

05/10/2019



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

Monday, May 6, 2019
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC
POST OFFICE BOX 12359
SPRING, TX 77391-4954

Re: Permit Modification Approval for Samuel Jones BRK 5H
47-009-00263-00-00

Extending the lateral from a Total Measured Depth of 13431' to 14132'

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: Samuel Jones BRK 5H
Farm Name: SAMUEL E AND JUDITH F JONES
U.S. WELL NUMBER: 47-009-00263-00-00
Horizontal 6A New Drill
Date Modification Issued: 05/06/2019

Promoting a healthy environment.

March 14, 2019

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

RE: Modification: Samuel Jones BRK 5H

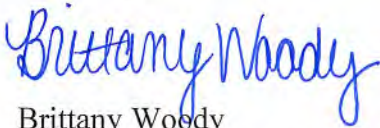
Dear Ms. Adkins

Enclosed please find the new 6B, casing, WBD, mylar, leases, and road letter for the above captioned well. We are extending the lateral. This well is situated on the Jones'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
Southwestern Energy Production Company, LLC

RECEIVED
Office of Oil and Gas

MAR 15 2019

WV Department of
Environmental Protection



The Right People doing the Right Things,
wisely investing the cash flow from our
underlying Assets, will create Value+®

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 3- Buffalo 247- Bethany
Operator ID County District Quadrangle

2) Operator's Well Number: Samuel Jones BRK 5H Well Pad Name: Samuel Jones Pad

3) Farm Name/Surface Owner: Samuel E. & Judith F. Jones Public Road Access: Hukill Hill/Marlboro Spur Road

4) Elevation, current ground: 1205' Elevation, proposed post-construction: 1210'

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

(b) If Gas Shallow Deep
Horizontal

6) Existing Pad: Yes or No No

C-110 3-7-19

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- 6076', Target Base TVD- 6133', Anticipated Thickness- 57', Associated Pressure- 3987

8) Proposed Total Vertical Depth: 6116' *✓ No change*

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 14132' *✓*

11) Proposed Horizontal Leg Length: 7551.43' *✓*

12) Approximate Fresh Water Strata Depths: 265'

13) Method to Determine Fresh Water Depths: Nearby spring

14) Approximate Saltwater Depths: 613'- Salinity Profile

15) Approximate Coal Seam Depths: 411'

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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Environmental Protection

WW-6B
(04/15)

API NO. 47- 009

OPERATOR WELL NO. Samuel Jones BRK 5H

Well Pad Name: Samuel Jones Pad

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#	365'	365'	362 sx/CTS
Coal	See	Intern	Casing				
Intermediate	9 5/8"	New	J-55	36#	1807'	1807'	706 sx/CTS
Production	5 1/2"	New	HCP-110	20#	14,132'	14,132'	Lead 732sx/Tail 2015sx/ 100' Inside In <input checked="" type="checkbox"/>
Tubing							
Liners							

Handwritten signature and date: 3-7-19

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							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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Office of Oil and Gas

MAR 15 2019

WV Department of
Environmental Protection

WW-6B
(10/14)

API NO. 47- 009 -

OPERATOR WELL NO. Samuel Jones BRK 5H

Well Pad Name: Samuel Jones Pad

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill and stimulate any potential zones between and including the Benson to Marcellus. **If we should encounter a void place basket above and below void area- balance cement to bottom of void and grout from basket to surface or run external casing packer/cementing stage tool above void interval and perform 2 stage cementing operation dependent upon depth of void. Run casing not less than 20' below void nor more than 75' below void. (*If freshwater is encountered deeper than anticipated it must be protected, set casing 50' below and cts.)

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This will be performed in stages with the plug and perf method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. The well is produced through surface facilities consisting of high pressure production unites, vertical separation units, water and oil storage tanks. Max press and anticipated max rate- 9000 lbs @ 100 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 4.94

22) Area to be disturbed for well pad only, less access road (acres): 3.62

23) Describe centralizer placement for each casing string:

All casing strings will be ran with a centralizer at a minimum of 1 per every 3 joints of casing.

24) Describe all cement additives associated with each cement type:

See Attachment ***

25) Proposed borehole conditioning procedures:

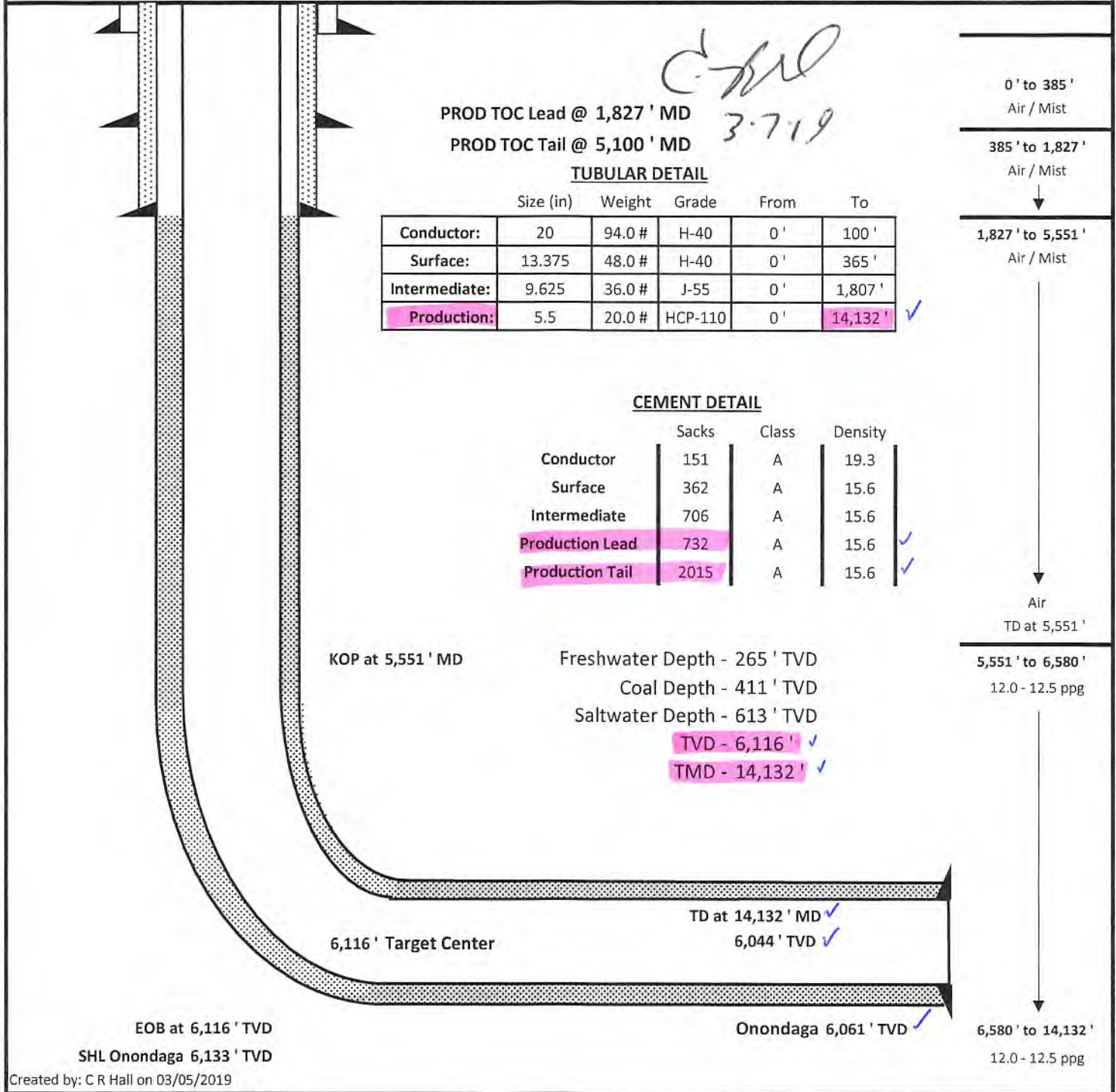
All boreholes will be conditioned with circulation and rotation for a minimum of one bottoms up and continuing until operator is satisfied with borehole conditions.

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*Note: Attach additional sheets as needed.

Southwestern Energy Company	Proposed Drilling Program
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Well: SAMUEL JONES BRK 5 Field: PANHANDLE FIELD WET County: BROOKE SHL: 40.1905 Latitude -80.5611 Longitude BHL: 40.2102 Latitude -80.5689 Longitude KB Elev: 1,231 ft MSL KB: 26 ft AGL	Re-entry Rig: TBD Prospect: PANHANDLE State: WV GL Elev: 1,205 ft MSL
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Latitude: 40°12'30" SURFACE HOLE 5419'

ELK LAKE SERVICES, LLC

280 Indian Springs Road,
Suite 123 Indiana, PA 15701
Phone: (724) 463-7303

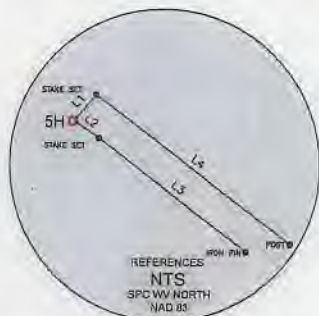
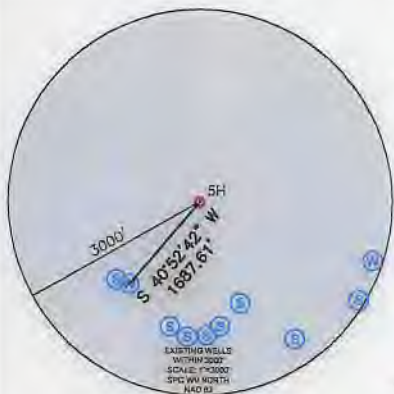
Latitude: 40°15'00"

BOTTOM HOLE 7595'

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,448,997.14
EASTING: 537,363.32
LANDING POINT (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,449,048.77
EASTING: 537,572.40
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,451,173.23
EASTING: 536,689.10

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

05/10/2019



LINE	BEARING	DISTANCE
L1	N 41°29'23" E	356.30'
L2	S 55°34'17" E	318.99'
L3	S 52°36'46" E	1927.86'
L4	S 52°42'21" E	2535.38'

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 1688 FEET OF PROPOSED WELL.
4. PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS ARE WITHIN 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 PLAN DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
3. 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.





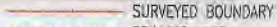
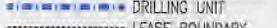
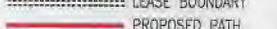
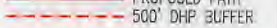
P.S. 2164



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 SURVEY SOURCE OF ELEVATION: GRADE GPS (NAVD 88, US FT)	SAMUEL JONES BRK OPERATOR'S WELL #: 5H API WELL #: 47 9 00263 STATE COUNTY PERMIT
	WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input checked="" type="checkbox"/> DEEP <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/>	WATERSHED: UPPER OHIO SOUTH DISTRICT: BUFFALO COUNTY: BROOKE COUNTY SURFACE OWNER: JONES, SAMUEL E. AND JUDITH F. OIL & GAS ROYALTY OWNER: RESOURCE MINERALS HEADWATER I, LP

DRILL <input checked="" type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input checked="" type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/>	CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input type="checkbox"/> (SPECIFY) _____	TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 6,116' TVD 14,132' TMD
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC ADDRESS: 1300 FORT PIERPONT DR STE 201 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508	DESIGNATED AGENT: BRITTANY WOODY ADDRESS: 1300 FORT PIERPONT DR STE 201 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508	

LEGEND:  PROPOSED SURFACE HOLE / BOTTOM HOLE  EXISTING / PRODUCING WELLHEAD LPL: LANDING POINT LOCATION  EXISTING WATER WELL  EXISTING SPRING	 SURVEYED BOUNDARY  DRILLING UNIT  LEASE BOUNDARY  PROPOSED PATH 500' DHP BUFFER	REVISIONS: 10-17-2018 ADDED 500' BUFFER AROUND BOREHOLE PATH 02-25-2019 EXTENDED LATERAL	DATE: 03-12-2019 FILE NO: 17-02 DRAWN BY: JMB SCALE: 1" = 2000' DRAWING NO: 1 WELL LOCATION PLAT 1
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ELK LAKE SERVICES, LLC

280 Indian Springs Road,
Suite 123 Indiana, PA 15701
Phone: (724) 463-7303



DETAIL A

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	JONES, SAMUEL E & JUDITH F (S) / RESOURCE MINERALS HEADWATER I, LP (R)	3-B43-60
TRACT	SURFACE OWNER	TAX PARCEL
2	VALENTINE GENE C TRUST 11/25/86	3-B43-33
3	BETHANY COLLEGE	3-B38-31
4	BETHANY PIKE ROAD	
5	JEFFREY B. WOY, SUSAN KATE MOORE, PATRICIA RUTH WEST, WESLEY M. GERMON, III, AND ELIZABETH G. IGNAUT	3-B38-37

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
BL	FORRESTER, JAMES R JR & CAROLYN	2-B43F-35
BM	HERVEY, DOUGLAS H & HOLLY (SURV)	2-B43F-36
BN	FURBEE, THOMAS; SHELEK, KATHERINE	2-B43F-37
BO	FURBEE, THOMAS; SHELEK, KATHERINE (SURV)	2-B43F-38
BP	BETHANY COLLEGE	2-B43F-39
BQ	BETHANY COLLEGE	2-B43F-40
BR	BETHANY COLLEGE, THE TRUSTEES OF	2-B43F-41
BS	BETHANY COLLEGE	2-B43F-42
BT	BETHANY COLLEGE	2-B43F-43
BU	KEMP, SHIRLEY J	2-B43F-44
BV	BETHANY COLLEGE	2-B43F-46
BW	NESLEN, DOUGLAS G	2-B43F-47
BX	AYERS, THOMAS M	2-B43F-48
BY	FORSTY, JANICE I (L EST-MARY J FORSTY	2-B43F-49
BZ	SYKES, JOANNE	2-B43F-50
CA	SYKES, JOANNE	2-B43F-51
CB	BOUWENS, WAYNE NEIL & JAY ALAN	2-B43F-52
CC	BOUWENS, WAYNE NEIL(TOD);JOHNSTON, GRETCHEN	2-B43F-53
CD	MOURATIDIS, KOSMAS (LG ROBERT & NECOL	2-B43F-54
CE	CUNNINGHAM, JOHN & PATRICIA L (SURV)	2-B43F-55
CF	KANOTZ, ASHLEY L & A SCOTT	2-B43F-56
CG	SMITH, RYAN & BROOKE	2-B43F-57
CH	WEPPLER, RANDALL J & CYNTHIA	2-B43F-58
CI	BETHANY COLLEGE	2-B43F-79
CJ	BETHANY COLLEGE	2-B43F-78
CK	BETHANY COLLEGE	2-B43F-77
CL	BETHANY COLLEGE	2-B43F-76
CM	BETHANY COLLEGE	2-B43F-75
CN	LOZIER, JOHN W & CORAL	2-B43F-65
CO	D'AURORA, DOMINICK A & THERESA (SURV)	2-B43F-4
CP	BETHANY COLLEGE	2-B43F-73
CQ	LYONS, THOMAS PAUL	2-B43F-72
CR	LYONS, THOMAS PAUL	2-B43F-71
CS	WILLIAMSON, GRAY; HATZOPOULOS, SYDMA (SURV)	2-B43B-15
CT	KREISBERG, ROBERT & MELINDA (SURV)	2-B43F-80
CU	BETHANY COLLEGE	2-B43B-16
CV	BETHANY COLLEGE	2-B43B-17
CW	GROUX, HARRY W & SANDRA K (SURV)	2-B43B-18
CX	GROUX, HARRY W & SANDRA K (SURV)	2-B43F-19
CY	BETHANY COLLEGE	2-B43B-20
CZ	BETHANY COLLEGE	2-B43B-21
DA	LOVATO, DONNA SUE MARTIN	2-B43F-67
DB	FALCON, NED THOMAS & BILLIE JO	2-B43B-60
DC	KEENER, EARL R & PAMELA (SURV)	2-B43B-5
DD	MANUFACTURERS LIGHT & HEAT CO	2-B43B-27
DE	HUFF, JOHN HEIRS	2-B43B-40
DF	BETHANY COLLEGE	3-B38-31
DG	HOLLADAY, DANNY M & SANDRA L (SURV)	3-B43-3
DH	RUSCHELL, DENNIS & DERRELLE	3-B43-2
DI	RUSCHEL, DENNIS & DERRELLE	3-B43-01
DJ	JOHNSON ALLEN, WARREN & CHARLES ETAL	3-B38-36
DK	OWENS DAVID G & WALTERS LINDA ROY R OWENS, LIFE ESTATE	3-B38-35
DL	OWENS DAVID G & WALTERS LINDA ROY R OWENS, LIFE ESTATE	3-B38-33
DM	OWENS DAVID G & WALTERS LINDA ROY R OWENS, LIFE ESTATE	3-B38-32
DN	BETHANY COLLEGE	3-B38-31
DO	BROWN CHARLES F & DONNA	3-B38-30
DP	WORTHLEY KIMBERLY CARMAN	3-B38-27
DQ	WORTHLEY KIMBERLY CARMAN	3-B38-25
DR	OWEN MARK W & KRUEZ VIRGINIA BEALL	3-B38-24
DS	VALENTINE GENE CHARLES TRUST OF 11/25/86	3-B43-28
DT	BETHANY COLLEGE	3-B38-31
DU	GORBY RICHARD FRANCIS	3-B43-27
DV	KEEGAN KATHLEEN	3-B43C-37
DW	CHAMBERS BARBARA I (TOD)	3-B43C-36

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	LARSON GARY E & VAUGHNDA S	3-B43C-04
B	BETHANY COLLEGE	2-B43C-03
C	BETHANY COLLEGE	2-B43C-02
D	BETHANY COLLEGE	2-B43C-01
E	PUBLIC PARCEL	1-B43B-26
F	STRAUB, TRAVIS G & GREGORY B	2-B43F-84
G	SONNEWALD, GEORGE JR.	2-B43F-82
H	SONNEWALD, GEORGE JR.	2-B43F-81
I	HEIRS, WILLIAM MITCHELL	2-B43B-22
J	MITCHELL, DONALD STEVEN	2-B43F-83
K	TOWN OF BETHANY	2-B43F-86
L	TOWN OF BETHANY	2-B43F-87
M	TOWN OF BETHANY	2-B43F-88
N	TOWN OF BETHANY	3-B43-32
O	BETHANY COLLEGE	3-B43-31
P	CITY OF BETHANY	2-B43G-15
Q	BETHANY COLLEGE	3-B38-31
R	GENE C VALENTINE TRUST	3-B43-35-8
S	GENE C VALENTINE TRUST	3-B43-36
T	GENE C VALENTINE TRUST	3-B43-49-3
U	WV ST OF DEPT OF COMM DIV OF NAT RE WILDLIFE RES SEC	3-B48-18
V	FONNER, MARY LOU	3-B43-58
W	PUSKARICH, TRACY T	3-B43-59
X	CHAMBERS, ROBERT M & CHARLOTTE A	3-B48-24
Y	AYERS, ALBERT GLENN & REBECCA A (SURV)	3-B43-61
Z	CHAMBERS, ROBT M & CHARLOTTE A	3-B48-23
AA	NORDEN, ANNA MAE	3-B48-22
AB	CORWIN BRIAN DAVID	3-B43-22
AC	BETHANY COLLEGE	3-B38-31
AD	BETHANY COLLEGE	2-B43F-1
AE	CSAPLAR, WILFRID W; GUNASEGARAM, SAKUNTHALA W (SUR)	2-B43F-2
AF	RUGGIERO, RICHARD L & FELICITY	2-B43F-3
AG	D'AURORA, DOMINICK A & THERESA (SURV)	2-B43F-4
AH	GRAHAM, LINDA	2-B43F-5
AI	RAHR, ROBERT P JR & PENNY K (SURV)	2-B43F-6
AJ	REVEN, FRANK M & MARIAN	2-B43F-7
AK	PETTINI, JOSEPH P & BARBARA A (SURV)	2-B43F-8
AL	BURNS, JOHN THOMAS & ANNE E	2-B43F-9
AM	GIESMANN, JOHN C & SUSAN L	2-B43F-10
AN	DULLY, EDWARD A	2-B43F-11
AO	BOWN, ERIC H	2-B43F-12
AP	BETHANY COLLEGE	2-B43F-13
AQ	SAWTARIE, FUJIKO OGURI	2-B43F-14
AR	CUNNINGHAM, JOHN & PATRICIA	2-B43F-15
AS	DARSHAN, SHARMA R & CRYSTAL (JWS)	2-B43F-16
AT	SACHS, ANDREW C & PAULA L (SURV)	2-B43F-17
AU	BETHANY COLLEGE	2-B43F-18
AV	BETHANY COLLEGE	2-B43F-19
AW	BETHANY COLLEGE	2-B43F-20
AX	BETHANY COLLEGE	2-B43F-21
AY	BETHANY COLLEGE	2-B43F-22
AZ	BETHANY COLLEGE	2-B43F-23
BA	VALENTINE GENE CHARLES THE TRUST OF FENDON, DEBORAH C	2-B43F-24
BB	VALENTINE GENE CHARLES THE TRUST OF FENDON, DEBORAH C	2-B43F-25
BC	VALENTINE GENE CHARLES THE TRUST OF FENDON, DEBORAH C	2-B43F-26
BD	MCVICAR, ROBERT L	2-B43F-27
BE	NEEL, CURTIS LEE & LOUANN (SURV)	2-B43F-28
BF	HOFFMAN, JOHN & CYNTHIA	2-B43F-29
BG	COBB, ROSEMARY JEANNE	2-B43F-30
BH	BUCKELEW, ALBERT R JR & SUSAN	2-B43F-31
BI	ELTRINGHAM, THOMAS L & LAURI L (SURV)	2-B43F-32
BJ	HULL, LIVING TR; JOHN & DEBRA	2-B43F-33
BK	MORGAN, KENNETH & JUDITH (SURV)	2-B43F-34

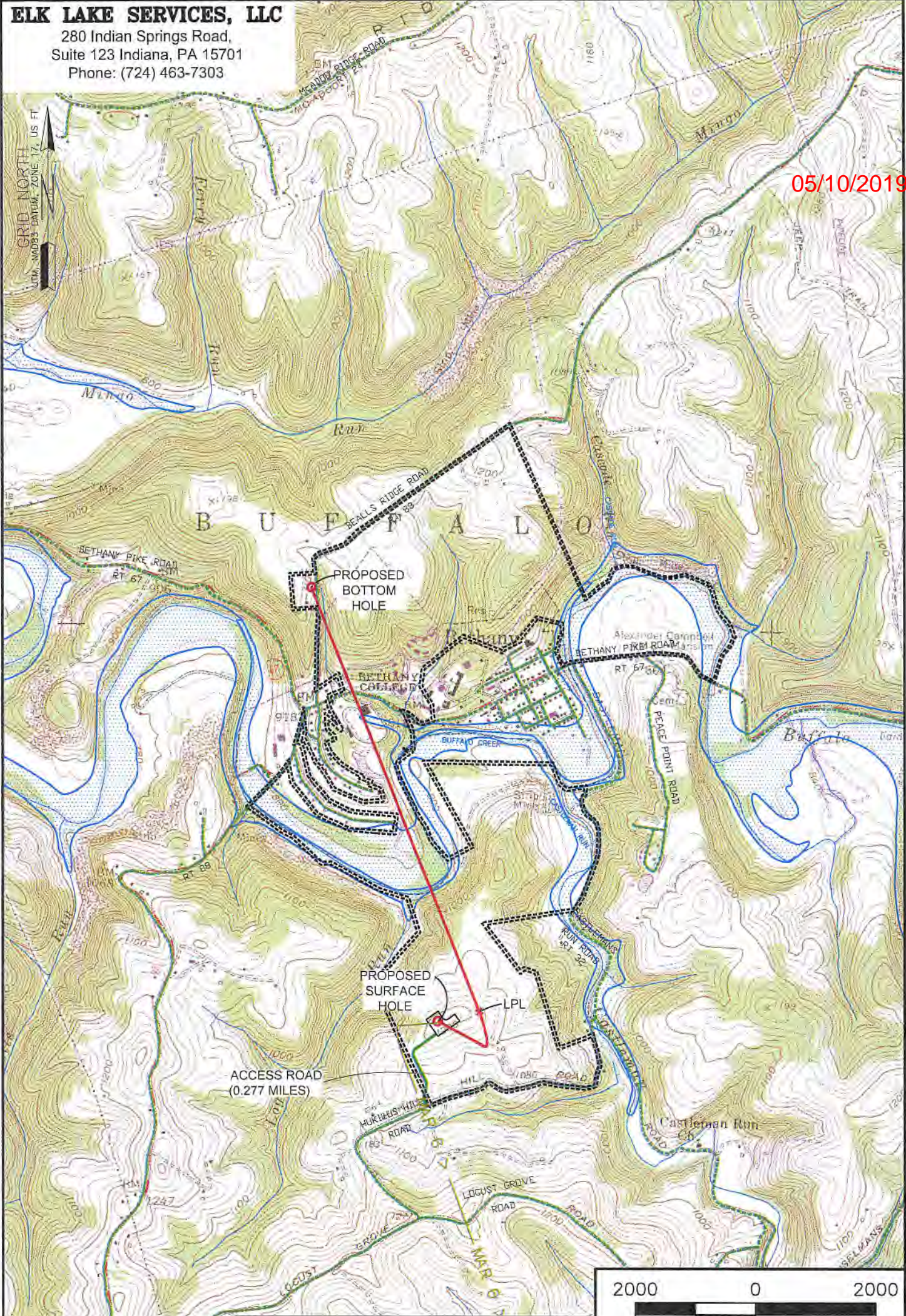
API WELL #: 47 STATE 9 COUNTY 00263 PERMIT MD

REVISIONS:	COMPANY:	SWN Production Company, LLC	
	OPERATOR'S	SAMUEL JONES BRK	
	WELL #:	5H	
	DISTRICT:	COUNTY:	STATE:
	BUFFALO	BROOKE COUNTY	WV
		DATE:	03-11-2019
		FILE NO:	17-02
		DRAWN BY:	JMB
		SCALE:	N/A
		DRAWING NO:	1
		WELL LOCATION PLAT	1

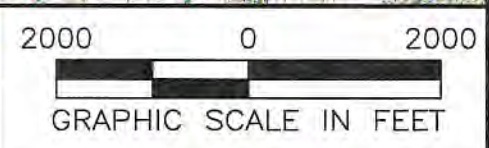
ELK LAKE SERVICES, LLC

280 Indian Springs Road,
Suite 123 Indiana, PA 15701
Phone: (724) 463-7303

05/10/2019



API WELL #: **47** **9**
STATE COUNTY PERMIT



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.
 3. 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
ADDRESS:
1300 FORT PIERPONT DR STE 201, MORGANTOWN, WV 26508
SURFACE OWNER:
JONES, SAMUEL E & JUDITH F

WELL (FARM) NAME: SAMUEL JONES BRK
WELL # 5H **SERIAL #** XXXX
COUNTY BROOKE COUNTY - 9 **DISTRICT:** BUFFALO
USGS 7 1/2 QUADRANGLE MAP NAME BETHANY, WV

WW-6A1
(5/13)

Operator's Well No. Samuel Jones BRK 5H

**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:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
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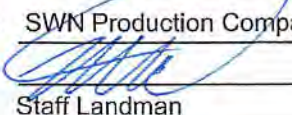
See Attached Exhibit "A"

**Acknowledgement 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 DEP, 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: 
 Its: Staff Landman

RECEIVED
Office of Oil and Gas
Page 1 of 2
MAR 15 2019

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC., Operator
 Samuel Jones BRK 5H
 Brooke County, West Virginia

RECEIVED
 Office of Oil and Gas
 MAR 15 2019
 WV Department of Environmental Protection

#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG
1)	03-0B43-0060-0000-0000	Resource Minerals Headwater I, LP	SWN Production Company, LLC	18.00%	34/257 ✓
2)	03-0B43-0033-0000-0000	Bounty Minerals, LLC	SWN Production Company, LLC	18.00%	42/404 ✓
3)	03-0B38-0031-0000-0000	Bethnay College, a Coporation, f/k/a The Trustees of Bethany College, f/k/a The Trustees of Bethany College, a Corporation	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	15/242 30/480 ✓
4)	Bethany Pike	West Virginia Department of Transportation, Division of Highways	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	15.00%	18/723 30/480 ✓
5)	03-0B38-0037-0000-0000	Jessica Porter Warren, a single woman George Frederick and Lucy Fishwick Reinhardt, husband and wife Victoria Allison Kramer, a widow Catherine Reinhardt and Wolfgang Traber, wife and husband Charles H and Louise B Reinhardt, husband and wife Jessica Agullo and John Doring Collins, wife and husband Ian Malcolm Bromham, a single man Carla Sabrina and Brian Paul Knighten, wife and husband Alberto Enrique and Marcella Gomes Struck, husband and wife Nuria Garcia Agullo, a single woman Aurelia Reinhardt Gebauer, a widow	SWN Production Company, LLC SWN Production Company, LLC SWN Production Company, LLC SWN Production Company, LLC SWN Production Company, LLC SWN Production Company, LLC SWN Production Company, LLC SWN Production Company, LLC SWN Production Company, LLC SWN Production Company, LLC SWN Production Company, LLC	15.00% 15.00% 15.00% 15.00% 15.00% 15.00% 15.00% 15.00% 15.00% 15.00% 15.00%	49/361 49/320 49/257 49/311 49/189 49/291 50/130 49/667 49/532 49/541 49/446 ✓

Added for
 Modification
 5/06/19

4700900269
05/16/2019



SWN Production Company, LLC
1300 Fort Pierpont Dr, Ste 201
Morgantown, WV 26508
Tel: 304 884 1610
Fax: 304 471 2497
www.swn.com

February 8, 2019

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

RE: SWN's proposed New Well: Samuel Jones BRK 5H in Brooke County, West Virginia, Drilling under Bealls Ridge Road and Bethany Pike.

Dear Ms. Adkins:

SWN Production Company, LLC ("SWN") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to SWN's right to drill under Bealls Ridge Road and Bethany Pike. Please be advised that SWN has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read "M. Wilder", enclosed within a large, loopy blue oval.

Michael H. Wilder
Staff Landman
SWN Production Company, LLC

RECEIVED
Office of Oil and Gas

MAR 15 2019

WV Department of
Environmental Protection

A red logo consisting of the letters "R/A" with a horizontal arrow pointing to the right, followed by "V+".

The Right People doing the Right Things,
wisely investing the cash flow from our
underlying Assets, will create Value+[®]