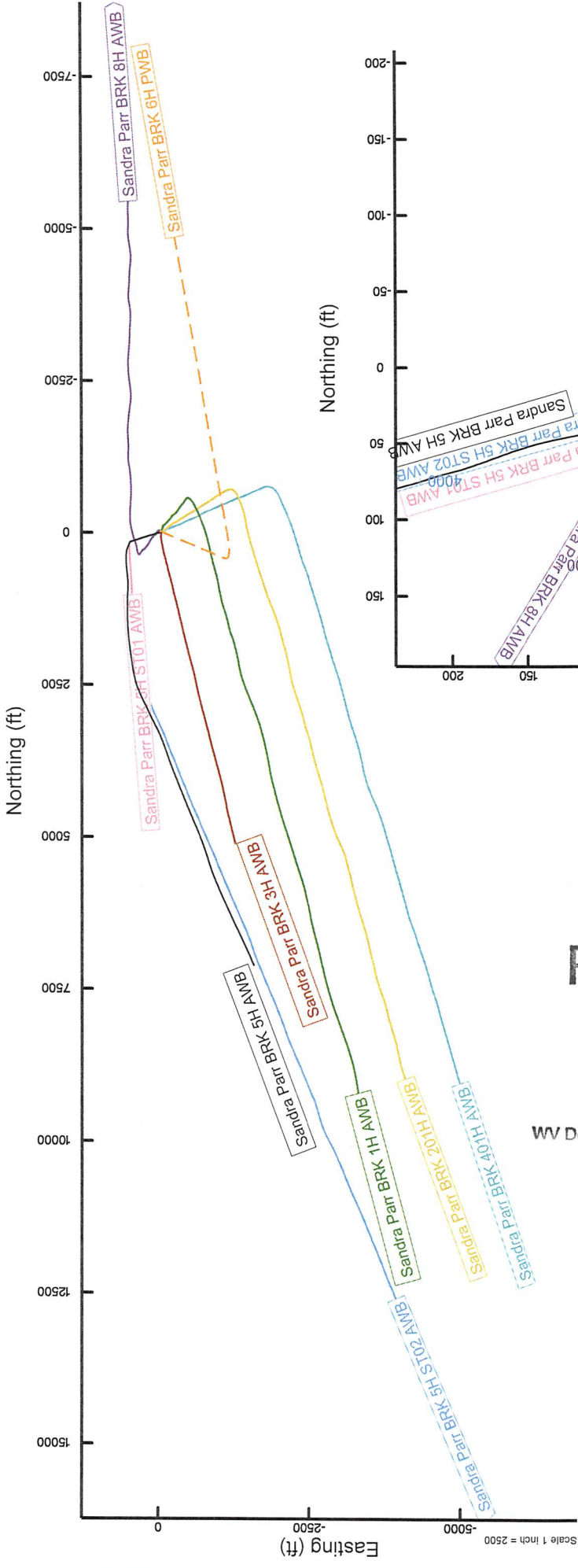
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[Signature]

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SOUTHWESTERN ENERGY
 Location: Brooke County, WV
 Slot: Slot 5H
 Well: Sandra Parr BRK 5H
 Facility: Sandra Parr BRK Pad Wellbore: Sandra Parr BRK 5H AWB

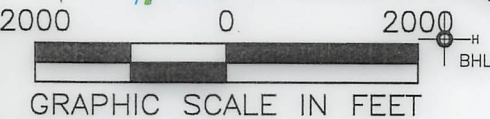
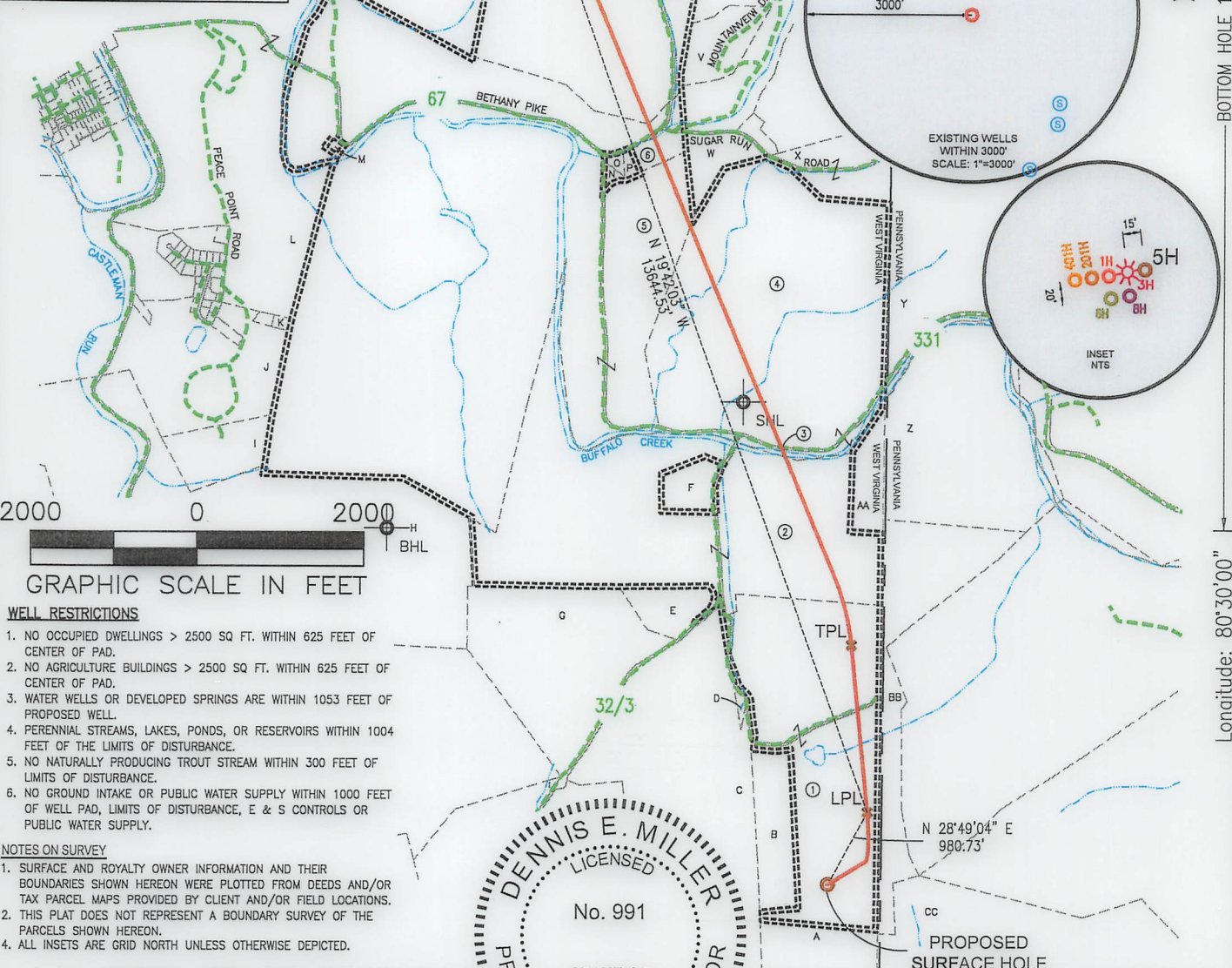
Latitude: 40°12'30" SURFACE HOLE 5987'

Latitude: 40°15'00" BOTTOM HOLE 10266'



CIVIL & ENVIRONMENTAL CONSULTANTS, INC. 600 MARKETPLACE AVENUE, SUITE 200 BRIDGEPORT, WV 26330 304-933-3119

Table with 4 rows: SURFACE HOLE LOCATION (SHL), LANDING POINT (LPL), TURNING POINT LOCATION (TPL), BOTTOM HOLE LOCATION (BHL). Each row lists UTM coordinates for Zone 17, Meters.



WELL RESTRICTIONS

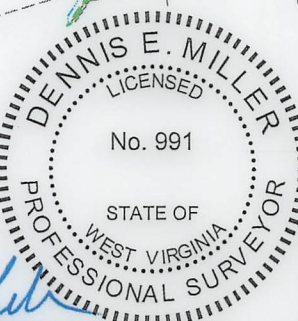
- 1. NO OCCUPIED DWELLINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
2. NO AGRICULTURE BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
3. WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 1053 FEET OF PROPOSED WELL.
4. PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 1004 FEET OF THE LIMITS OF DISTURBANCE.
5. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
6. NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

NOTES ON SURVEY

- 1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
4. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

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. 991



COMPANY: SWN Production Company, LLC SWN Production Company™

Table with 3 columns: State/County/Permit info, Accuracy/Elevation info, Operator/Well info. Includes WVDEP logo and 'SANDRA PARR BRK' name.

WELL TYPE: OIL [] WASTE DISPOSAL [] PRODUCTION [x] DEEP [] GAS [x] LIQUID INJECTION [] STORAGE [] SHALLOW [x]
WATERSHED: BUFFALO CREEK
DISTRICT: BUFFALO DISTRICT COUNTY: BROOKE
SURFACE OWNER: ANTHONY BRUCE PARR, ET AL
OIL & GAS ROYALTY OWNER: JOHN L. AND ANGELA LATIMER, HUSBAND AND WIFE, AND DEBORAH S. STARR, SINGLE
DRILL [x] DRILL DEEPER [] REDRILL [] FRACTURE OR STIMULATE [x] PLUG OFF OLD FORMATION [] PERFORATE NEW FORMATION []
CONVERT [] PLUG & ABANDON [] CLEAN OUT & REPLUG [] OTHER CHANGE [] (SPECIFY)
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 6442 TVD 20608 TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC ADDRESS: 1300 FORT PIERPONT DRIVE, STE 201 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508
DESIGNATED AGENT: BRITTANY WOODY ADDRESS: 1300 FORT PIERPONT DRIVE, STE 201 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND: PROPOSED SURFACE HOLE / BOTTOM HOLE, EXISTING / PRODUCING WELLHEAD, LPL, EXISTING WATER WELL, EXISTING SPRING, SURVEYED BOUNDARY, DRILLING UNIT, LEASE BOUNDARY, PROPOSED PATH, TPL, TURNING POINT LOCATION
REVISIONS: DATE: 07-11-2019
DRAWN BY: K.E.S.
SCALE: 1" = 2000'
DRAWING NO: 172-289
WELL LOCATION PLAT



CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
 600 MARKETPLACE AVENUE, SUITE 200
 BRIDGEPORT, WV 26330
 304-933-3119

WELL BORE TABLE FOR SURFACE OWNERS		
TRACT	SURFACE OWNER	TAX PARCEL
1	(S) ANTHONY BRUCE PARR, SANDRA L. PARR, RAYMOND LEE, NANCY PARR, MICHAEL MAHAN, AND PAULA MAHAN (R) JOHN L. LATIMER AND ANGELA LATIMER AND DEBORAH S. STARR	03-B49-0005
2	STATE OF WEST VIRGINIA, DEPARTMENT OF COMMERCE, DIVISION OF NATURAL RESOURCES, WILDLIFE RESOURCES SECTION	03-B44-0014
3	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS	BETHANY PIKE
4	FORNEY AND SONS HOLDING COMPANY L.L.C	03-B44-0005
5	GENE CHARLES VALENTINE TRUST DATED 11/26/86	03-B43-0028
6	CURTIS LEE NEEL AND LOUANN L. NEEL, HUSBAND AND WIFE, JTWROS	03-B44-0007
7	RAYMOND L. TREDWAY, SR. AND LINDSEY G. TREDWAY, JTWROS	03-B39-0011
8	MARTHA MAY SEABRIGHT (LIFE TENANT) JAMES H. SEABRIGHT AND CECILIA M. SEABRIGHT, HUSBAND AND WIFE	03-B39-0010

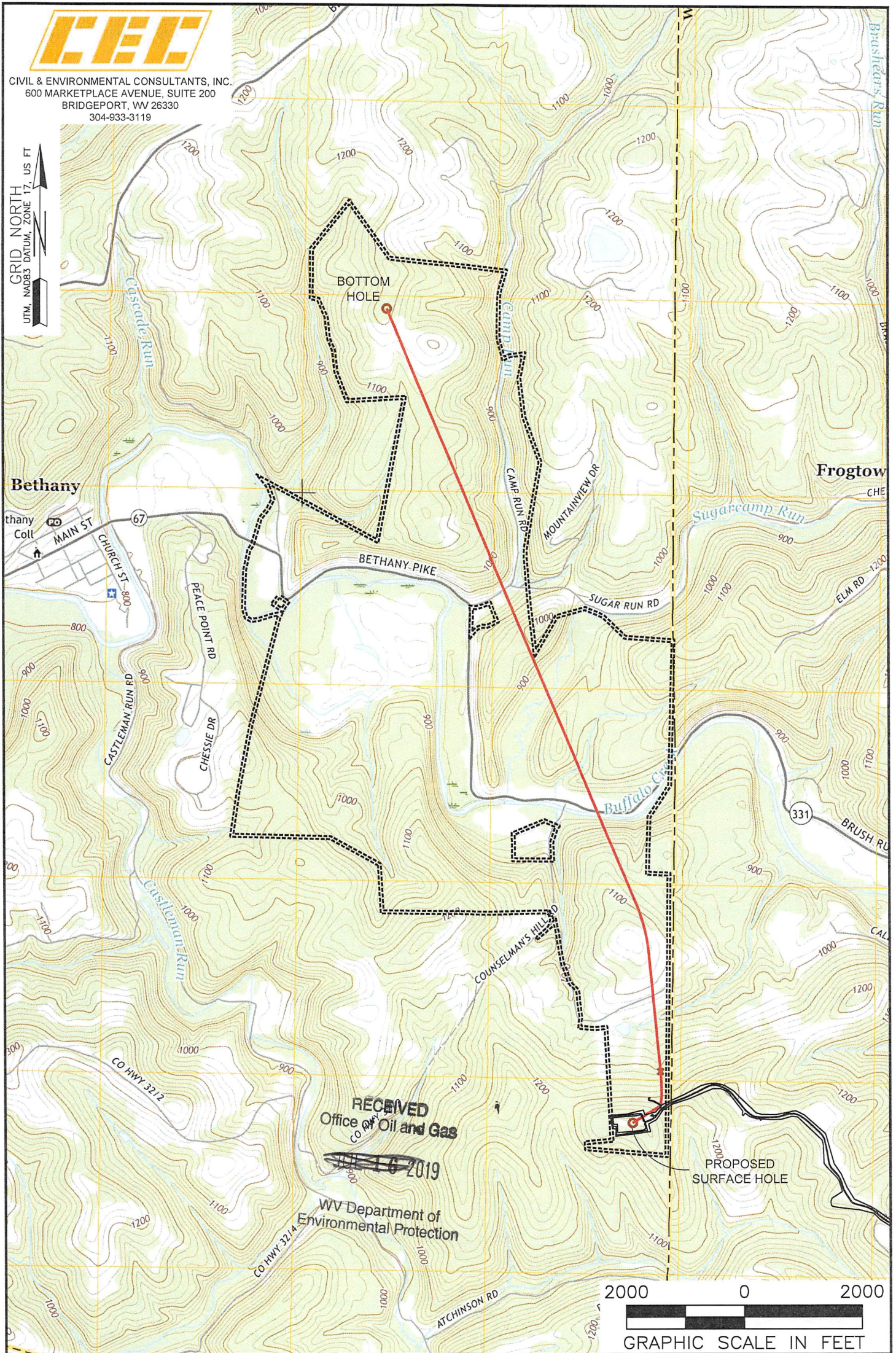
ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	THE RANCH SPORTSMANS CLUB, INC., BY NICK MUSTACHIO, PRESIDENT	03-B49-0010
B	ANTHONY PARR, SANDRA PARR, RAYMOND PARR, NANCY PARR, LEONARD BOYCE AND KAREN BOYCE	03-B49-0004
C	JAMES WARREN & PATRICIA MCKEEN	03-B49-0003
D	ANTHONY BRUCE PARR, SANDRA L. PARR, RAYMOND LEE PARR AND NANCY J. PARR	03-B49-0005
E	CLIFFORD E. COUNSELMAN	03-B44-0013
F	BETHANY COLLEGE	03-B44-0014.1
G	CLIFFORD E. COUNSELMAN	03-B49-0002
H	BETHANY COLLEGE	03-B43-0062
I	SAMUEL J. AND MELANIE DONINI (SURV)	03-B43-0057
J	BETHANY COLLEGE	03-B38-0031
K	MARY E. COLLINS	03-B43-0049
L	RANDY L. AND VANESSA J. COLLINS (SURV)	03-B43-0049.2
M	CLYDE B. ROBERTS	03-B43-0029
N	MORRIS G. MAIN	03-B44-0010
O	MORRIS G. MAIN	03-B44-0009
P	MORRIS G. MAIN	03-B44-0008
Q	MARK W. OWEN 1/2 INT. AND VIRGINIA BEALL KRUEZT 1/2 INT.	03-B38-0024
R	MARK W. OWEN 1/2 INT. AND VIRGINIA BEALL KRUEZT 1/2 INT.	03-B38-0019
S	JAMES K. AND MARTHA MAY SEABRIGHT	03-B39-0008
T	JAMES B. CALDWELL	03-B39-0009
U	JAMES R. AND LINDA R. GREATHOUSE	03-B39-0012
V	VICKI G. AND SHAWN P. HAMILTON	03-B44-0001
W	MILDRED MAIN	03-B44-0006
X	MILDRED MAIN	03-B44-0004
Y	CALVIN H. MYERS, JR.	370-018-00-00-0002-00
Z	ELIZABETH K. SCHOLLAERT	230-024-00-00-0008-00
AA	LARRY AND DEBBIE DOUGLAS	03-B44-0012
BB	ANTHONY BRUCE PARR, SANDRA L. PARR AND RAYMOND LEE PARR	230-024-00-00-0007-00
CC	ROBERT E. & JUDITH F. WRIGHT	023-00-00-0003-0

REVISIONS:	COMPANY:			
	OPERATOR'S	SANDRA PARR BRK		
	WELL #:	5H		
	DISTRICT:	COUNTY:	STATE:	DATE: 07-11-2019
	BUFFALO DISTRICT	BROOKE	WV	DRAWN BY: K.E.S. SCALE: N/A DRAWING NO: 172-289 WELL LOCATION PLAT 2



CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
 600 MARKETPLACE AVENUE, SUITE 200
 BRIDGEPORT, WV 26330
 304-933-3119

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



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 WV Department of
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NOTES ON SURVEY

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4. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

LEGEND:

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- LPL LANDING POINT LOCATION
- FLOOD PLAIN
- ACCESS ROAD
- PUBLIC ROAD
- ACCESS ROAD TO PREV. SITE
- LEASE BOUNDARY
- PROPOSED PATH

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: SANDRA PARR BRK	WELL # 5H	SERIAL # XXXX
ADDRESS: 1300 FORT PIERPONT DRIVE, STE 201 MORGANTOWN, WV 26508	COUNTY - CODE BROOKE - 009	DISTRICT; BUFFALO DISTRICT	
SURFACE OWNER: ANTHONY BRUCE PARR, ET AL	USGS 7 1/2 QUADRANGLE MAP NAME BETHANY, WV		