



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, June 11, 2018

NOTICE OF RETURNED PERMIT APPLICATION
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Returned well work permit application for ROBERT BONE BRK 210H
47-009-00201-00-00

SWN PRODUCTION COMPANY, LLC (A)

Please be advised that the Office of Oil and Gas is returning your Well Work Permit Application for the above referenced well. If you wish to reapply, please complete and submit new forms including a Mylar plat. A new U.S. Well Number will be associated with any subsequent well work applications.

If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin
Chief

A handwritten signature in blue ink, appearing to read "James A. Martin", is written over the typed name and title.

Operator's Well Number: ROBERT BONE BRK 210H
Farm Name: BONE, ROBERT
U.S. WELL NUMBER: 47-009-00201-00-00
Horizontal 6A New Drill
Date Returned: 6/11/2018

Promoting a healthy environment.

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

1) Well Operator: SWN Production Co., LLC 49447757 009-Brooke 3- Buffalo 247-Bethany
Operator ID County District Quadrangle

2) Operator's Well Number: Robert Bone BRK 210H Well Pad Name: Robert Bone BRK PAD

3) Farm Name/Surface Owner: Robert Bone Public Road Access: Hukill Run Road

4) Elevation, current ground: 1148' Elevation, proposed post-construction: 1148'

5) Well Type (a) Gas Oil Underground Storage
Other _____
(b) If Gas Shallow Deep
Horizontal

6) Existing Pad: Yes or No yes *C. BLO 10-15-17*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Target formation = Marcellus, Down-Dip West to the South, SHL Target top 5885' TVD SHL Target base 6008' TVD, Anticipated Thickness 23', Associated Pressure 3605 psi

8) Proposed Total Vertical Depth: 5897'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 17031'

11) Proposed Horizontal Leg Length: 10213.4'

12) Approximate Fresh Water Strata Depths: 344'

13) Method to Determine Fresh Water Depths: Salinity Profile

14) Approximate Saltwater Depths: 627' Salinity Profile at top of high salinity sandstone

15) Approximate Coal Seam Depths: 309'

16) Approximate Depth to Possible Void (coal mine, karst, other): 309' Possible void

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#	400'	400'	392 sw/CTS
Coal	9 5/8"	New	J-55	38#	1643'	1643'	534 sw/CTS
Intermediate	7"	New	J-65	20#	If Needed	If Needed	If Needed/As Needed
Production	5 1/2"	New	HCP-110	20#	17,031'	17,031'	
Tubing	2 3/8"	New	HCP-110	4.7#	Approx. 5871'	Approx. 5871'	
Liners							

C. SLO 10-19-17

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Max. Associated Surface Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	30"	0.25	2120	81	Class A	1.18/50% Excess
Fresh Water	13 3/8"	17.5"	0.380	2740	633	Class A	1.18/50% Excess
Coal	9 5/8"	12 1/4"	0.395	3950	1768	Class A	1.18/50% Excess
Intermediate	7"	8 3/4"	0.317	4360	3250	Class A	1.20/15% Excess
Production	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/15% Excess
Tubing	2 3/8"	4.778"	0.190				
Liners							

PACKERS

Kind:	10K Arrowset AS1-X			
Sizes:	5 1/2"			
Depths Set:				

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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. Run casing not less than 20' below void nor more than 50' 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 @ 80 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 16.14

22) Area to be disturbed for well pad only, less access road (acres): 6.68

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.



9-00201

SWN Production Company, LLC
P O Box 12359
Spring, Texas 77391-2359
www.swn.com

April 3, 2017

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

RE: Proposed New Well Robert Bone BRK 210H

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 Bones'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

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

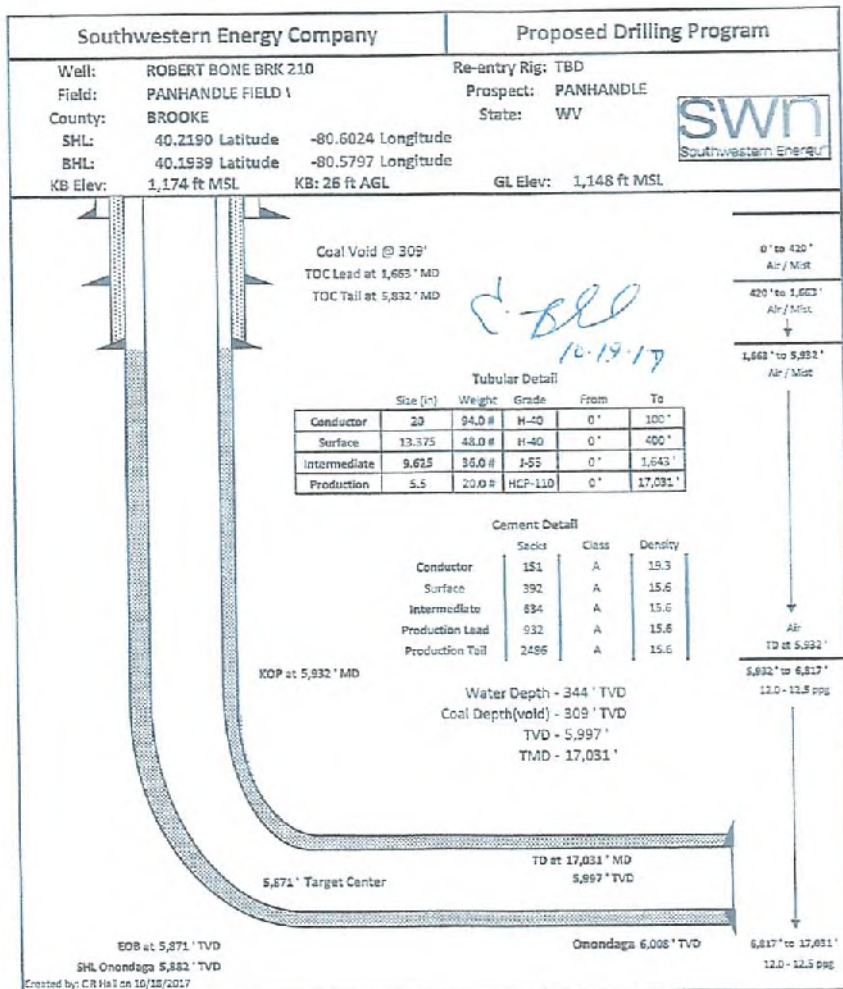
Schlumberger Cement Additives

	Product Name	Product Use	Chemical Name	CAS Number
Surface	S001	accelerator	calcium chloride	10043-52-4
	S001	accelerator	calcium chloride	10043-52-4
Kick Off Plug	D080	dispersant	sodium polynaphthalene sulfonate	9008-63-3
	D801	retarder	aromatic polymer derivative	proprietary
	D047	antifoam	polypropylene glycol	25322-69-4
Production-Lead	D167	fluid loss	aliphatic amide polymer	proprietary
	D154	extender	non-crystalline silica	7631-86-9
	D400	gas migration	boric acid	10043-35-3
	D046	antifoam	polypropylene glycol	25322-69-4
			fullers earth (attapulgate)	8031-18-3
	D201	retarder	chrystalline silica	14808-60-7
			metal oxide	proprietary
D202	dispersant	sulphonated synthetic polymer	proprietary	
		formaldehyde (impurity)	proprietary	
Production-Tail	D046	antifoam	polypropylene glycol	25322-69-4
			fullers earth (attapulgate)	8031-18-3
	D167	fluid loss	aliphatic amide polymer	proprietary
	D065	dispersant	sodium polynaphthalene sulfonate	9008-63-3
			sodium sulfate	7757-82-6
	D201	retarder	chrystalline silica	14808-60-7
			metal oxide	proprietary
D153	anti-settling	chrystalline silica	14808-60-7	

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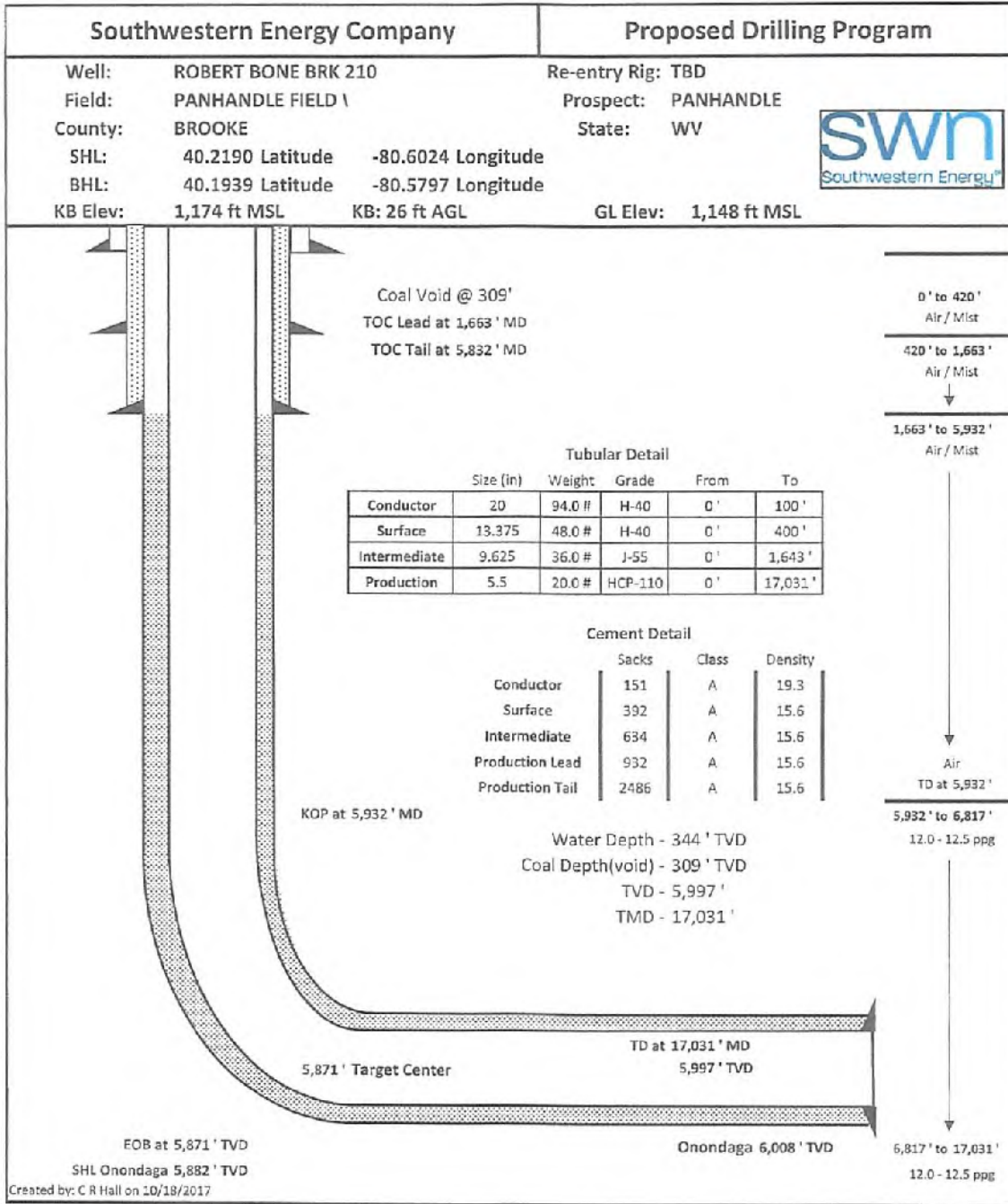
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WW-9
(4/16)

API Number 47 - 009 - 00201
Operator's Well No. Robert Bone BRK 210H

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name SWN Production Company, LLC OP Code 494512924

Watershed (HUIC 10) Buffalo Creek Quadrangle Bethany

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes No

Will a pit be used? Yes No

If so, please describe anticipated pit waste: closed loop system in place at this time- cuttings will be taken to a permitted landfill

Will a synthetic liner be used in the pit? Yes No If so, what ml.? _____

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number _____)
- Reuse (at API Number at next anticipated well, API # will be included with the WR-34/DDMR &/or permit addendum)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain flow back fluids will be put in steel tanks and reused or taken to a permitted disposal facility)

Will closed loop system be used? If so, describe: yes

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. air drill to KOP, fluid drill with SOB from KOP to TD

-If oil based, what type? Synthetic, petroleum, etc. synthetic oil base

Additives to be used in drilling medium? see attached sheets

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. landfill

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust)

-Landfill or offsite name/permit number? meadow SWF-1032, SS grading SWF-4912, Northwestern SWF-1025, Short Creek 1034/WV0109517/CID28726, Carbon Limestone 28726-CID28725

Arden Landfill 10072, American 02-12954, Country Wide 38390/CID38390, Pine Grove 13688

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature [Signature]
Company Official (Typed Name) Dee Southall
Company Official Title Regulatory Supervisor

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Subscribed and sworn before me this 3rd day of April
Brittany R Woody
My commission expires 11/27/20

WV Department of Environmental Protection
Notary Public
OFFICIAL SEAL
Notary Public, State of West Virginia
BRITTANY R WOODY
3302 Old Elkins Road
Buckhannon, WV 26201
My commission expires November 27, 2022

9-00201

Form WW-9

Operator's Well No. Robert Bone BRK 210H

SWN Production Company, LLC

Proposed Revegetation Treatment: Acres Disturbed 16.14 Prevegetation pH _____

Lime as determined by pH test m.n. 2 Tons/acre or to correct to pH 6.68

Fertilizer type 10-20-20

Fertilizer amount 600 lbs/acre

Mulch Hay/Straw 2.5 Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type lbs/acre

Seed Type lbs/acre

****See Attachment**

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, include dimensions (L x W x D) of the pit, and dimensions (L x W), and area in acreage, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: _____

[Signature] 4.20.17

Comments: _____

Title: oil and gas inspector

Date: 4.20.17

Field Reviewed? Yes

No

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WVD Seeding Specification



To Order Seed contact Lyndsi Eddy Flippo office 570-996-4271 cell 501-269-5451 lyndsi_eddy@swn.com (please allow 7 to 10 days for delivery)

NON-ORGANIC PROPERTIES	
Seed Mixture: ROW Mix	SWN Supplied
Orchardgrass	40%
Timothy	15%
Annual Ryegrass	15%
Brown Top Millet	5%
Red Top	5%
Medium Red Clover	5%
White Clover	5%
Birdsfoot Trefoil	5%
Rough Bluegrass	5%
<p>All legumes are innoculated at 5x normal rate</p>	
<p>Apply @ 100lbs per acre April 16th- Oct. 14th</p>	<p>Apply @ 200lbs per acre Oct. 15th- April 15th PLUS 50lbs per acre of Winter Wheat</p>

SOIL AMENDMENTS	
10-20-20 Fertilizer	*Apply @ 500lbs per Acre
Pelletized Lime	Apply @ 2 Tons per Acre
*unless otherwise dictated by soil test results	

Seeding Calculation Information:
1452' of 30' ROW/LOD is One Acre
871' of 50' ROW/LOD is One Acre
622' of 70' ROW/LOD is One Acre

Synopsis:
Every 622 linear feet in a 70' ROW/LOD, you should be using (2) 50lb bags of seed, (4) 50lb bags of fertilizer and (80) 50lb bags of Lime (2x seed in winter months + 50lb Winter Wheat)

Special Considerations:
Landowner Special Considerations including CREP program participants require additional guidance that is not given here. Discuss these requirements with SWN supervision at the beginning of the project to allow time for special seed delivery.

ORGANIC PROPERTIES	
Seed Mixture: SWN Production Organic Mix	SWN Supplied
Organic Timothy	50%
Organic Red or White Clover	50%
OR	
Organic Perennial Ryegrass	50%
Organic Red or White Clover	50%
<p>Apply @ 100lbs per acre April 16th- Oct. 14th</p>	<p>Apply @ 200lbs per acre Oct. 15th- April 15th</p>
Organic Fertilizer @ 200lbs per Acre	Pelletized Lime @ 2 Tons per Acre

WETLANDS (delineated as jurisdictional wetlands)	
Seed Mixture: Wetland Mix	SWN Supplied
VA Wild Ryegrass	20%
Annual Ryegrass	20%
Fowl Bluegrass	20%
Cosmos 'Sensation'	10%
Redtop	5%
Golden Tickseed	5%
Maryland Senna	5%
Showy Tickseed	5%
Fox Sedge	2.5%
Soft Rush	2.5%
Woolgrass	2.5%
Swamp Verbena	2.5%
<p>Apply @ 25lbs per acre April 16th- Oct. 14th</p>	<p>Apply @ 50lbs per acre Oct. 15th- April 15th</p>
<p>NO FERTILIZER OR LIME INSIDE WETLAND LIMITS</p>	

ER
 ON RED ON SANDS
 PREPARED BY
 APR 2 2011
 WVD Department of
 Natural Resources
 Division of
 Plant Production

9-00201

MARCELLUS WELL DRILLING PROCEDURES AND WELL SITE SAFETY PLAN



SWN Production Company, LLC
179 Innovation Drive
Jane Lew, West Virginia 26378

API NO. 47-XXX-XXXXX
WELL NAME: Robert Bone BRK 210H
Bethany QUAD
Buffalo DISTRICT
Brooke COUNTY, WEST VIRGINIA

Submitted by:

Dee Southall

Date: 4/3/2017

Title: Regulatory Supervisor

SWN Production Co., LLC

Approved by:

Date: 4-20-17

Title: Oil & Gas Inspector

Approved by:

Date: _____

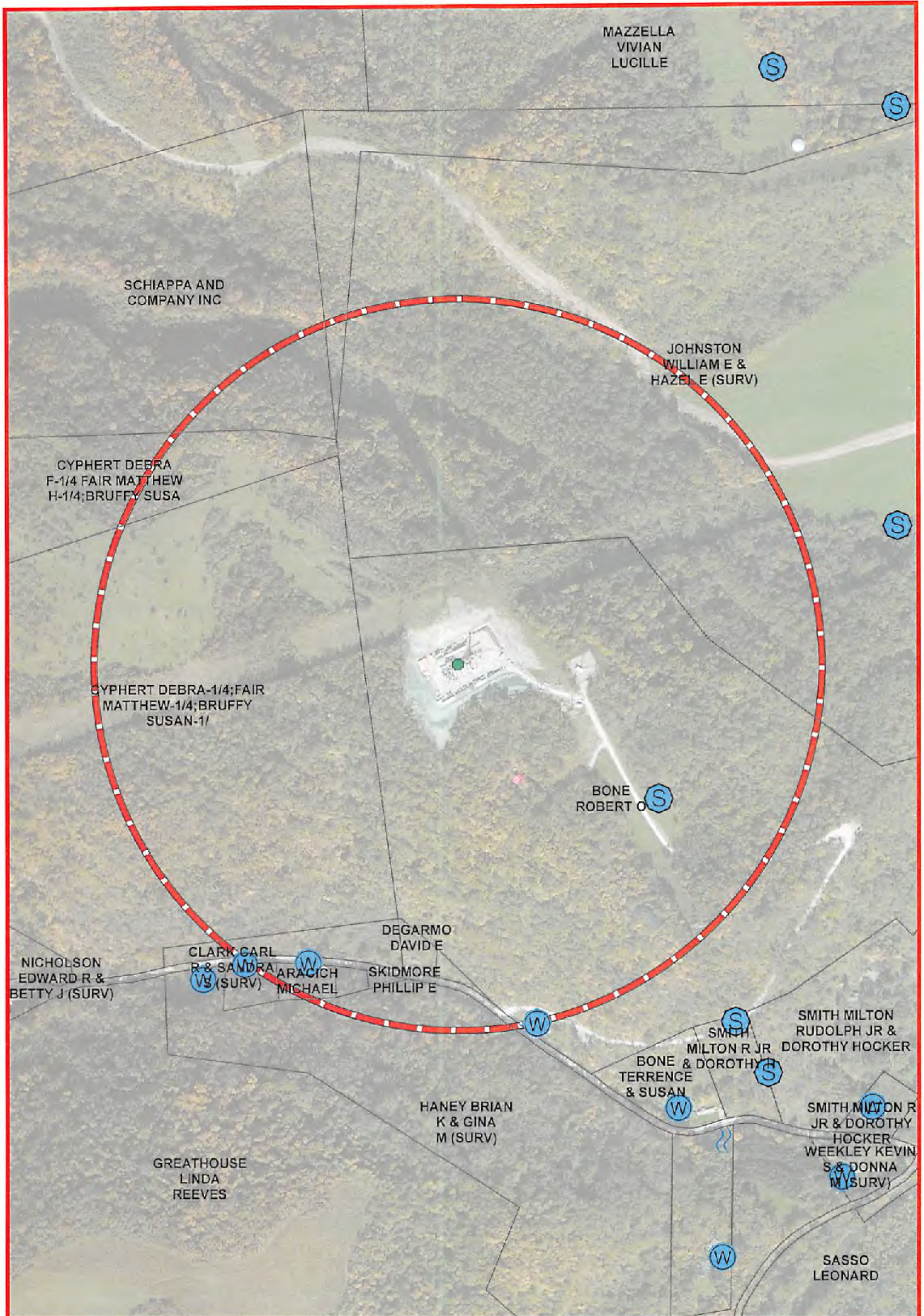
Title: _____

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The intent of this map is for general reference only. Information on this map was created using the best available data at the time but is not guaranteed accurate.

<h3>Water Purveyor Map</h3>			Well Pad: Robert Bone BRK Pad	County: BROOKE
			Robert Bone BRK Coordinates: 40.218962, -80.602546	
Map by: speart NAD 1983 BLM Zone 17N ftUS	Date: 4/3/2017 			

Latitude: 40°12'30" | BOTTOM HOLE 3710'



www.jhacompanies.com
68011 Vineyard Road
St. Clairsville, Ohio 43950
740-695-6100

SURFACE HOLE
Latitude: 40°15'00"

10144'

NOTES ON SURVEY

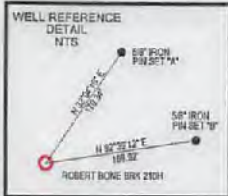
1. COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREIN WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
2. THIS PLAT DOES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

Longitude: -80°34'00" | BOTTOM HOLE 5219'

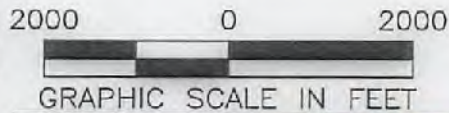
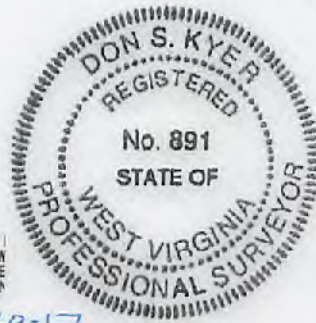
Longitude: -80°34'00" | SURFACE HOLE 11191'



LINE	BEARING	DISTANCE
L1	N 58°33'05" E	868.30'
L2	S 77°36'11" E	2,106.46'



SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4452139.91 EASTING: 533827.70
LANDING POINT (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4452247.39 EASTING: 534600.69
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4449356.24 EASTING: 535776.64



I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOW ALL THE INFORMATION REQUIRED BY LAW AND REGULATIONS ISSUE AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

P.S. 891

Don Kyer 4-20-17

COMPANY: **SWN** Production Company, LLC

(+) 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 GRADE GPS ELEVATION: (NAVD 88, US FT)

OPERATOR'S WELL #: ROBERT BONE BRK 210H
API WELL #: 47 STATE 009 COUNTY 00201 PERMIT *116A*

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

WATERSHED: BUFFALO CREEK ELEVATION: 1148.0'

DISTRICT: BUFFALO COUNTY: BROOKE QUADRANGLE: BETHANY, WV

SURFACE OWNER: ROBERT BONE ACREAGE: ±80.99

OIL & GAS ROYALTY OWNER: ROBERT BONE ACREAGE: ±80.99

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: 5,997 TVD 17,031 TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC ADDRESS: P.O. BOX 1300 CITY: JANE LEW STATE: WV ZIP CODE: 2637B


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 LPL+ LANDING POINT LOCATION ⊙ EXISTING WATER WELL ⊕ EXISTING SPRING	— SURVEYED BOUNDARY — DRILLING UNIT - - - LEASE BOUNDARY — PROPOSED PATH	REVISIONS: 	DATE: 04-20-2017 DRAWN BY: C.WEHR,SSU SCALE: 1" = 2000' DRAWING NO: 2017-219 WELL LOCATION PLAT
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WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS			
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	ROBERT O. BONE (S) ROBERT O. BONE (R)	03-0837-0081.0000	81.99
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
2	WILLIAM E. JOHNSTON & HAZEL E. JOHNSTON (SURV.)	03-0837-0050.0000	166.50
3	JOSEPH K. BOWMAN AND GLORIA JEAN BOWMAN, HUSBAND AND WIFE (SURV)	03-0837-0070.0000	3.30
4	JOSEPH K. BOWMAN AND GLORIA JEAN BOWMAN, HUSBAND AND WIFE (SURV)	03-0837-0069.0001	3.40
5	WILDA L. RIPLEY (LIFE ESTATE), JOHN E. RIPLEY AND SHERRILL J. RIPLEY (REMAINDERMEN)	03-0837-0062.0000	95.40
6	THEODORE W. BUNNELL	03-0837-0068.0000	13.10
7	LOTHIE KEITH, SINGLE	03-0837-0067.0000	1.50
8	LPS INVESTMENT PARTNERSHIP	03-0837-0066.0000	55.00
9	ELLEN B. SANFORD	03-0837-0076.0000	55.00
10	LABELLE FARMS INC.	03-0842-0060.0000	349.88
11	ELLEN B. SANFORD	03-0838-0056.0000	203.93
12	WINDSOR POWER HOUSE COAL CO.	03-0842-0048.0000	17.68
13	MARY WELLS CHAMBERS, WIDOW	03-0843-0014.0000	11.25
14	WINDSOR POWER HOUSE COAL CO.	03-0843-0016.0000	10.74
15	JOYCE ANN MCGEEHAN	03-0843-0017.0000	45.47

ADJOINING OWNERS TABLE			
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	WILLIAM E. JOHNSTON AND HAZEL E. JOHNSTON, JTWRCS, CAROLE SILVER AND WOODROW W. SILVER, JR. (LIFE ESTATE), PAULA KAY SILVER (LIFE ESTATE)	03-0837-0071.0000	2.36
B	WILLIAM E. JOHNSTON & HAZEL E. BERRY JOHNSTON (SURV.)	03-0837-0074.0001	4.10
C	BENJAMIN M. MOSA & CHRISTINE L. HEISE (SURV.)	03-0837-0074.0000	24.41
D	BENJAMIN M. MOSA & CHRISTINE L. HEISE (SURV.)	03-0837-0079.0000	2.17
E	TERRENCE BONE & SUSAN BONE	03-0837-0080.0000	2.58
F	BRIAN K. HANEY & GINA M. HANEY (SURV.)	03-0837-0077.0000	45.75
G	VEMURI HOME & GARDENS LLC.	03-0837-0082.0000	1.00
H	DEBRA CYPHERT; MATTHEW H. FAIR, SUSAN S. FAIR, RICHARD HENTHORN	03-0837-0088.0000	59.95
I	DEBRA CYPHERT; MATTHEW H. FAIR, SUSAN S. FAIR, RICHARD HENTHORN	03-0837-0091.0000	93.93
J	SCHIAPPA AND COMPANY INC.	03-0837-0023.0000	90.91
K	SCHIAPPA AND COMPANY INC.	03-0837-0022.0000	145.96
L	VIVIAN LUCILLE MAZZELLA	03-0837-0045.0000	110.58
M	VEMURI DWARKA NATH DBA AMERICAN HEART ASSOCIATES	03-0837-0047.0000	16.93
N	BONNIE LEE LUKACENA, SHELBY CARRELL, SHAYNE SCHUETZNER, SHANNON SCHUETZNER, SHEY SCHUETZNER, CHERI SHARPE, JOHN THOMAS RODGERS, PAIGE ELIZABETH ROLLINS	03-0837-0048.0000	81.50
O	WILLIAM E. JOHNSTON & HAZEL E. JOHNSTON	03-0837-0053.0001	1.33
P	BUFFALO CREEK CAMP	03-0837-0051.0000	1.00
Q	MARLON G. CRAWFORD SR. AND JOY CRAWFORD, HIS WIFE	03-0837-0055.0000	1.33
R	ERWIN COWAN, RICHARD COWAN, DIANE E. OIGHT, JODY TENNANT	03-0837-0056.0000	1.11
S	JEREMY S. PERSINGER	03-0837-0057.0000	1.07
T	TRAVIS POLEN	03-0837-0059.0000	1.84
U	JOHN E. RIPLEY & SHERRILL J. RIPLEY	03-0837-0061.0000	1.30
V	WILDA L. RIPLEY (LIFE ESTATE) JOHN E. RIPLEY & SHERRILL J. RIPLEY (REMAINDERMEN)	03-0837-0062.0000	95.40
W	MELVIN E. PELUCHETTE	03-0837-0063.0000	109.39
X	JOHN B. DAUGHERTY	03-0837-0065.0000	3.20
Y	ESTATE OF SHAWN C. ARACICH, DECEASED	03-0837-0064.0000	8.30
Z	LESLIE ELSON & GAYLENE ELSON	03-0838-0055.0000	0.47
AA	LESLIE ELSON & GAYLENE ELSON	03-0838-0048.0000	0.46
AB	PENNY MARIE STUMPF	03-0838-0057.0000	1.38
AC	MATTHEW T. NICHOLSON	03-0838-0043.0000	0.86
AD	MARK T. NICHOLSON & KIMBERLY J. NICHOLSON	03-0838-0042.0001	1.23
AE	ROY T. NICHOLSON	03-0838-0042.0000	5.08
AF	ROY T. NICHOLSON	03-0838-0041.0000	0.02
AG	AMY LYNNE RICE	03-0838-0040.0000	4.35
AH	GEORGE SCOTT RICE	03-0838-0039.0000	1.00
AJ	TERRY P. THOMPSON & KAREN THOMPSON	03-0838-0038.0000	22.20
AJ	BETHANY COLLEGE	03-0838-0031.0000	822.26
AK	BETTIE BECK LEONETTI (DECEASED)	03-0843-0006.0000	191.25
AL	WINDSOR POWER HOUSE COAL CO.	03-0843-0015.0000	5.74
AM	MARY WELLS CHAMBERS	03-0843-0013.0000	3.77
AN	JOYCE ANN MCGEEHAN	03-0843-0017.0000	45.47
AO	JOYCE ANN MCGEEHAN	03-0843-0017.0001	1.00
AP	THOMAS AND CHERYL FLAHERTY	03-0843-0024.0000	0.98
AQ	HILLARY SAYRE	03-0843-0023.0000	1.29
AR	BRIAN DAVID CORWIN	03-0843-0022.0000	146.20
AS	SILVEA MAZZELLA MAZZELLA	03-0843-0018.0000	1.00
AT	MARION PYLE STONE	03-0843-0018.0000	1.00
AU	MARION PYLE STONE	03-0843-0020.0000	1.96
AV	WILLIAM BRITT COX	03-0843-0021.0000	44.73
AW	THURMAN O. SPEECE JR., & GOLDIE M. STANLEY	03-0842-0044.0000	8.50
AX	THURMAN O. SPEECE JR., & GOLDIE M. STANLEY	03-0842-0045.0000	14.20
AY	THURMAN O. SPEECE JR., & GOLDIE M. STANLEY	03-0842-0047.0000	4.10
AZ	THURMAN O. SPEECE JR., & GOLDIE M. STANLEY	03-0842-0048.0000	89.13
BA	THURMAN O. SPEECE JR., & JASON SPEECE	03-0842-0046.0001	2.00
BB	JEFFREY S. WARD & DAWN J. WARD	03-0842-0059.0004	98.11
BC	AUSTIN WAYNE WARD & JUSTINE ADAH WADE	03-0842-0050.0000	4.94
BD	AUSTIN WAYNE WARD & JUSTINE ADAH WADE	03-0842-0060.0001	0.87
BE	JAMES & JO ELLEN HAZLETT	03-0842-0060.0002	65.47
BF	WILLIAM A. HAZLETT & LYNNETTE G. HAZLETT, JTWRCS	03-0842-0060.0003	1.74
BG	EDGAR S. ERDMAN & CECELIA M. ERDMAN	03-0842-0049.0000	0.83
BH	LINDA REEVES GREATHOUSE & VICKI LYNN HAMILTON	03-0837-0087.0000	322.84
BI	WILLIAM A. SPERRINGER, III & JENNA L. SPERRINGER (SURV.)	03-0837-0078.0000	2.36
BJ	WILLIAM E. JOHNSTON & HAZEL E. JOHNSTON	03-0837-0069.0000	0.30
BK	WILLIAM E. JOHNSTON & HAZEL E. JOHNSTON, JTWRCS	03-0837-0073.0000	1.28
BL	WILLIAM E. JOHNSTON, AND HAZEL E. JOHNSTON, JTWRCS, CAROLE SILVER AND WOODROW W. SILVER, JR. (LIFE ESTATE), PAULA KAY SILVER (LIFE ESTATE)	03-0837-0072.0000	1.40
BM	JAMES & JO ELLEN HAZLETT	03-0843-0064.0000	5.74

47-009-0020146A

REVISIONS:	COMPANY:			DATE: 04-20-2017
				
	OPERATOR'S		ROBERT BONE	
	WELL #:		BRK 210H	
	DISTRICT:	COUNTY:	STATE:	
	BUFFALO	BROOKE	WV	
				DRAWN BY: C.WEHR,SSU
				SCALE: N/A
				DRAWING NO: 2017-219
				WELL LOCATION PLAT

WW-6A1
(5/13)

Operator's Well No. ROBERT BONE BRK 2104

**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 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

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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.

WV Department of
Environmental Protection

Well Operator: SWN Production Co., LLC

By: Marcy Wallace

Its: Staff Landman

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
 Robert Bone BRK 210H
 Brooke County, West Virginia

#	TMP	SURFACE OWNER	DEEDED ACREAGE	LEASE #	LESSOR	LESSEE	ROYALTY	BK/PG
1)	03-0837-0081-0000-0000	Robert O. Bone	81.99	1-264326-000	Robert O. Bone, married	Chesapeake Appalachia, LLC SWN Production Company, LLC	14.00%	10/424 30/480
2)	03-0837-0050-0000-0000	William E. Johnston & Hazel E. Johnston (Surv)	166.5	730062-001	John L Latimer and Angela Latimer, husband and wife, and Deborah S. Starr, single	Great Lakes Energy Partners, LLC Range Resources - Appalachia, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC Chesapeake Appalachia, LLC	14.00%	9/713 20/733 10/552 30/480
				730576-001	William E. Johnston and Hazel E. Johnston, husband and wife	Chesapeake Appalachia, LLC SWN Production Company, LLC	18.00%	12/298 30/480
3)	03-0837-0070-0000-0000	Joseph K. Bowman and Gloria Jean Bowman, husband and wife (Surv)	3.296	732627-000	Joseph K. Bowman and Gloria Jean Bowman, husband and wife	Chesapeake Appalachia, LLC SWN Production Company, LLC	14.00%	20/56 30/480
4)	03-0837-0069-0001-0000	Joseph K. Bowman and Gloria Jean Bowman, husband and wife (Surv)	3.403	731784-000	Joseph K. Bowman and Gloria Jean Bowman, husband and wife	Chesapeake Appalachia, LLC SWN Production Company, LLC	18.00%	15/619 30/480
5)	03-0837-0062-0000-0000	Wilda L. Ripley (Life Estate) John E. Ripley and Sherrill J. Ripley (Remaindermen)	95.40	732190-001	Wilda L. Ripley (Life Estate) John E. Ripley and Sherrill J. Ripley (Remaindermen)	Chesapeake Appalachia, LLC SWN Production Company, LLC	18.00%	14/575 30/480
6)	03-0837-0068-0000-0000	Theodore W. Bunnell	13.1	732905-000	Theodore W Bunnell, single	Chesapeake Appalachia SWN Production Company, LLC	18.00%	22/602 30/480
7)	03-0837-0067-0000-0000	Lothie Keith, Single	1.5	pending	Lothie Keith, single	SWN Production Company, LLC	14.00%	32/632
8)	03-0837-0066-0000-0000	LPS Investment Partnership	65.00	pending	LPS Investment Partnership	SWN Production Company, LLC	16.00%	32/737
9)	03-0837-0076-0000-0000	Ellen B. Sanford	66.00	732970-001	Jo Ellen Sanford Haizlett and James Alan Haizlett	Chesapeake Appalachia, LLC SWN Production Company, LLC	18.00%	23/577 30/480
				732970-002	Ann Sanford Paull and Stephen B. Paull Ellen B. Sanford, widow	Chesapeake Appalachia, LLC SWN Production Company, LLC	18.00%	23/579 30/480
				732970-003	Harry Estil Sanford, single	Chesapeake Appalachia, LLC SWN Production Company, LLC	18.00%	23/581 30/480
				732970-004		Chesapeake Appalachia, LLC	18.00%	23/583
				732970-005	Evelyn Hill Sanford Chehi and Robert D. Chehi	SWN Production Company, LLC Chesapeake Appalachia, LLC	18.00%	30/480 23/521 30/480
10)	03-0842-0060-0000-0000	Labelle Farms INC.	349.88	745009-000	CHK-MAC, LLC	Chesapeake Appalachia, LLC SWN Production Company, LLC	15.00%	28/641 31/288

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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
 Robert Bone BRK 210H
 Brooke County, West Virginia

11)	03-0B38-0056-0000-0000	Ellen B. Sanford	203.93	732970-005	Robert D. Chehi and Eveleyn Hill Sanford Chehl, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	23/521 30/480
				732970-002	Stephen B. Paull and Ann Sanford Paull, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	23/579 30/480
				732970-004	Harry Estil Sanford, Single	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	23/583 30/480
				732970-001	James Alan Haizlett and Jo Ellen Haizlett, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	26/496 30/480
				732970-003	Ellen B. Sanford, widow	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	26/498 30/480
12)	03-0B42-0048-0000-0000	Windsor Power House Coal Co	17.68	pending	Noble Energy, Inc.	SWN Production Company, LLC	16.00%	33/537
13)	03-0B43-0014-0000-0000	Mary Wells Chambers, widow	11.25	733380-001	Mary Wells Chambers, widow	Chesapeake Appalachia, LLC SWN Production Company, LLC	18.00%	27/498 30/480
14)	03-0B43-0016-0000-0000	Windsor Power House Coal Co	10.74	pending	Noble Energy, Inc.	SWN Production Company, LLC	16.00%	33/537
15)	03-0B43-0017-0000-0000	Joyce Ann McGeehan	45.47	730095-001	William P Grooms and Vivian Grooms, husband and wife	Phillips Production Company Great Lakes Enegrty Partners, LLC Range Resources - Appalachia, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	9/109 9/395 20/733 10/552 30/480

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9-00201



9-00201

SWN Production Company, LLC
P O Box 12359
Spring, Texas 77391-2359
www.swn.com

April 5, 2017

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

RE: SWN's proposed New Well: Robert Bone BRK 210H in Brooke County, West Virginia, Drilling under Hukill Run Road and State Route 67.

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 Hukill Run Road and State Route 67. 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,

Macey Wallace
Staff Landman
SWN Production Company, LLC
PO Box 1300
Jane Lew, WV 26378

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WV Department of
Environmental Protection
KAV

PAID-UP
OIL & GAS LEASE

Lease No. _____

1/15 - WV

This Lease, made this 2nd day of May, 2017, by and between Kenneth D. Johnston, single, of 2064 McCord Hill Rd., Wellsburg, WV 26070, hereinafter collectively called "Lessor," and SWN Production Company, L.L.C., a Texas limited liability company, 10000 Energy Drive, Spring, Texas 77389, hereinafter called "Lessee."

WITNESSETH, that for and in consideration of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and of the mutual covenants and agreements hereinafter set forth, the Lessor and Lessee agree as follows:

LEASING CLAUSE. Lessor hereby leases exclusively to Lessee all the oil and gas (including, but not limited to coal seam gas, coalbed methane gas, coalbed gas, methane gas, gob gas, occluded methane/natural gas and all associated natural gas and other hydrocarbons and non-hydrocarbons contained in, associated with, emitting from, or produced/originating within any formation, gob area, mined-out area, coal seam, and all communicating zones), and their liquid gaseous constituents, whether hydrocarbon or non-hydrocarbon, underlying the land herein leased, together with such exclusive rights as may be necessary or convenient for Lessee, at its election, to explore for, develop, produce, measure, and market production from the Leasehold, or from other lands, using methods and techniques which are not restricted to current technology, including, without limitation, the right to conduct geophysical and other exploratory tests; to drill, maintain, operate, cease to operate, plug, abandon, and remove wells; to use or install roads over and across the Leasehold for use in development of the Leasehold or other lands, electric power and telephone facilities, water impoundments, and to construct pipelines with appurtenant facilities, including data acquisition, compression and collection facilities for use in the production and transportation of products from the Leasehold or from other lands across the Leasehold, to use oil, gas, and non-domestic water sources, free of cost, to store gas of any kind underground, regardless of the source thereof, including the injecting of gas therein and removing the same therefrom; to protect stored gas; to operate, maintain, repair, and remove material and equipment; to use and occupy the subsurface of the Leasehold for the drilling of a wellbore(s) for use in development of the Leasehold or other lands.

DESCRIPTION. The Leasehold is located in the District of Buffalo, in the County of Brooke, in the State of West Virginia, and described as follows:

****See Exhibit "A" attached hereto and by reference made a part hereof for leasehold descriptions****

and described for the purposes of this agreement as containing a total of 31.623 Leasehold acres, whether actually more or less, and including contiguous lands owned by Lessor. This Lease also covers and includes, in addition to that above described, all land, if any, contiguous or adjacent to or adjoining the land above described and (a) owned or claimed by Lessor, by limitation, prescription, possession, reversion or unrecorded instrument or (b) as to which Lessor has a preference right of acquisition. Lessor agrees to execute any supplemental instrument requested by Lessee for a more complete or accurate description of said land.

LEASE TERM. This Lease shall remain in force for a primary term of Five (5) years from 12:00 A.M. May 2, 2017 (effective date) to 11:59 P.M. May 1, 2022 (last day of primary term) and shall continue beyond the primary term as to the entirety of the Leasehold if any of the following is satisfied: (i) operations are conducted on the Leasehold or lands pooled/unitized therewith in search of oil, gas, or their constituents, or (ii) a well deemed by Lessee to be capable of production is located on the Leasehold or lands pooled/unitized therewith, or (iii) oil or gas, or their constituents, are produced from the Leasehold or lands pooled/unitized therewith, or (iv) if the Leasehold or lands pooled/unitized therewith is used for the underground storage of gas, or for the protection of stored gas, or (v) if prescribed payments are made, or (vi) if Lessee's operations are delayed, postponed or interrupted as a result of any coal, stone or other mining or mining related operation under any existing and effective lease, permit or authorization covering such operations on the leased premises or on other lands affecting the leased premises, such delay will automatically extend the primary or secondary term of this oil and gas lease without additional compensation or performance by Lessee for a period of time equal to any such delay, postponement or interruption.

If there is any dispute concerning the extension of this Lease beyond the primary term by reason of any of the alternative mechanisms specified herein, the payment to the Lessor of the prescribed payments provided below shall be conclusive evidence that the Lease has been extended beyond the primary term.

EXTENSION OF PRIMARY TERM. Lessee has the option to extend the primary term of this Lease as to all or any part of the acreage then covered hereby, for one additional term of Five (5) years from the expiration of the primary term of this Lease; said extension to be under the same terms and conditions as contained in this Lease. Lessee may exercise this option to extend this Lease if on or before the expiration date of the primary term of this Lease, Lessee pays or tenders to the Lessor or to the Lessor's credit an amount equal to the sum of the initial consideration given for the execution hereof, which shall be paid in proportion to the number of net acres actually extended. Exercise of this option is at Lessee's sole discretion and may be invoked by Lessee where no other alternative of the Lease Term clause extends this Lease beyond the primary term. If this option is exercised by Lessee the lease as extended will thereafter be treated as if the original primary term was Ten (10) years.

NO AUTOMATIC TERMINATION OR FORFEITURE.

(A) **CONSTRUCTION OF LEASE:** The language of this Lease (including, but not limited to, the Lease Term and Extension of Term clauses) shall never be read as language of special limitation. This Lease shall be construed against termination, forfeiture, cancellation or expiration and in favor of giving effect to the continuation of this Lease where the circumstances exist to maintain this Lease in effect under any of the alternative mechanisms set forth above. In connection therewith, (i) a well shall be deemed to be capable of production if it has the capacity to produce a profit over operating costs, without regard to any capital costs to drill or equip the well, or to deliver the oil or gas to market, and (ii) the Lessee shall be deemed to be conducting operations in search of oil or gas, or their constituents, if the Lessee is engaged in geophysical and other exploratory work including, but not limited to, activities to drill an initial well, to drill a new well, or to rework, stimulate, deepen, sidetrack, frac, plug back in the same or different formation or repair a well or equipment on the Leasehold or any lands pooled/unitized therewith (such activities shall include, but not be limited to, performing any preliminary or preparatory work necessary for drilling, conducting internal technical analysis to initiate and/or further develop a well, obtaining permits and approvals associated therewith and may include reasonable gaps in activities provided that there is a continuum of activities showing a good faith effort to develop a well or that the cessation or interruption of activities was beyond the control of Lessee, including interruptions caused by the acts of third parties over whom Lessee has no control or regulatory delays associated with any approval process required for conducting such activities).

(B) **LIMITATION OF FORFEITURE:** This Lease shall never be subject to a civil action or proceeding to enforce a claim of termination, cancellation, expiration or forfeiture due to any action or inaction by the Lessee, including, but not limited to making any prescribed payments authorized under the terms of this Lease, unless the Lessee has received written notice of Lessor's demand and thereafter fails or refuses to satisfy or provide justification responding to Lessor's demand within 60 days from the receipt of such notice. If Lessee timely responds to Lessor's demand, but in good faith disagrees with Lessor's position and sets forth the reasons therefore, such a response shall be deemed to satisfy this provision, this Lease shall continue in full force and effect and no further damages (or other claims for relief) will accrue in Lessor's favor during the pendency of the dispute, other than claims for payments that may be due under the terms of this Lease.

PAYMENTS TO LESSOR. In addition to the bonus paid by Lessee for the execution hereof, Lessee covenants to pay Lessor, proportionate to Lessor's percentage of ownership, as follows:

(A) **DELAY RENTAL:** To pay Lessor as Delay Rental, after the first year, at the rate of five dollars (\$5.00) per net acre per year payable in advance. The parties hereto agree that this is a Paid-Up Lease with no further Delay Rental and/or Delay in Marketing payments due to Lessor during the primary term or, if so exercised, the extended primary term hereof.

(B) **ROYALTY:** To pay Lessor as Royalty, less all taxes, assessments, and adjustments on production from the Leasehold, as follows:

1. **OIL:** To deliver to the credit of Lessor a Royalty equal to one-eighth (1/8) of the net revenue realized by Lessee for all oil and any constituents thereof produced and marketed from the Leasehold, less the cost to transport, handle, separate, meter, treat, process and market the oil.

2. **GAS:** To pay Lessor on actual volumes of gas and any constituents thereof sold from said land, one-eighth of the net amount realized by Lessee, computed at the wellhead. As used in this lease, the term "net amount realized by Lessee, computed at the wellhead" shall mean the gross proceeds received by Lessee from the sale of oil and gas minus post-production costs incurred by Lessee between the wellhead and the point of sale. As used in this Lease, the term "post-production costs" shall mean all costs and expenses of (a) treating and processing oil and/or gas, and (b) separating liquid hydrocarbons from gas, other than condensate separated at the well, and (c) transporting oil and/or gas, including but not limited to transportation between the wellhead and any production or treating facilities, and transportation to the point of sale, and (d) compressing gas for transportation and delivery purposes, and (e) metering oil and/or gas to determine the amount sold and/or the amount used by Lessee, and (f) sales charges, commissions and fees paid to third parties (whether or not affiliated) in connection with the sale of the gas, and (g) any and all other costs and expenses of any kind or nature incurred in regard to the gas, or the handling thereof, between the wellhead and the point of sale. Lessee may use its own pipelines and equipment to provide such treating, processing, separating, transportation, compression and metering services, or it may engage others to provide such services; and if Lessee uses its own pipelines and/or equipment, post-production costs shall include without limitation reasonable depreciation and amortization expenses relating to such facilities, together with Lessee's cost of capital and a reasonable return on its investment in such facilities. Prior to payment of royalty, Lessor may be required to execute a Division Order certifying Lessor's interest in production. Lessee may pay all taxes and fees levied upon the oil and gas as produced, including, without limitation, severance taxes and privilege and surveillance fees, and deduct a proportionate share of the amount so paid from any monies payable to Lessor hereunder. Lessee may withhold Royalty payment until such time as the total withheld exceeds one hundred dollars (\$100.00).

(C) **DELAY IN MARKETING:** In the event that Lessee drills a well on the Leasehold or lands pooled/unitized therewith that is awaiting completion (including, without limitation, hydraulic fracture stimulation), or that Lessee deems to be capable of production, but does not market producible gas, oil, or their constituents, therefrom, and there is no other basis for extending this Lease, Lessee shall pay after the primary term and until such time as marketing is established (or Lessee surrenders the Lease) a Delay in Marketing payment equal in amount and frequency to the annual Delay Rental payment, and this Lease shall remain in full force and effect to the same extent as payment of Royalty.

(D) **SHUT-IN:** In the event that production of oil, gas, or their constituents, is interrupted and not marketed for a period of twelve (12) months, and there is no producing well on the Leasehold or lands pooled/unitized therewith, Lessee shall, after the primary term, as Royalty for constructive production, pay a Shut-in Royalty equal in amount and frequency to the annual Delay Rental payment until such time as production is re-established (or Lessee surrenders the Lease) and this Lease shall remain in full force and effect. During Shut-in, Lessee shall have the right to rework, stimulate, or deepen any well on the Leasehold or to drill a new well on the Leasehold in an effort to re-establish production, whether from an original producing formation or from a different formation. In the event that the production from the only producing well on the Leasehold is interrupted for a period of less than twelve (12) months, this Lease shall remain in full force and effect without payment of Royalty or Shut-in Royalty.

(E) **DAMAGES:** Lessee will remove unnecessary equipment and materials and reclaim all disturbed lands at the completion of all activities on the Leasehold, and Lessee agrees to repair any damaged improvements to the land and pay for the loss of growing crops or marketable timber.

(F) **MANNER OF PAYMENT:** Lessee shall make or tender all payments due hereunder by check, payable to Lessor, at Lessor's last known address, and Lessee may withhold any payment pending notification by Lessor of a change in address. Payment may be tendered by mail or any comparable method (e.g., Federal Express), and payment is deemed complete upon mailing or dispatch. Where the due date for any payment specified herein falls on a holiday, Saturday or Sunday, payment tendered (mailed or dispatched) on the next business day is timely.

(G) **CHANGE IN LAND OWNERSHIP:** Lessee shall not be bound by any change in the ownership of the Leasehold until furnished by Lessor with such documentation as Lessee may reasonably require. Pending the receipt of documentation, Lessee may elect either to continue to make or withhold payments as if such a change had not occurred.

(H) **TITLE:** If Lessee receives evidence that Lessor does not have title to all or any part of the rights herein leased, Lessee may immediately withhold payments that would be otherwise due and payable hereunder to Lessor until the adverse claim is fully resolved. Lessor represents and warrants that there is no existing oil and gas lease which is presently in effect covering the Leasehold.

(I) **LIENS:** Lessee may, at its option, pay and discharge any past due taxes, mortgages, judgments, or other liens and encumbrances on or against any land or interest included in the Leasehold; and Lessee shall be entitled to recover from the debtor, with legal interest and costs, by deduction from any future payments to Lessor or by any other lawful means. In the event the leased lands are encumbered by a prior mortgage, then, notwithstanding anything contained herein to the contrary, Lessee shall have the right to suspend the payment of any royalties due hereunder, without liability for interest, until such time as Lessor obtains at its own expense a subordination of the mortgage in a form acceptable to Lessee.

(J) **CHARACTERIZATION OF PAYMENTS:** Payments set forth herein are covenants, not special limitations, regardless of the manner in which these payments may be invoked. Any failure on the part of the Lessee to timely or otherwise properly tender payment can never result in an automatic termination, expiration, cancellation, or forfeiture of this Lease. Lessor recognizes and acknowledges that oil and gas lease payments, in the form of rental, bonus and royalty, can vary depending on multiple factors and that this Lease is the product of good faith negotiations. Lessor hereby agrees that the payment terms, as set forth herein, and any bonus payments paid to Lessor constitute full consideration for the Leasehold. Lessor further agrees that such payment terms and bonus payments are final and that Lessor

will not seek to amend or modify the lease payments, or seek additional consideration based upon any differing terms which Lessee has or

(K) PAYMENT REDUCTIONS. If Lessor owns a lesser interest in the oil or gas than the entire undivided fee simple estate, then the rentals (except for Delay Rental payments as set forth above), royalties and shut-in royalties hereunder shall be paid to Lessor only in the proportion which Lessor's interest bears to the whole and undivided fee.

UNITIZATION AND POOLING. Lessor grants Lessee the right to pool, unitize, or combine all or parts of the Leasehold with other lands, whether contiguous or not contiguous, leased or unleased, whether owned by Lessor or by others, at a time before or after drilling to create drilling or production units either by contract right or pursuant to governmental authorization. Pooling or unitizing in one or more instances shall not exhaust Lessee's pooling and unitizing rights hereunder, and Lessee is granted the right to change the size, shape, and conditions of operation or payment of any unit created. Lessor agrees to accept and receive out of the production or the revenue realized from the production of such unit, such proportional share of the Royalty from each unit as well as the number of Leasehold acres included in the unit bears to the total number of acres in the unit. Otherwise, as to any part of the unit, drilling, operations in preparation for drilling, production, or shut-in production from the unit, or payment of Royalty, Shut-in Royalty, Delay in Marketing payment or Delay Rental attributable to any part of the unit (including non-Leasehold land) shall have the same effect upon the terms of this Lease as if a well were located on, or the subject actively attributable to, the Leasehold. In the event of conflict or inconsistency between the Leasehold acres described to the Lessee, and the local property tax assessment calculation of the lands covered by the Lease, or the decided acreage amount, Lessee may, at its option, rely on the latter as being determinative for the purposes of this paragraph.

FACILITIES. Lessee shall not drill a well on the Leasehold within 200 feet of any structure located on the Leasehold without Lessor's written consent. Lessor shall not erect any building or structure, or plant any trees within 200 feet of a well or within 25 feet of a pipeline without Lessor's written consent. Lessor shall not improve, modify, degrade, or restrict roads and facilities built by Lessee without Lessee's written consent.

CONVERSION TO STORAGE. Lessee is hereby granted the right to convert the Leasehold or lands pooled/unitized therewith to gas storage. At the time of conversion, Lessee shall pay Lessor's proportionate part for the estimated recoverable gas remaining in any well drilled pursuant to this Lease using methods of calculating gas reserves as are generally accepted by the natural gas industry and, in the event that all wells on the Leasehold and/or lands pooled/unitized therewith have permanently ceased production, Lessor shall be paid a Conversion to Storage payment in an amount equal to Delay Rental for as long thereafter as the Leasehold or lands pooled/unitized therewith is/are used for gas storage or for production of gas storage; such Conversion to Storage payment shall first become due upon the next ensuing Delay Rental anniversary date. The use of any part of the Leasehold or lands pooled or unitized therewith for the underground storage of gas, or for the protection of stored gas will extend this Lease beyond the primary term as to all rights granted by this Lease, including but not limited to production rights, regardless of whether the production and storage rights are owned together or separately.

DISPOSAL AND INJECTION WELLS. Lessor hereby grants to Lessee the right to drill wells and/or re-enter existing wells, including necessary location, roadway and pipeline easements and rights of way, on any part of the Leasehold or lands pooled or unitized therewith for the disposal and/or injection into any subsurface strata, other than a potable water strata, of air, gas, brine, completion and production fluids, waste water and any hydrocarbon related substances from any source, including, but not limited to wells on the Leasehold or lands pooled or unitized therewith, and to conduct all operations as may be required, for so long as necessary and required by Lessee for purposes as herein provided. If, at the expiration of the primary term, Lessee is disposing and/or injecting into any subsurface strata underlying the Leasehold or lands pooled or unitized therewith or conducting operations for such disposal and/or injection and this lease is not being maintained by any other provision contained herein and no other payments are being made to Lessor as prescribed hereunder, Lessee shall pay to Lessor the sum of one thousand dollars (\$1,000.00) per year, proportionately reduced to Lessor's ownership in the Leasehold and surface as it bears to the full and undivided estate, beginning on the next anniversary date of this Lease and said payment and term of this Lease, insofar as to terms and provisions contained herein applicable to disposal and injection wells, shall continue annually thereafter for so long as necessary and required by Lessee for purposes as herein provided and until all disposal and/or injection wells located on the Leasehold or on lands pooled or unitized therewith are plugged and abandoned. Lessor agrees that if required by Lessee, regulatory agency or governmental authority having jurisdiction, Lessor shall enter a separate Disposal and Injection Agreement with Lessee for the purposes as herein provided.

TITLE AND INTERESTS. Lessor hereby warrants generally and agrees to defend and title to the Leasehold and covenants that the Leasehold shall never be subject to a lien or other claim of any person having title to the Leasehold or lands pooled or unitized therewith, and shall have benefit of the doctrine of after acquired title. Should any person having title to the Leasehold fail to execute this Lease, the Lease shall nevertheless be binding upon all persons who do execute it as Lessor.

LEASE DEVELOPMENT. There is no implied covenant to drill, prevent drainage, further develop or market production within the primary term or any extension of term of this Lease. There shall be no Leasehold forfeiture, termination, expiration or cancellation for failure to comply with said implied covenants. Provisions herein, including, but not limited to the prescribed payments, constitute full compensation for the privileges herein granted.

COVENANTS. This Lease and its expressed or implied covenants shall not be subject to termination, forfeiture of rights, or damages due to failure to comply with obligations if compliance is effectively prevented by federal, state, or local law, regulation, or decree, or the acts of God and/or third parties over whom Lessee has no control.

RIGHT OF FIRST REFUSAL. If at any time within the primary term of this lease or any continuation or extension thereof, Lessor receives any bona fide offer, acceptable to Lessor, to grant an additional lease which will take effect upon expiration of this Lease ("Top Lease") covering all or part of the Leasehold, Lessee shall have the continuing option by meeting any such offer to acquire a Top Lease on equivalent terms and conditions. Any offer must be in writing and must set forth the proposed Lessee's name, bonus consideration and royalty consideration to be paid for such Top Lease, and include a copy of the lease form to be utilized reflecting all pertinent and relevant terms and conditions of the Top Lease. Lessee shall have fifteen (15) days after receipt from Lessor of a complete copy of any such offer to advise Lessor in writing of its election to enter into an oil and gas lease with Lessor on equivalent terms and conditions. If Lessee fails to notify Lessor within the aforesaid fifteen (15) day period of its election to meet any such bona fide offer, Lessor shall have the right to accept said offer. Any Top Lease granted by Lessor in violation of this provision shall be null and void.

ARBITRATION. In the event of a disagreement between Lessor and Lessee concerning this Lease or the associated Order of Payment, performance thereunder, or damages caused by Lessee's operations, the resolution of all such disputes shall be determined by arbitration in accordance with the rules of the American Arbitration Association. Arbitration shall be the exclusive remedy and cover all disputes, including but not limited to, the formation, execution, validity and performance of the Lease and Order of Payment. All fees and costs associated with the arbitration shall be borne equally by Lessor and Lessee.

ENTIRE CONTRACT. The entire agreement between Lessor and Lessee is embodied herein and in the associated Order of Payment (if any). No oral warranties, representations, or promises have been made or relied upon by either party as an inducement to or modification of this Lease.

TITLE CURATIVE. Lessor agrees to execute consents, affidavits, ratifications, amendments, amendments necessary to obtain driveway entrance permits, and approvals of drilling or production units which Lessee may seek to form pursuant to governmental authorization.

Lessee may request to carry out the purpose of this lease, including without limitation, applications necessary to obtain driveway entrance permits, and approvals of drilling or production units which Lessee may seek to form pursuant to governmental authorization.

Exhibit "A"

Addendum to Oil and Gas Lease dated May 2, 2017, from Kenneth D. Johnston, single, of 2064 McCord Hill Rd., Wellsburg, WV 26070, Lessor to SWN Production Company, L.L.C., as Lessee, covering 31.623 acres, more or less, situated in Buffalo District, Brooke County, West Virginia:

Leasehold Description:

DESCRIPTION. The Leasehold is located in the District of Buffalo, in the County of Brooke, in the State of West Virginia, and described as follows:

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0130-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0139-0000, 03-B32-0137-0000, 0137-0001;
On the East by lands of 03-B32-0129-0000;
On the South by lands of 03-B32-0129-0000, 03-B37-0043-0000;
On the West by lands of 03-B37-0042-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0130-0001
On the North by lands of: 03-B32-0130-0000;
On the East by lands of 03-B32-0130-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0138-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0135-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0133-0000;
On the East by lands of 03-B32-0132-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0137-0001;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0137-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0136-0000;
On the East by lands of 03-B32-0137-0001;
On the South by lands of 03-B32-0138-0000;
On the West by lands of 03-B32-0136-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0137-0001
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0136-0000;
On the East by lands of 03-B32-0135-0000, 03-B32-0130-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0137-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0138-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0137-0000;
On the East by lands of 03-B32-0130-0001;
On the South by lands of 03-B32-0130-0001;
On the West by lands of 03-B32-0136-0000;

and being a portion of said lands acquired from Lillie Anna Johnston by virtue of Intestate Succession described in Affidavit of Death and Heirship NOT YET RECORDED in Brooke County, and described for the purposes of this agreement as containing a total of 31.623 Leasehold acres, whether actually more or less, and including contiguous lands owned by Lessor;

Exhibit "B"

Addendum to Oil and Gas Lease dated May 2, 2017, from Kenneth D. Johnston, single, of 2064 McCord Hill Rd., Wellshurg, WV 26070, Lessor to SWN Production Company, LLC, as Lessee, covering 31.623 acres, more or less, situated in Buffalo District, Brooke County, West Virginia:

Additional Provisions:

ROYALTY-All references made in Paragraph (B)1 and 2 of the section entitled "PAYMENT TO LESSOR" as to one-eighth (1/8) royalty shall be amended to eighteen percent (18%)

HOLD HARMLESS - Lessee agrees it will protect, save, and keep Lessor harmless and indemnified against any penalty or damage or charges imposed for any violation of any laws or ordinances, whether occasioned by the neglect of Lessee or those holding under Lessee, and Lessee will at all times protect, indemnify and save and keep harmless the Lessor against and from any and all loss, damage or expense, including any injury to any person or property whomsoever or whatsoever arising out of or caused by any negligence of the Lessee or those holding under Lessee.

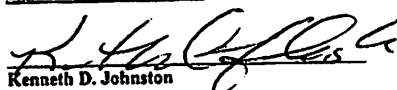
NO STORAGE RIGHTS - Notwithstanding anything herein contained to the contrary, Lessee agrees the herein described Leasehold shall not be used for the purpose of gas storage as defined by the Federal Energy Regulatory Commission. Any reference to gas storage contained in this Lease is hereby deleted. If Lessor wishes to enter into an agreement regarding gas storage using the Leasehold with a third party, Lessor shall first give Lessee written notice of the identity of the third party, the price or the consideration for which the third party is prepared to offer, the effective date and closing date of the transaction and any other information respecting the transaction which Lessee believes would be material to the exercise of the offering. Lessor does hereby grant Lessee the first option and right to purchase the gas storage rights by matching and tendering to the Lessor any third party's offering within 30 days of receipt of notice from Lessor.

GROSS PROCEEDS - Royalties shall be paid on all Oil and Gas Substances produced and sold without deductions for the costs of producing, gathering, storing, separating, treating, dehydrating, and compressing, transporting, or otherwise making the oil and/or gas produced from the leased premises ready for sale or use. All oil and/or gas royalty shall be delivered free of cost into the tank or pipeline (for oil) and into the pipeline (for gas), with the exception of Lessor's prorated share of taxes, measured by volume, on the oil and/or gas royalty. However, any such costs which result in enhancing the value of the marketable oil, gas or other products to receive a better price may be deducted from the Lessor's share of production so long as such costs are based on Lessee's actual cost of enhancement. However, in no event shall Lessor receive royalty on a price that is less than, or more than, the price received by Lessee.

DISPOSAL WELLS - Lessee is not granted any right whatsoever to use the Leasehold, or any portion thereof, for construction and/or operation of any disposal or injection well.

NO WARRANTY OF TITLE - It is understood that Lessor warrants title to said property only with respect that the title is good to the best of Lessor's knowledge and Lessee agrees that no claims will be made against Lessor pertaining to warranty of title.

Signed for Identification:


Kenneth D. Johnston

**PAID-UP
OIL & GAS LEASE**

Lease No. _____

1/15 - WV

This Lease, made this 2nd day of May, 2017, by and between Joyce A. Brady and Ralph A. Brady, wife and husband of 263 Marosi Lane, Colliers, WV 26035, hereinafter collectively called "Lessor," and SWN Production Company, L.L.C., a Texas limited liability company, 10000 Energy Drive, Spring, Texas 77389, hereinafter called "Lessee."

WITNESSETH, that for and in consideration of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and of the mutual covenants and agreements hereinafter set forth, the Lessor and Lessee agree as follows:

LEASING CLAUSE. Lessor hereby leases exclusively to Lessee all the oil and gas (including, but not limited to coal seam gas, coalbed methane gas, coalbed gas, methane gas, gob gas, occluded methane/natural gas and all associated natural gas and other hydrocarbons and non-hydrocarbons contained in, associated with, emitting from, or produced/originating within any formation, gob area, mined-out area, coal seam, and all communicating zones), and their liquid gaseous constituents, whether hydrocarbon or non-hydrocarbon, underlying the land herein leased, together with such exclusive rights as may be necessary or convenient for Lessee, at its election, to explore for, develop, produce, measure, and market production from the Leasehold, or from other lands, using methods and techniques which are not restricted to current technology, including, without limitation, the right to conduct geophysical and other exploratory tests; to drill, maintain, operate, cease to operate, plug, abandon, and remove wells; to use or install roads over and across the Leasehold for use in development of the Leasehold or other lands, electric power and telephone facilities, water impoundments, and to construct pipelines with appurtenant facilities, including data acquisition, compression and collection facilities for use in the production and transportation of products from the Leasehold or from other lands across the Leasehold, to use oil, gas, and non-domestic water sources, free of cost, to store gas of any kind underground, regardless of the source thereof, including the injecting of gas therein and removing the same therefrom; to protect stored gas; to operate, maintain, repair, and remove material and equipment; to use and occupy the subsurface of the Leasehold for the drilling of a wellbore(s) for use in development of the Leasehold or other lands.

DESCRIPTION. The Leasehold is located in the District of Buffalo, in the County of Brooke, in the State of West Virginia, and described as follows:

See Exhibit "A" attached hereto and by reference made a part hereof for leasehold descriptions

and described for the purposes of this agreement as containing a total of 31.623 Leasehold acres, whether actually more or less, and including contiguous lands owned by Lessor. This Lease also covers and includes, in addition to that above described, all land, if any, contiguous or adjacent to or adjoining the land above described and (a) owned or claimed by Lessor, by limitation, prescription, possession, reversion or unrecorded instrument or (b) as to which Lessor has a preference right of acquisition. Lessor agrees to execute any supplemental instrument requested by Lessee for a more complete or accurate description of said land.

LEASE TERM. This Lease shall remain in force for a primary term of Five (5) years from 12:00 A.M. May 2, 2017 (effective date) to 11:59 P.M. May 1, 2022 (last day of primary term) and shall continue beyond the primary term as to the entirety of the Leasehold if any of the following is satisfied: (i) operations are conducted on the Leasehold or lands pooled/unitized therewith in search of oil, gas, or their constituents, or (ii) a well deemed by Lessee to be capable of production is located on the Leasehold or lands pooled/unitized therewith, or (iii) oil or gas, or their constituents, are produced from the Leasehold or lands pooled/unitized therewith, or (iv) if the Leasehold or lands pooled/unitized therewith is used for the underground storage of gas, or for the protection of stored gas, or (v) if prescribed payments are made, or (vi) if Lessee's operations are delayed, postponed or interrupted as a result of any coal, stone or other mining or mining related operation under any existing and effective lease, permit or authorization covering such operations on the leased premises or on other lands affecting the leased premises, such delay will automatically extend the primary or secondary term of this oil and gas lease without additional compensation or performance by Lessee for a period of time equal to any such delay, postponement or interruption.

If there is any dispute concerning the extension of this Lease beyond the primary term by reason of any of the alternative mechanisms specified herein, the payment to the Lessor of the prescribed payments provided below shall be conclusive evidence that the Lease has been extended beyond the primary term.

EXTENSION OF PRIMARY TERM. Lessee has the option to extend the primary term of this Lease as to all or any part of the acreage then covered hereby, for one additional term of Five (5) years from the expiration of the primary term of this Lease; said extension to be under the same terms and conditions as contained in this Lease. Lessee may exercise this option to extend this Lease if on or before the expiration date of the primary term of this Lease, Lessee pays or tenders to the Lessor or to the Lessor's credit an amount equal to the sum of the initial consideration given for the execution hereof, which shall be paid in proportion to the number of net acres actually extended. Exercise of this option is at Lessee's sole discretion and may be invoked by Lessee where no other alternative of the Lease Term clause extends this Lease beyond the primary term. If this option is exercised by Lessee the lease as extended will thereafter be treated as if the original primary term was Ten (10) years.

NO AUTOMATIC TERMINATION OR FORFEITURE.

(A) CONSTRUCTION OF LEASE: The language of this Lease (including, but not limited to, the Lease Term and Extension of Term clauses) shall never be read as language of special limitation. This Lease shall be construed against termination, forfeiture, cancellation or expiration and in favor of giving effect to the continuation of this Lease where the circumstances exist to maintain this Lease in effect under any of the alternative mechanisms set forth above. In connection therewith, (i) a well shall be deemed to be capable of production if it has the capacity to produce a profit over operating costs, without regard to any capital costs to drill or equip the well, or to deliver the oil or gas to market, and (ii) the Lessee shall be deemed to be conducting operations in search of oil or gas, or their constituents, if the Lessee is engaged in geophysical and other exploratory work including, but not limited to, activities to drill an initial well, to drill a new well, or to rework, stimulate, deepen, sidetrack, frac, plug back in the same or different formation or repair a well or equipment on the Leasehold or any lands pooled/unitized therewith (such activities shall include, but not be limited to, performing any preliminary or preparatory work necessary for drilling, conducting internal technical analysis to initiate and/or further develop a well, obtaining permits and approvals associated therewith and may include reasonable gaps in activities provided that there is a continuum of activities showing a good faith effort to develop a well or that the cessation or interruption of activities was beyond the control of Lessee, including interruptions caused by the acts of third parties over whom Lessee has no control or regulatory delays associated with any approval process required for conducting such activities).

(B) **LIMITATION OF FORFEITURE:** This Lease shall never be subject to a civil action or proceeding to enforce a claim of termination, cancellation, expiration or forfeiture due to any action or inaction by the Lessee, including, but not limited to making any prescribed payments authorized under the terms of this Lease, unless the Lessee has received written notice of Lessor's demand and thereafter fails or refuses to satisfy or provide justification responding to Lessor's demand within 60 days from the receipt of such notice. If Lessee timely responds to Lessor's demand, but in good faith disagrees with Lessor's position and sets forth the reasons therefore, such a response shall be deemed to satisfy this provision, this Lease shall continue in full force and effect and no further damages (or other claims for relief) will accrue in Lessor's favor during the pendency of the dispute, other than claims for payments that may be due under the terms of this Lease.

PAYMENTS TO LESSOR. In addition to the bonus paid by Lessee for the execution hereof, Lessee covenants to pay Lessor, proportionate to Lessor's percentage of ownership, as follows:

(A) **DELAY RENTAL:** To pay Lessor as Delay Rental, after the first year, at the rate of five dollars (\$5.00) per net acre per year payable in advance. The parties hereto agree that this is a Paid-Up Lease with no further Delay Rental and/or Delay in Marketing payments due to Lessor during the primary term or, if so exercised, the extended primary term hereof.

(B) **ROYALTY:** To pay Lessor as Royalty, less all taxes, assessments, and adjustments on production from the Leasehold, as follows:

1. **OIL:** To deliver to the credit of Lessor a Royalty equal to one-eighth (1/8) of the net revenue realized by Lessee for all oil and any constituents thereof produced and marketed from the Leasehold, less the cost to transport, handle, separate, meter, treat, process and market the oil.

2. **GAS:** To pay Lessor on actual volumes of gas and any constituents thereof sold from said land, one-eighth of the net amount realized by Lessee, computed at the wellhead. As used in this lease, the term "net amount realized by Lessee, computed at the wellhead" shall mean the gross proceeds received by Lessee from the sale of oil and gas minus post-production costs incurred by Lessee between the wellhead and the point of sale. As used in this Lease, the term "post-production costs" shall mean all costs and expenses of (a) treating and processing oil and/or gas, and (b) separating liquid hydrocarbons from gas, other than condensate separated at the well, and (c) transporting oil and/or gas, including but not limited to transportation between the wellhead and any production or treating facilities, and transportation to the point of sale, and (d) compressing gas for transportation and delivery purposes, and (e) metering oil and/or gas to determine the amount sold and/or the amount used by Lessee, and (f) sales charges, commissions and fees paid to third parties (whether or not affiliated) in connection with the sale of the gas, and (g) any and all other costs and expenses of any kind or nature incurred in regard to the gas, or the handling thereof, between the wellhead and the point of sale. Lessee may use its own pipelines and equipment to provide such treating, processing, separating, transportation, compression and metering services, or it may engage others to provide such services; and if Lessee uses its own pipelines and/or equipment, post-production costs shall include without limitation reasonable depreciation and amortization expenses relating to such facilities, together with Lessee's cost of capital and a reasonable return on its investment in such facilities. Prior to payment of royalty, Lessor may be required to execute a Division Order certifying Lessor's interest in production. Lessee may pay all taxes and fees levied upon the oil and gas as produced, including, without limitation, severance taxes and privilege and surveillance fees, and deduct a proportionate share of the amount so paid from any monies payable to Lessor hereunder. Lessee may withhold Royalty payment until such time as the total withheld exceeds one hundred dollars (\$100.00).

(C) **DELAY IN MARKETING:** In the event that Lessee drills a well on the Leasehold or lands pooled/unitized therewith that is awaiting completion (including, without limitation, hydraulic fracture stimulation), or that Lessee deems to be capable of production, but does not market producible gas, oil, or their constituents, therefrom, and there is no other basis for extending this Lease, Lessee shall pay after the primary term and until such time as marketing is established (or Lessee surrenders the Lease) a Delay in Marketing payment equal in amount and frequency to the annual Delay Rental payment, and this Lease shall remain in full force and effect to the same extent as payment of Royalty.

(D) **SHUT-IN:** In the event that production of oil, gas, or their constituents, is interrupted and not marketed for a period of twelve (12) months, and there is no producing well on the Leasehold or lands pooled/unitized therewith, Lessee shall, after the primary term, as Royalty for constructive production, pay a Shut-in Royalty equal in amount and frequency to the annual Delay Rental payment until such time as production is re-established (or Lessee surrenders the Lease) and this Lease shall remain in full force and effect. During Shut-in, Lessee shall have the right to rework, stimulate, or deepen any well on the Leasehold or to drill a new well on the Leasehold in an effort to re-establish production, whether from an original producing formation or from a different formation. In the event that the production from the only producing well on the Leasehold is interrupted for a period of less than twelve (12) months, this Lease shall remain in full force and effect without payment of Royalty or Shut-in Royalty.

(E) **DAMAGES:** Lessee will remove unnecessary equipment and materials and reclaim all disturbed lands at the completion of all activities on the Leasehold, and Lessee agrees to repair any damaged improvements to the land and pay for the loss of growing crops or marketable timber.

(F) **MANNER OF PAYMENT:** Lessee shall make or tender all payments due hereunder by check, payable to Lessor, at Lessor's last known address, and Lessee may withhold any payment pending notification by Lessor of a change in address. Payment may be tendered by mail or any comparable method (e.g., Federal Express), and payment is deemed complete upon mailing or dispatch. Where the due date for any payment specified herein falls on a holiday, Saturday or Sunday, payment tendered (mailed or dispatched) on the next business day is timely.

(G) **CHANGE IN LAND OWNERSHIP:** Lessee shall not be bound by any change in the ownership of the Leasehold until furnished by Lessor with such documentation as Lessee may reasonably require. Pending the receipt of documentation, Lessee may elect either to continue to make or withhold payments as if such a change had not occurred.

(H) **TITLE:** If Lessee receives evidence that Lessor does not have title to all or any part of the rights herein leased, Lessee may immediately withhold payments that would be otherwise due and payable hereunder to Lessor until the adverse claim is fully resolved. Lessor represents and warrants that there is no existing oil and gas lease which is presently in effect covering the Leasehold.

(I) **LIENS:** Lessee may, at its option, pay and discharge any past due taxes, mortgages, judgments, or other liens and encumbrances on or against any land or interest included in the Leasehold; and Lessee shall be entitled to recover from the debtor, with legal interest and costs, by deduction from any future payments to Lessor or by any other lawful means. In the event the leased lands are encumbered by a prior mortgage, then, notwithstanding anything contained herein to the contrary, Lessee shall have the right to suspend the payment of any royalties due hereunder, without liability for interest, until such time as Lessor obtains at its own expense a subordination of the mortgage in a form acceptable to Lessee.

(J) **CHARACTERIZATION OF PAYMENTS:** Payments set forth herein are covenants, not special limitations, regardless of the manner in which these payments may be invoked. Any failure on the part of the Lessee to timely or otherwise properly tender payment can never result in an automatic termination, expiration, cancellation, or forfeiture of this Lease. Lessor recognizes and acknowledges that oil and gas lease payments, in the form of rental, bonus and royalty, can vary depending on multiple factors and that this Lease is the product of good faith negotiations. Lessor hereby agrees that the payment terms, as set forth herein, and any bonus payments paid to Lessor constitute full consideration for the Leasehold. Lessor further agrees that such payment terms and bonus payments are final and that Lessor

will not seek to amend or modify the lease payments, or seek additional consideration based upon any differing terms which Lessee has or will negotiate with any other lessor/oil and gas owner.

(K) PAYMENT REDUCTIONS. If Lessor owns a lesser interest in the oil or gas than the entire undivided fee simple estate, then the rentals (except for Delay Rental payments as set forth above), royalties and shut-in royalties hereunder shall be paid to Lessor only in the proportion which Lessor's interest bears to the whole and undivided fee.

UNITIZATION AND POOLING. Lessor grants Lessee the right to pool, unitize, or combine all or parts of the Leasehold with other lands, whether contiguous or not contiguous, leased or unleased, whether owned by Lessee or by others, at a time before or after drilling to create drilling or production units either by contract right or pursuant to governmental authorization. Pooling or unitizing in one or more instances shall not exhaust Lessee's pooling and unitizing rights hereunder, and Lessee is granted the right to change the size, shape, and conditions of operation or payment of any unit created. Lessor agrees to accept and receive out of the production or the revenue realized from the production of such unit, such proportional share of the Royalty from each unit well as the number of Leasehold acres included in the unit bears to the total number of acres in the unit. Otherwise, as to any part of the unit, drilling, operations in preparation for drilling, production, or shut-in production from the unit, or payment of Royalty, Shut-in Royalty, Delay in Marketing payment or Delay Rental attributable to any part of the unit (including non-Leasehold land) shall have the same effect upon the terms of this Lease as if a well were located on, or the subject activity attributable to, the Leasehold. In the event of conflict or inconsistency between the Leasehold acres ascribed to the Lease, and the local property tax assessment calculation of the lands covered by the Lease, or the deeded acreage amount, Lessee may, at its option, rely on the latter as being determinative for the purposes of this paragraph.

FACILITIES. Lessee shall not drill a well on the Leasehold within 200 feet of any structure located on the Leasehold without Lessor's written consent. Lessor shall not erect any building or structure, or plant any trees within 200 feet of a well or within 25 feet of a pipeline without Lessee's written consent. Lessor shall not improve, modify, degrade, or restrict roads and facilities built by Lessee without Lessee's written consent.

CONVERSION TO STORAGE. Lessee is hereby granted the right to convert the Leasehold or lands pooled/unitized therewith to gas storage. At the time of conversion, Lessee shall pay Lessor's proportionate part for the estimated recoverable gas remaining in any well drilled pursuant to this Lease using methods of calculating gas reserves as are generally accepted by the natural gas industry and, in the event that all wells on the Leasehold and/or lands pooled/unitized therewith have permanently ceased production, Lessor shall be paid a Conversion to Storage payment in an amount equal to Delay Rental for as long thereafter as the Leasehold or lands pooled/unitized therewith is/are used for gas storage or for protection of gas storage; such Conversion to Storage payment shall first become due upon the next ensuing Delay Rental anniversary date. The use of any part of the Leasehold or lands pooled or unitized therewith for the underground storage of gas, or for the protection of stored gas will extend this Lease beyond the primary term as to all rights granted by this Lease, including but not limited to production rights, regardless of whether the production and storage rights are owned together or separately.

DISPOSAL AND INJECTION WELLS. Lessor hereby grants to Lessee the right to drill wells and/or re-enter existing wells, including necessary location, roadway and pipeline easements and rights of way, on any part of the Leasehold or lands pooled or unitized therewith for the disposal and/or injection into any subsurface strata, other than a potable water strata, of air, gas, brine, completion and production fluids, waste water and any hydrocarbon related substances from any source, including, but not limited to wells on the Leasehold or lands pooled or unitized therewith or from properties and lands outside the Leasehold or lands pooled or unitized therewith, and to conduct all operations as may be required, for so long as necessary and required by Lessee for purposes as herein provided. If, at the expiration of the primary term, Lessee is disposing and/or injecting into any subsurface strata underlying the Leasehold or lands pooled or unitized therewith or conducting operations for such disposal and/or injection and this lease is not being maintained by any other provision contained herein and no other payments are being made to Lessor as prescribed hereunder, Lessee shall pay to Lessor the sum of one thousand dollars (\$1,000.00) per year, proportionately reduced to Lessor's ownership in the Leasehold and surface as it bears to the full and undivided estate, beginning on the next anniversary date of this Lease and said payment and term of this Lease, insofar as to terms and provisions contained herein applicable to disposal and injection wells, shall continue annually thereafter for so long as necessary and required by Lessee for purposes as herein provided and until all disposal and/or injection wells located on the Leasehold or on lands pooled or unitized therewith are plugged and abandoned. Lessor agrees that if required by Lessee, regulatory agency or governmental authority having jurisdiction, Lessor shall enter a separate Disposal and Injection Agreement with Lessee for the purposes as herein provided.

TITLE AND INTERESTS. Lessor hereby warrants generally and agrees to defend title to the Leasehold and covenants that Lessee shall have quiet enjoyment hereunder and shall have benefit of the doctrine of after acquired title. Should any person having title to the Leasehold fail to execute this Lease, the Lease shall nevertheless be binding upon all persons who do execute it as Lessor.

LEASE DEVELOPMENT. There is no implied covenant to drill, prevent drainage, further develop or market production within the primary term or any extension of term of this Lease. There shall be no Leasehold forfeiture, termination, expiration or cancellation for failure to comply with said implied covenants. Provisions herein, including, but not limited to the prescribed payments, constitute full compensation for the privileges herein granted.

COVENANTS. This Lease and its expressed or implied covenants shall not be subject to termination, forfeiture of rights, or damages due to failure to comply with obligations if compliance is effectively prevented by federal, state, or local law, regulation, or decree, or the acts of God and/or third parties over whom Lessee has no control.

RIGHT OF FIRST REFUSAL. If at any time within the primary term of this lease or any continuation or extension thereof, Lessor receives any bona fide offer, acceptable to Lessor, to grant an additional lease which will take effect upon expiration of this Lease ("Top Lease") covering all or part of the Leasehold, Lessee shall have the continuing option by meeting any such offer to acquire a Top Lease on equivalent terms and conditions. Any offer must be in writing and must set forth the proposed Lessee's name, bonus consideration and royalty consideration to be paid for such Top Lease, and include a copy of the lease form to be utilized reflecting all pertinent and relevant terms and conditions of the Top Lease. Lessee shall have fifteen (15) days after receipt from Lessor of a complete copy of any such offer to advise Lessor in writing of its election to enter into an oil and gas lease with Lessor on equivalent terms and conditions. If Lessee fails to notify Lessor within the aforesaid fifteen (15) day period of its election to meet any such bona fide offer, Lessor shall have the right to accept said offer. Any Top Lease granted by Lessor in violation of this provision shall be null and void.

ARBITRATION. In the event of a disagreement between Lessor and Lessee concerning this Lease or the associated Order of Payment, performance thereunder, or damages caused by Lessee's operations, the resolution of all such disputes shall be determined by arbitration in accordance with the rules of the American Arbitration Association. Arbitration shall be the exclusive remedy and cover all disputes, including but not limited to, the formation, execution, validity and performance of the Lease and Order of Payment. All fees and costs associated with the arbitration shall be borne equally by Lessor and Lessee.

ENTIRE CONTRACT. The entire agreement between Lessor and Lessee is embodied herein and in the associated Order of Payment (if any). No oral warranties, representations, or promises have been made or relied upon by either party as an inducement to or modification of this Lease.

TITLE CURATIVE. Lessor agrees to execute consents, affidavits, ratifications, amendments, permits and other instruments as Lessee may request to carry out the purpose of this lease, including without limitation, applications necessary to obtain driveway entrance permits, and approvals of drilling or production units which Lessee may seek to form pursuant to governmental authorization.

Exhibit "A"

Addendum to Oil and Gas Lease dated May 2, 2017, from Joyce A. Brady and Ralph A. Brady, wife and husband, of 263 Marosi Lane, Colliers, WV 26033, Lessor to SWN Production Company, LLC, as Lessee, covering 31.623 acres, more or less, situated in Buffalo District, Brooke County, West Virginia:

Leasehold Description:

DESCRIPTION. The Leasehold is located in the District of Buffalo, in the County of Brooke, in the State of West Virginia, and described as follows:

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0130-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0139-0000, 03-B32-0137-0000, 0137-0001;
On the East by lands of 03-B32-0129-0000;
On the South by lands of 03-B32-0129-0000, 03-B37-0043-0000;
On the West by lands of 03-B37-0042-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0130-0001
On the North by lands of: 03-B32-0130-0000;
On the East by lands of 03-B32-0130-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0138-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0135-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0133-0000;
On the East by lands of 03-B32-0132-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0137-0001;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0137-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0136-0000;
On the East by lands of 03-B32-0137-0001;
On the South by lands of 03-B32-0138-0000;
On the West by lands of 03-B32-0136-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0137-0001
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0136-0000;
On the East by lands of 03-B32-0135-0000, 03-B32-0130-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0137-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0138-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0137-0000;
On the East by lands of 03-B32-0130-0001;
On the South by lands of 03-B32-0130-0001;
On the West by lands of 03-B32-0136-0000;

and being a portion of said lands acquired from Lillie Anna Johnston by virtue of Intestate Succession described in Affidavit of Death and Heirship NOT YET RECORDED in Brooke County, and described for the purposes of this agreement as containing a total of 31.623 Leasehold acres, whether actually more or less, and including contiguous lands owned by Lessor;

Exhibit "B"

Addendum to Oil and Gas Lease dated May 2, 2017, from Joyce A. Brady and Ralph A. Brady, wife and husband, of 263 Marosi Lane, Colliers, WV 26035, Lessor to SWN Production Company, LLC, as Lessee, covering 31.623 acres, more or less, situated in Buffalo District, Brooke County, West Virginia:

Additional Provisions:

ROYALTY-All references made in Paragraph (B)1 and 2 of the section entitled "PAYMENT TO LESSOR" as to one-eighth (1/8) royalty shall be amended to eighteen percent (18%)

HOLD HARMLESS - Lessee agrees it will protect, save, and keep Lessor harmless and indemnified against any penalty or damage or charges imposed for any violation of any laws or ordinances, whether occasioned by the neglect of Lessee or those holding under Lessee, and Lessee will at all times protect, indemnify and save and keep harmless the Lessor against and from any and all loss, damage or expense, including any injury to any person or property whomsoever or whatsoever arising out of or caused by any negligence of the Lessee or those holding under Lessee.

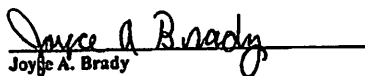
NO STORAGE RIGHTS - Notwithstanding anything herein contained to the contrary, Lessee agrees the herein described Leasehold shall not be used for the purpose of gas storage as defined by the Federal Energy Regulatory Commission. Any reference to gas storage contained in this Lease is hereby deleted. If Lessor wishes to enter into an agreement regarding gas storage using the Leasehold with a third party, Lessor shall first give Lessee written notice of the identity of the third party, the price or the consideration for which the third party is prepared to offer, the effective date and closing date of the transaction and any other information respecting the transaction which Lessee believes would be material to the exercise of the offering. Lessor does hereby grant Lessee the first option and right to purchase the gas storage rights by matching and tendering to the Lessor any third party's offering within 30 days of receipt of notice from Lessor.

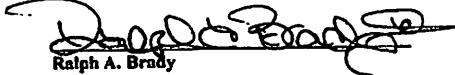
GROSS PROCEEDS - Royalties shall be paid on all Oil and Gas Substances produced and sold without deductions for the costs of producing, gathering, storing, separating, treating, dehydrating, and compressing, transporting, or otherwise making the oil and/or gas produced from the leased premises ready for sale or use. All oil and/or gas royalty shall be delivered free of cost into the tank or pipeline (for oil) and into the pipeline (for gas), with the exception of Lessor's prorated share of taxes, measured by volume, on the oil and/or gas royalty. However, any such costs which result in enhancing the value of the marketable oil, gas or other products to receive a better price may be deducted from the Lessor's share of production so long as such costs are based on Lessee's actual cost of enhancement. However, in no event shall Lessor receive royalty on a price that is less than, or more than, the price received by Lessee.

DISPOSAL WELLS - Lessee is not granted any right whatsoever to use the Leasehold, or any portion thereof, for construction and/or operation of any disposal or injection well.

NO WARRANTY OF TITLE - It is understood that Lessor warrants title to said property only with respect that the title is good to the best of Lessor's knowledge and Lessee agrees that no claims will be made against Lessor pertaining to warranty of title.

Signed for Identification:


Joyce A. Brady


Ralph A. Brady

**PAID-UP
OIL & GAS LEASE**

Lease No. _____

1/15 - WV

This Lease, made this 2nd day of May, 2017, by and between Daniel L. Johnston and Cathy J. Johnston, husband and wife, of 515 Commerce St., Wellsburg, WV 26070, hereinafter collectively called "Lessor," and SWN Production Company, L.L.C., a Texas limited liability company, 10000 Energy Drive, Spring, Texas 77389, hereinafter called "Lessee."

WITNESSETH, that for and in consideration of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and of the mutual covenants and agreements hereinafter set forth, the Lessor and Lessee agree as follows:

LEASING CLAUSE. Lessor hereby leases exclusively to Lessee all the oil and gas (including, but not limited to coal seam gas, coalbed methane gas, coalbed gas, methane gas, gob gas, occluded methane/natural gas and all associated natural gas and other hydrocarbons and non-hydrocarbons contained in, associated with, emitting from, or produced/originating within any formation, gob area, mined-out area, coal seam, and all communicating zones), and their liquid gaseous constituents, whether hydrocarbon or non-hydrocarbon, underlying the land herein leased, together with such exclusive rights as may be necessary or convenient for Lessee, at its election, to explore for, develop, produce, measure, and market production from the Leasehold, or from other lands, using methods and techniques which are not restricted to current technology, including, without limitation, the right to conduct geophysical and other exploratory tests; to drill, maintain, operate, cease to operate, plug, abandon, and remove wells; to use or install roads over and across the Leasehold for use in development of the Leasehold or other lands, electric power and telephone facilities, water impoundments, and to construct pipelines with appurtenant facilities, including data acquisition, compression and collection facilities for use in the production and transportation of products from the Leasehold or from other lands across the Leasehold, to use oil, gas, and non-domestic water sources, free of cost, to store gas of any kind underground, regardless of the source thereof, including the injecting of gas therein and removing the same therefrom; to protect stored gas; to operate, maintain, repair, and remove material and equipment; to use and occupy the subsurface of the Leasehold for the drilling of a wellbore(s) for use in development of the Leasehold or other lands.

DESCRIPTION. The Leasehold is located in the District of Buffalo, in the County of Brooke, in the State of West Virginia, and described as follows:

****See Exhibit "A" attached hereto and by reference made a part hereof for leasehold descriptions****

and described for the purposes of this agreement as containing a total of 31.623 Leasehold acres, whether actually more or less, and including contiguous lands owned by Lessor. This Lease also covers and includes, in addition to that above described, all land, if any, contiguous or adjacent to or adjoining the land above described and (a) owned or claimed by Lessor, by limitation, prescription, possession, reversion or unrecorded instrument or (b) as to which Lessor has a preference right of acquisition. Lessor agrees to execute any supplemental instrument requested by Lessee for a more complete or accurate description of said land.

LEASE TERM. This Lease shall remain in force for a primary term of Five (5) years from 12:00 A.M. May 2, 2017 (effective date) to 11:59 P.M. May 1, 2022 (last day of primary term) and shall continue beyond the primary term as to the entirety of the Leasehold if any of the following is satisfied: (i) operations are conducted on the Leasehold or lands pooled/unitized therewith in search of oil, gas, or their constituents, or (ii) a well deemed by Lessee to be capable of production is located on the Leasehold or lands pooled/unitized therewith, or (iii) oil or gas, or their constituents, are produced from the Leasehold or lands pooled/unitized therewith, or (iv) if the Leasehold or lands pooled/unitized therewith is used for the underground storage of gas, or for the protection of stored gas, or (v) if prescribed payments are made, or (vi) if Lessee's operations are delayed, postponed or interrupted as a result of any coal, stone or other mining or mining related operation under any existing and effective lease, permit or authorization covering such operations on the leased premises or on other lands affecting the leased premises, such delay will automatically extend the primary or secondary term of this oil and gas lease without additional compensation or performance by Lessee for a period of time equal to any such delay, postponement or interruption.

If there is any dispute concerning the extension of this Lease beyond the primary term by reason of any of the alternative mechanisms specified herein, the payment to the Lessor of the prescribed payments provided below shall be conclusive evidence that the Lease has been extended beyond the primary term.

EXTENSION OF PRIMARY TERM. Lessee has the option to extend the primary term of this Lease as to all or any part of the acreage then covered hereby, for one additional term of Five (5) years from the expiration of the primary term of this Lease; said extension to be under the same terms and conditions as contained in this Lease. Lessee may exercise this option to extend this Lease if on or before the expiration date of the primary term of this Lease, Lessee pays or tenders to the Lessor or to the Lessor's credit an amount equal to the sum of the initial consideration given for the execution hereof, which shall be paid in proportion to the number of net acres actually extended. Exercise of this option is at Lessee's sole discretion and may be invoked by Lessee where no other alternative of the Lease Term clause extends this Lease beyond the primary term. If this option is exercised by Lessee the lease as extended will thereafter be treated as if the original primary term was Ten (10) years.

NO AUTOMATIC TERMINATION OR FORFEITURE.

(A) CONSTRUCTION OF LEASE: The language of this Lease (including, but not limited to, the Lease Term and Extension of Term clauses) shall never be read as language of special limitation. This Lease shall be construed against termination, forfeiture, cancellation or expiration and in favor of giving effect to the continuation of this Lease where the circumstances exist to maintain this Lease in effect under any of the alternative mechanisms set forth above. In connection therewith, (i) a well shall be deemed to be capable of production if it has the capacity to produce a profit over operating costs, without regard to any capital costs to drill or equip the well, or to deliver the oil or gas to market, and (ii) the Lessee shall be deemed to be conducting operations in search of oil or gas, or their constituents, if the Lessee is engaged in geophysical and other exploratory work including, but not limited to, activities to drill an initial well, to drill a new well, or to rework, stimulate, deepen, sidetrack, frac, plug back in the same or different formation or repair a well or equipment on the Leasehold or any lands pooled/unitized therewith (such activities shall include, but not be limited to, performing any preliminary or preparatory work necessary for drilling, conducting internal technical analysis to initiate and/or further develop a well, obtaining permits and approvals associated therewith and may include reasonable gaps in activities provided that there is a continuum of activities showing a good faith effort to develop a well or that the cessation or interruption of activities was beyond the control of Lessee, including interruptions caused by the acts of third parties over whom Lessee has no control or regulatory delays associated with any approval process required for conducting such activities).

(B) **LIMITATION OF FORFEITURE:** This Lease shall never be subject to a civil action or proceeding to enforce a claim of termination, cancellation, expiration or forfeiture due to any action or inaction by the Lessee, including, but not limited to making any prescribed payments authorized under the terms of this Lease, unless the Lessee has received written notice of Lessor's demand and thereafter fails or refuses to satisfy or provide justification responding to Lessor's demand within 60 days from the receipt of such notice. If Lessee timely responds to Lessor's demand, but in good faith disagrees with Lessor's position and sets forth the reasons therefore, such a response shall be deemed to satisfy this provision, this Lease shall continue in full force and effect and no further damages (or other claims for relief) will accrue in Lessor's favor during the pendency of the dispute, other than claims for payments that may be due under the terms of this Lease.

PAYMENTS TO LESSOR. In addition to the bonus paid by Lessee for the execution hereof, Lessee covenants to pay Lessor, proportionate to Lessor's percentage of ownership, as follows:

(A) **DELAY RENTAL:** To pay Lessor as Delay Rental, after the first year, at the rate of five dollars (\$5.00) per net acre per year payable in advance. The parties hereto agree that this is a Paid-Up Lease with no further Delay Rental and/or Delay in Marketing payments due to Lessor during the primary term or, if so exercised, the extended primary term hereof.

(B) **ROYALTY:** To pay Lessor as Royalty, less all taxes, assessments, and adjustments on production from the Leasehold, as follows:

1. **OIL:** To deliver to the credit of Lessor a Royalty equal to one-eighth (1/8) of the net revenue realized by Lessee for all oil and any constituents thereof produced and marketed from the Leasehold, less the cost to transport, handle, separate, meter, treat, process and market the oil.

2. **GAS:** To pay Lessor on actual volumes of gas and any constituents thereof sold from said land, one-eighth of the net amount realized by Lessee, computed at the wellhead. As used in this lease, the term "net amount realized by Lessee, computed at the wellhead" shall mean the gross proceeds received by Lessee from the sale of oil and gas minus post-production costs incurred by Lessee between the wellhead and the point of sale. As used in this Lease, the term "post-production costs" shall mean all costs and expenses of (a) treating and processing oil and/or gas, and (b) separating liquid hydrocarbons from gas, other than condensate separated at the well, and (c) transporting oil and/or gas, including but not limited to transportation between the wellhead and any production or treating facilities, and transportation to the point of sale, and (d) compressing gas for transportation and delivery purposes, and (e) metering oil and/or gas to determine the amount sold and/or the amount used by Lessee, and (f) sales charges, commissions and fees paid to third parties (whether or not affiliated) in connection with the sale of the gas, and (g) any and all other costs and expenses of any kind or nature incurred in regard to the gas, or the handling thereof, between the wellhead and the point of sale. Lessee may use its own pipelines and equipment to provide such treating, processing, separating, transportation, compression and metering services, or it may engage others to provide such services; and if Lessee uses its own pipelines and/or equipment, post-production costs shall include without limitation reasonable depreciation and amortization expenses relating to such facilities, together with Lessee's cost of capital and a reasonable return on its investment in such facilities. Prior to payment of royalty, Lessor may be required to execute a Division Order certifying Lessor's interest in production. Lessee may pay all taxes and fees levied upon the oil and gas as produced, including, without limitation, severance taxes and privilege and surveillance fees, and deduct a proportionate share of the amount so paid from any monies payable to Lessor hereunder. Lessee may withhold Royalty payment until such time as the total withheld exceeds one hundred dollars (\$100.00).

(C) **DELAY IN MARKETING:** In the event that Lessee drills a well on the Leasehold or lands pooled/unitized therewith that is awaiting completion (including, without limitation, hydraulic fracture stimulation), or that Lessee deems to be capable of production, but does not market producible gas, oil, or their constituents, therefrom, and there is no other basis for extending this Lease, Lessee shall pay after the primary term and until such time as marketing is established (or Lessee surrenders the Lease) a Delay in Marketing payment equal in amount and frequency to the annual Delay Rental payment, and this Lease shall remain in full force and effect to the same extent as payment of Royalty.

(D) **SHUT-IN:** In the event that production of oil, gas, or their constituents, is interrupted and not marketed for a period of twelve (12) months, and there is no producing well on the Leasehold or lands pooled/unitized therewith, Lessee shall, after the primary term, as Royalty for constructive production, pay a Shut-in Royalty equal in amount and frequency to the annual Delay Rental payment until such time as production is re-established (or Lessee surrenders the Lease) and this Lease shall remain in full force and effect. During Shut-in, Lessee shall have the right to rework, stimulate, or deepen any well on the Leasehold or to drill a new well on the Leasehold in an effort to re-establish production, whether from an original producing formation or from a different formation. In the event that the production from the only producing well on the Leasehold is interrupted for a period of less than twelve (12) months, this Lease shall remain in full force and effect without payment of Royalty or Shut-in Royalty.

(E) **DAMAGES:** Lessee will remove unnecessary equipment and materials and reclaim all disturbed lands at the completion of all activities on the Leasehold, and Lessee agrees to repair any damaged improvements to the land and pay for the loss of growing crops or marketable timber.

(F) **MANNER OF PAYMENT:** Lessee shall make or tender all payments due hereunder by check, payable to Lessor, at Lessor's last known address, and Lessee may withhold any payment pending notification by Lessor of a change in address. Payment may be tendered by mail or any comparable method (e.g., Federal Express), and payment is deemed complete upon mailing or dispatch. Where the due date for any payment specified herein falls on a holiday, Saturday or Sunday, payment tendered (mailed or dispatched) on the next business day is timely.

(G) **CHANGE IN LAND OWNERSHIP:** Lessee shall not be bound by any change in the ownership of the Leasehold until furnished by Lessor with such documentation as Lessee may reasonably require. Pending the receipt of documentation, Lessee may elect either to continue to make or withhold payments as if such a change had not occurred.

(H) **TITLE:** If Lessee receives evidence that Lessor does not have title to all or any part of the rights herein leased, Lessee may immediately withhold payments that would be otherwise due and payable hereunder to Lessor until the adverse claim is fully resolved. Lessor represents and warrants that there is no existing oil and gas lease which is presently in effect covering the Leasehold.

(I) **LIENS:** Lessee may, at its option, pay and discharge any past due taxes, mortgages, judgments, or other liens and encumbrances on or against any land or interest included in the Leasehold; and Lessee shall be entitled to recover from the debtor, with legal interest and costs, by deduction from any future payments to Lessor or by any other lawful means. In the event the leased lands are encumbered by a prior mortgage, then, notwithstanding anything contained herein to the contrary, Lessee shall have the right to suspend the payment of any royalties due hereunder, without liability for interest, until such time as Lessor obtains at its own expense a subordination of the mortgage in a form acceptable to Lessee.

(J) **CHARACTERIZATION OF PAYMENTS:** Payments set forth herein are covenants, not special limitations, regardless of the manner in which these payments may be invoked. Any failure on the part of the Lessee to timely or otherwise properly tender payment can never result in an automatic termination, expiration, cancellation, or forfeiture of this Lease. Lessor recognizes and acknowledges that oil and gas lease payments, in the form of rental, bonus and royalty, can vary depending on multiple factors and that this Lease is the product of good faith negotiations. Lessor hereby agrees that the payment terms, as set forth herein, and any bonus payments paid to Lessor constitute full consideration for the Leasehold. Lessor further agrees that such payment terms and bonus payments are final and that Lessor

will not seek to amend or modify the lease payments, or seek additional consideration based upon any differing terms which Lessee has or will negotiate with any other lessor/oil and gas owner.

(K) PAYMENT REDUCTIONS. If Lessor owns a lesser interest in the oil or gas than the entire undivided fee simple estate, then the rentals (except for Delay Rental payments as set forth above), royalties and shut-in royalties hereunder shall be paid to Lessor only in the proportion which Lessor's interest bears to the whole and undivided fee.

UNITIZATION AND POOLING. Lessor grants Lessee the right to pool, unitize, or combine all or parts of the Leasehold with other lands, whether contiguous or not contiguous, leased or unleased, whether owned by Lessee or by others, at a time before or after drilling to create drilling or production units either by contract right or pursuant to governmental authorization. Pooling or unitizing in one or more instances shall not exhaust Lessee's pooling and unitizing rights hereunder, and Lessee is granted the right to change the size, shape, and conditions of operation or payment of any unit created. Lessor agrees to accept and receive out of the production or the revenue realized from the production of such unit, such proportional share of the Royalty from each unit well as the number of Leasehold acres included in the unit bears to the total number of acres in the unit. Otherwise, as to any part of the unit, drilling, operations in preparation for drilling, production, or shut-in production from the unit, or payment of Royalty, Shut-in Royalty, Delay in Marketing payment or Delay Rental attributable to any part of the unit (including non-Leasehold land) shall have the same effect upon the terms of this Lease as if a well were located on, or the subject activity attributable to, the Leasehold. In the event of conflict or inconsistency between the Leasehold acres ascribed to the Lease, and the local property tax assessment calculation of the lands covered by the Lease, or the deeded acreage amount, Lessee may, at its option, rely on the latter as being determinative for the purposes of this paragraph.

FACILITIES. Lessee shall not drill a well on the Leasehold within 200 feet of any structure located on the Leasehold without Lessor's written consent. Lessor shall not erect any building or structure, or plant any trees within 200 feet of a well or within 25 feet of a pipeline without Lessee's written consent. Lessor shall not improve, modify, degrade, or restrict roads and facilities built by Lessee without Lessee's written consent.

CONVERSION TO STORAGE. Lessee is hereby granted the right to convert the Leasehold or lands pooled/unitized therewith to gas storage. At the time of conversion, Lessee shall pay Lessor's proportionate part for the estimated recoverable gas remaining in any well drilled pursuant to this Lease using methods of calculating gas reserves as are generally accepted by the natural gas industry and, in the event that all wells on the Leasehold and/or lands pooled/unitized therewith have permanently ceased production, Lessor shall be paid a Conversion to Storage payment in an amount equal to Delay Rental for as long thereafter as the Leasehold or lands pooled/unitized therewith is/are used for gas storage or for protection of gas storage; such Conversion to Storage payment shall first become due upon the next ensuing Delay Rental anniversary date. The use of any part of the Leasehold or lands pooled or unitized therewith for the underground storage of gas, or for the protection of stored gas will extend this Lease beyond the primary term as to all rights granted by this Lease, including but not limited to production rights, regardless of whether the production and storage rights are owned together or separately.

DISPOSAL AND INJECTION WELLS. Lessor hereby grants to Lessee the right to drill wells and/or re-enter existing wells, including necessary location, roadway and pipeline easements and rights of way, on any part of the Leasehold or lands pooled or unitized therewith for the disposal and/or injection into any subsurface strata, other than a potable water strata, of air, gas, brine, completion and production fluids, waste water and any hydrocarbon related substances from any source, including, but not limited to wells on the Leasehold or lands pooled or unitized therewith or from properties and lands outside the Leasehold or lands pooled or unitized therewith, and to conduct all operations as may be required, for so long as necessary and required by Lessee for purposes as herein provided. If, at the expiration of the primary term, Lessee is disposing and/or injecting into any subsurface strata underlying the Leasehold or lands pooled or unitized therewith or conducting operations for such disposal and/or injection and this lease is not being maintained by any other provision contained herein and no other payments are being made to Lessor as prescribed hereunder, Lessee shall pay to Lessor the sum of one thousand dollars (\$1,000.00) per year, proportionately reduced to Lessor's ownership in the Leasehold and surface as it bears to the full and undivided estate, beginning on the next anniversary date of this Lease and said payment and term of this Lease, insofar as to terms and provisions contained herein applicable to disposal and injection wells, shall continue annually thereafter for so long as necessary and required by Lessee for purposes as herein provided and until all disposal and/or injection wells located on the Leasehold or on lands pooled or unitized therewith are plugged and abandoned. Lessor agrees that if required by Lessee, regulatory agency or governmental authority having jurisdiction, Lessor shall enter a separate Disposal and Injection Agreement with Lessee for the purposes as herein provided.

TITLE AND INTERESTS. Lessor hereby warrants generally and agrees to defend title to the Leasehold and covenants that Lessee shall have quiet enjoyment hereunder and shall have benefit of the doctrine of after acquired title. Should any person having title to the Leasehold fail to execute this Lease, the Lease shall nevertheless be binding upon all persons who do execute it as Lessor.

LEASE DEVELOPMENT. There is no implied covenant to drill, prevent drainage, further develop or market production within the primary term or any extension of term of this Lease. There shall be no Leasehold forfeiture, termination, expiration or cancellation for failure to comply with said implied covenants. Provisions herein, including, but not limited to the prescribed payments, constitute full compensation for the privileges herein granted.

COVENANTS. This Lease and its expressed or implied covenants shall not be subject to termination, forfeiture of rights, or damages due to failure to comply with obligations if compliance is effectively prevented by federal, state, or local law, regulation, or decree, or the acts of God and/or third parties over whom Lessee has no control.

RIGHT OF FIRST REFUSAL. If at any time within the primary term of this lease or any continuation or extension thereof, Lessor receives any bona fide offer, acceptable to Lessor, to grant an additional lease which will take effect upon expiration of this Lease ("Top Lease") covering all or part of the Leasehold, Lessee shall have the continuing option by meeting any such offer to acquire a Top Lease on equivalent terms and conditions. Any offer must be in writing and must set forth the proposed Lessee's name, bonus consideration and royalty consideration to be paid for such Top Lease, and include a copy of the lease form to be utilized reflecting all pertinent and relevant terms and conditions of the Top Lease. Lessee shall have fifteen (15) days after receipt from Lessor of a complete copy of any such offer to advise Lessor in writing of its election to enter into an oil and gas lease with Lessor on equivalent terms and conditions. If Lessee fails to notify Lessor within the aforesaid fifteen (15) day period of its election to meet any such bona fide offer, Lessor shall have the right to accept said offer. Any Top Lease granted by Lessor in violation of this provision shall be null and void.

ARBITRATION. In the event of a disagreement between Lessor and Lessee concerning this Lease or the associated Order of Payment, performance thereunder, or damages caused by Lessee's operations, the resolution of all such disputes shall be determined by arbitration in accordance with the rules of the American Arbitration Association. Arbitration shall be the exclusive remedy and cover all disputes, including but not limited to, the formation, execution, validity and performance of the Lease and Order of Payment. All fees and costs associated with the arbitration shall be borne equally by Lessor and Lessee.

ENTIRE CONTRACT. The entire agreement between Lessor and Lessee is embodied herein and in the associated Order of Payment (if any). No oral warranties, representations, or promises have been made or relied upon by either party as an inducement to or modification of this Lease.

TITLE CURATIVE. Lessor agrees to execute consents, affidavits, ratifications, amendments, permits and other instruments as Lessee may request to carry out the purpose of this lease, including without limitation, applications necessary to obtain driveway entrance permits, and approvals of drilling or production units which Lessee may seek to form pursuant to governmental authorization.

Exhibit "A"

Addendum to Oil and Gas Lease dated May 2, 2017, from Daniel L. Johnston and Cathy J. Johnston, husband and wife, of 515 Commerce St., Weilsburg, WV 26070, Lessor to SWN Production Company, L.L.C., as Lessee, covering 31.623 acres, more or less, situated in Buffalo District, Brooke County, West Virginia:

Leasehold Description:

DESCRIPTION. The Leasehold is located in the District of Buffalo, in the County of Brooke, in the State of West Virginia, and described as follows:

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0130-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0139-0000, 03-B32-0137-0000, 0137-0001;
On the East by lands of 03-B32-0129-0000;
On the South by lands of 03-B32-0129-0000, 03-B37-0043-0000;
On the West by lands of 03-B37-0042-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0130-0001
On the North by lands of: 03-B32-0130-0000;
On the East by lands of 03-B32-0130-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0138-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0135-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0133-0000;
On the East by lands of 03-B32-0132-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0137-0001;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0137-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0136-0000;
On the East by lands of 03-B32-0137-0001;
On the South by lands of 03-B32-0138-0000;
On the West by lands of 03-B32-0136-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0137-0001
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0136-0000;
On the East by lands of 03-B32-0135-0000, 03-B32-0130-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0137-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0138-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0137-0000;
On the East by lands of 03-B32-0130-0001;
On the South by lands of 03-B32-0130-0001;
On the West by lands of 03-B32-0136-0000;

and being a portion of said lands acquired from Lillie Anna Johnston by virtue of Intestate Succession described in Affidavit of Death and Heirship NOT YET RECORDED in Brooke County, and described for the purposes of this agreement as containing a total of 31.623 Leasehold acres, whether actually more or less, and including contiguous lands owned by Lessor;

Exhibit "B"

Addendum to Oil and Gas Lease dated May 2, 2017, from Daniel L. Johnston and Cathy J. Johnston, husband and wife, of 515 Commerce St., Wellsburg, WV 26070, Lessor to SWN Production Company, LLC, as Lessee, covering 31.623 acres, more or less, situated in Buffalo District, Brooke County, West Virginia:

Additional Provisions:

ROYALTY-All references made in Paragraph (B)1 and 2 of the section entitled "PAYMENT TO LESSOR" as to one-eighth (1/8) royalty shall be amended to eighteen percent (18%)

HOLD HARMLESS - Lessee agrees it will protect, save, and keep Lessor harmless and indemnified against any penalty or damage or charges imposed for any violation of any laws or ordinances, whether occasioned by the neglect of Lessee or those holding under Lessee, and Lessee will at all times protect, indemnify and save and keep harmless the Lessor against and from any and all loss, damage or expense, including any injury to any person or property whomsoever or whatsoever arising out of or caused by any negligence of the Lessee or those holding under Lessee.


NO STORAGE RIGHTS - Notwithstanding anything herein contained to the contrary, Lessee agrees the herein described Leasehold shall not be used for the purpose of gas storage as defined by the Federal Energy Regulatory Commission. Any reference to gas storage contained in this Lease is hereby deleted. If Lessor wishes to enter into an agreement regarding gas storage using the Leasehold with a third party, Lessor shall first give Lessee written notice of the identity of the third party, the price or the consideration for which the third party is prepared to offer, the effective date and closing date of the transaction and any other information respecting the transaction which Lessee believes would be material to the exercise of the offering. Lessor does hereby grant Lessee the first option and right to purchase the gas storage rights by matching and tendering to the Lessor any third party's offering within 30 days of receipt of notice from Lessor.

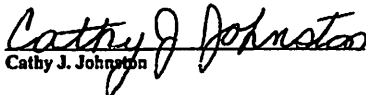
GROSS PROCEEDS - Royalties shall be paid on all Oil and Gas Substances produced and sold without deductions for the costs of producing, gathering, storing, separating, treating, dehydrating, and compressing, transporting, or otherwise making the oil and/or gas produced from the leased premises ready for sale or use. All oil and/or gas royalty shall be delivered free of cost into the tank or pipeline (for oil) and into the pipeline (for gas), with the exception of Lessor's prorated share of taxes, measured by volume, on the oil and/or gas royalty. However, any such costs which result in enhancing the value of the marketable oil, gas or other products to receive a better price may be deducted from the Lessor's share of production so long as such costs are based on Lessee's actual cost of enhancement. However, in no event shall Lessor receive royalty on a price that is less than, or more than, the price received by Lessee.

DISPOSAL WELLS - Lessee is not granted any right whatsoever to use the Leasehold, or any portion thereof, for construction and/or operation of any disposal or injection well.

NO WARRANTY OF TITLE - It is understood that Lessor warrants title to said property only with respect that the title is good to the best of Lessor's knowledge and Lessee agrees that no claims will be made against Lessor pertaining to warranty of title.

Signed for Identification:


Daniel L. Johnston


Cathy J. Johnston

**PAID-UP
OIL & GAS LEASE**

Lease No. _____

I/15 - WV

This Lease, made this 2nd day of May, 2017, by and between Brian W. Johnston, single, of 1971 McCord Hill Rd., Wellsburg, WV 26070, hereinafter collectively called "Lessor," and SWN Production Company, L.L.C., a Texas limited liability company, 10000 Energy Drive, Spring, Texas 77389, hereinafter called "Lessee."

WITNESSETH, that for and in consideration of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and of the mutual covenants and agreements hereinafter set forth, the Lessor and Lessee agree as follows:

LEASING CLAUSE. Lessor hereby leases exclusively to Lessee all the oil and gas (including, but not limited to coal seam gas, coalbed methane gas, coalbed gas, methane gas, gob gas, occluded methane/natural gas and all associated natural gas and other hydrocarbons and non-hydrocarbons contained in, associated with, emitting from, or produced/originating within any formation, gob area, mined-out area, coal seam, and all communicating zones), and their liquid gaseous constituents, whether hydrocarbon or non-hydrocarbon, underlying the land herein leased, together with such exclusive rights as may be necessary or convenient for Lessee, at its election, to explore for, develop, produce, measure, and market production from the Leasehold, or from other lands, using methods and techniques which are not restricted to current technology, including, without limitation, the right to conduct geophysical and other exploratory tests; to drill, maintain, operate, cease to operate, plug, abandon, and remove wells; to use or install roads over and across the Leasehold for use in development of the Leasehold or other lands, electric power and telephone facilities, water impoundments, and to construct pipelines with appurtenant facilities, including data acquisition, compression and collection facilities for use in the production and transportation of products from the Leasehold or from other lands across the Leasehold, to use oil, gas, and non-domestic water sources, free of cost, to store gas of any kind underground, regardless of the source thereof, including the injecting of gas therein and removing the same therefrom; to protect stored gas; to operate, maintain, repair, and remove material and equipment; to use and occupy the subsurface of the Leasehold for the drilling of a wellbore(s) for use in development of the Leasehold or other lands.

DESCRIPTION. The Leasehold is located in the District of Buffalo, in the County of Brooke, in the State of West Virginia, and described as follows:

****See Exhibit "A" attached hereto and by reference made a part hereof for leasehold descriptions****

and described for the purposes of this agreement as containing a total of 31.623 Leasehold acres, whether actually more or less, and including contiguous lands owned by Lessor. This Lease also covers and includes, in addition to that above described, all land, if any, contiguous or adjacent to or adjoining the land above described and (a) owned or claimed by Lessor, by limitation, prescription, possession, reversion or unrecorded instrument or (b) as to which Lessor has a preference right of acquisition. Lessor agrees to execute any supplemental instrument requested by Lessee for a more complete or accurate description of said land.

LEASE TERM. This Lease shall remain in force for a primary term of Five (5) years from 12:00 A.M. May 2, 2017 (effective date) to 11:59 P.M. May 1, 2022 (last day of primary term) and shall continue beyond the primary term as to the entirety of the Leasehold if any of the following is satisfied: (i) operations are conducted on the Leasehold or lands pooled/unitized therewith in search of oil, gas, or their constituents, or (ii) a well deemed by Lessee to be capable of production is located on the Leasehold or lands pooled/unitized therewith, or (iii) oil or gas, or their constituents, are produced from the Leasehold or lands pooled/unitized therewith, or (iv) if the Leasehold or lands pooled/unitized therewith is used for the underground storage of gas, or for the protection of stored gas, or (v) if prescribed payments are made, or (vi) if Lessee's operations are delayed, postponed or interrupted as a result of any coal, stone or other mining or mining related operation under any existing and effective lease, permit or authorization covering such operations on the leased premises or on other lands affecting the leased premises, such delay will automatically extend the primary or secondary term of this oil and gas lease without additional compensation or performance by Lessee for a period of time equal to any such delay, postponement or interruption.

If there is any dispute concerning the extension of this Lease beyond the primary term by reason of any of the alternative mechanisms specified herein, the payment to the Lessor of the prescribed payments provided below shall be conclusive evidence that the Lease has been extended beyond the primary term.

EXTENSION OF PRIMARY TERM. Lessee has the option to extend the primary term of this Lease as to all or any part of the acreage then covered hereby, for one additional term of Five (5) years from the expiration of the primary term of this Lease; said extension to be under the same terms and conditions as contained in this Lease. Lessee may exercise this option to extend this Lease if on or before the expiration date of the primary term of this Lease, Lessee pays or tenders to the Lessor or to the Lessor's credit an amount equal to the sum of the initial consideration given for the execution hereof, which shall be paid in proportion to the number of net acres actually extended. Exercise of this option is at Lessee's sole discretion and may be invoked by Lessee where no other alternative of the Lease Term clause extends this Lease beyond the primary term. If this option is exercised by Lessee the lease as extended will thereafter be treated as if the original primary term was Ten (10) years.

NO AUTOMATIC TERMINATION OR FORFEITURE.

(A) **CONSTRUCTION OF LEASE:** The language of this Lease (including, but not limited to, the Lease Term and Extension of Term clauses) shall never be read as language of special limitation. This Lease shall be construed against termination, forfeiture, cancellation or expiration and in favor of giving effect to the continuation of this Lease where the circumstances exist to maintain this Lease in effect under any of the alternative mechanisms set forth above. In connection therewith, (i) a well shall be deemed to be capable of production if it has the capacity to produce a profit over operating costs, without regard to any capital costs to drill or equip the well, or to deliver the oil or gas to market, and (ii) the Lessee shall be deemed to be conducting operations in search of oil or gas, or their constituents, if the Lessee is engaged in geophysical and other exploratory work including, but not limited to, activities to drill an initial well, to drill a new well, or to rework, stimulate, deepen, sidetrack, frac, plug back in the same or different formation or repair a well or equipment on the Leasehold or any lands pooled/unitized therewith (such activities shall include, but not be limited to, performing any preliminary or preparatory work necessary for drilling, conducting internal technical analysis to initiate and/or further develop a well, obtaining permits and approvals associated therewith and may include reasonable gaps in activities provided that there is a continuum of activities showing a good faith effort to develop a well or that the cessation or interruption of activities was beyond the control of Lessee, including interruptions caused by the acts of third parties over whom Lessee has no control or regulatory delays associated with any approval process required for conducting such activities).

(B) **LIMITATION OF FORFEITURE:** This Lease shall never be subject to a civil action or proceeding to enforce a claim of termination, cancellation, expiration or forfeiture due to any action or inaction by the Lessee, including, but not limited to making any prescribed payments authorized under the terms of this Lease, unless the Lessee has received written notice of Lessor's demand and thereafter fails or refuses to satisfy or provide justification responding to Lessor's demand within 60 days from the receipt of such notice. If Lessee timely responds to Lessor's demand, but in good faith disagrees with Lessor's position and sets forth the reasons therefore, such a response shall be deemed to satisfy this provision, this Lease shall continue in full force and effect and no further damages (or other claims for relief) will accrue in Lessor's favor during the pendency of the dispute, other than claims for payments that may be due under the terms of this Lease.

PAYMENTS TO LESSOR. In addition to the bonus paid by Lessee for the execution hereof, Lessee covenants to pay Lessor, proportionate to Lessor's percentage of ownership, as follows:

(A) **DELAY RENTAL:** To pay Lessor as Delay Rental, after the first year, at the rate of five dollars (\$5.00) per net acre per year payable in advance. The parties hereto agree that this is a Paid-Up Lease with no further Delay Rental and/or Delay in Marketing payments due to Lessor during the primary term or, if so exercised, the extended primary term hereof.

(B) **ROYALTY:** To pay Lessor as Royalty, less all taxes, assessments, and adjustments on production from the Leasehold, as follows:

1. **OIL:** To deliver to the credit of Lessor a Royalty equal to one-eighth (1/8) of the net revenue realized by Lessee for all oil and any constituents thereof produced and marketed from the Leasehold, less the cost to transport, handle, separate, meter, treat, process and market the oil.

2. **GAS:** To pay Lessor on actual volumes of gas and any constituents thereof sold from said land, one-eighth of the net amount realized by Lessee, computed at the wellhead. As used in this lease, the term "net amount realized by Lessee, computed at the wellhead" shall mean the gross proceeds received by Lessee from the sale of oil and gas minus post-production costs incurred by Lessee between the wellhead and the point of sale. As used in this Lease, the term "post-production costs" shall mean all costs and expenses of (a) treating and processing oil and/or gas, and (b) separating liquid hydrocarbons from gas, other than condensate separated at the well, and (c) transporting oil and/or gas, including but not limited to transportation between the wellhead and any production or treating facilities, and transportation to the point of sale, and (d) compressing gas for transportation and delivery purposes, and (e) metering oil and/or gas to determine the amount sold and/or the amount used by Lessee, and (f) sales charges, commissions and fees paid to third parties (whether or not affiliated) in connection with the sale of the gas, and (g) any and all other costs and expenses of any kind or nature incurred in regard to the gas, or the handling thereof, between the wellhead and the point of sale. Lessee may use its own pipelines and equipment to provide such treating, processing, separating, transportation, compression and metering services, or it may engage others to provide such services; and if Lessee uses its own pipelines and/or equipment, post-production costs shall include without limitation reasonable depreciation and amortization expenses relating to such facilities, together with Lessee's cost of capital and a reasonable return on its investment in such facilities. Prior to payment of royalty, Lessor may be required to execute a Division Order certifying Lessor's interest in production. Lessee may pay all taxes and fees levied upon the oil and gas as produced, including, without limitation, severance taxes and privilege and surveillance fees, and deduct a proportionate share of the amount so paid from any monies payable to Lessor hereunder. Lessee may withhold Royalty payment until such time as the total withheld exceeds one hundred dollars (\$100.00).

(C) **DELAY IN MARKETING:** In the event that Lessee drills a well on the Leasehold or lands pooled/unitized therewith that is awaiting completion (including, without limitation, hydraulic fracture stimulation), or that Lessee deems to be capable of production, but does not market producible gas, oil, or their constituents, therefrom, and there is no other basis for extending this Lease, Lessee shall pay after the primary term and until such time as marketing is established (or Lessee surrenders the Lease) a Delay in Marketing payment equal in amount and frequency to the annual Delay Rental payment, and this Lease shall remain in full force and effect to the same extent as payment of Royalty.

(D) **SHUT-IN:** In the event that production of oil, gas, or their constituents, is interrupted and not marketed for a period of twelve (12) months, and there is no producing well on the Leasehold or lands pooled/unitized therewith, Lessee shall, after the primary term, as Royalty for constructive production, pay a Shut-in Royalty equal in amount and frequency to the annual Delay Rental payment until such time as production is re-established (or Lessee surrenders the Lease) and this Lease shall remain in full force and effect. During Shut-in, Lessee shall have the right to rework, stimulate, or deepen any well on the Leasehold or to drill a new well on the Leasehold in an effort to re-establish production, whether from an original producing formation or from a different formation. In the event that the production from the only producing well on the Leasehold is interrupted for a period of less than twelve (12) months, this Lease shall remain in full force and effect without payment of Royalty or Shut-in Royalty.

(E) **DAMAGES:** Lessee will remove unnecessary equipment and materials and reclaim all disturbed lands at the completion of all activities on the Leasehold, and Lessee agrees to repair any damaged improvements to the land and pay for the loss of growing crops or marketable timber.

(F) **MANNER OF PAYMENT:** Lessee shall make or tender all payments due hereunder by check, payable to Lessor, at Lessor's last known address, and Lessee may withhold any payment pending notification by Lessor of a change in address. Payment may be tendered by mail or any comparable method (e.g., Federal Express), and payment is deemed complete upon mailing or dispatch. Where the due date for any payment specified herein falls on a holiday, Saturday or Sunday, payment tendered (mailed or dispatched) on the next business day is timely.

(G) **CHANGE IN LAND OWNERSHIP:** Lessee shall not be bound by any change in the ownership of the Leasehold until furnished by Lessor with such documentation as Lessee may reasonably require. Pending the receipt of documentation, Lessee may elect either to continue to make or withhold payments as if such a change had not occurred.

(H) **TITLE:** If Lessee receives evidence that Lessor does not have title to all or any part of the rights herein leased, Lessee may immediately withhold payments that would be otherwise due and payable hereunder to Lessor until the adverse claim is fully resolved. Lessor represents and warrants that there is no existing oil and gas lease which is presently in effect covering the Leasehold.

(I) **LIENS:** Lessee may, at its option, pay and discharge any past due taxes, mortgages, judgments, or other liens and encumbrances on or against any land or interest included in the Leasehold; and Lessee shall be entitled to recover from the debtor, with legal interest and costs, by deduction from any future payments to Lessor or by any other lawful means. In the event the leased lands are encumbered by a prior mortgage, then, notwithstanding anything contained herein to the contrary, Lessee shall have the right to suspend the payment of any royalties due hereunder, without liability for interest, until such time as Lessor obtains at its own expense a subordination of the mortgage in a form acceptable to Lessee.

(J) **CHARACTERIZATION OF PAYMENTS:** Payments set forth herein are covenants, not special limitations, regardless of the manner in which these payments may be invoked. Any failure on the part of the Lessee to timely or otherwise properly tender payment can never result in an automatic termination, expiration, cancellation, or forfeiture of this Lease. Lessor recognizes and acknowledges that oil and gas lease payments, in the form of rental, bonus and royalty, can vary depending on multiple factors and that this Lease is the product of good faith negotiations. Lessor hereby agrees that the payment terms, as set forth herein, and any bonus payments paid to Lessor constitute full consideration for the Leasehold. Lessor further agrees that such payment terms and bonus payments are final and that Lessor

will not seek to amend or modify the lease payments, or seek additional consideration based upon any differing terms which Lessee has or will negotiate with any other lessor/oil and gas owner.

(K) PAYMENT REDUCTIONS. If Lessor owns a lesser interest in the oil or gas than the entire undivided fee simple estate, then the rentals (except for Delay Rental payments as set forth above), royalties and shut-in royalties hereunder shall be paid to Lessor only in the proportion which Lessor's interest bears to the whole and undivided fee.

UNITIZATION AND POOLING. Lessor grants Lessee the right to pool, unitize, or combine all or parts of the Leasehold with other lands, whether contiguous or not contiguous, leased or unleased, whether owned by Lessee or by others, at a time before or after drilling to create drilling or production units either by contract right or pursuant to governmental authorization. Pooling or unitizing in one or more instances shall not exhaust Lessee's pooling and unitizing rights hereunder, and Lessee is granted the right to change the size, shape, and conditions of operation or payment of any unit created. Lessor agrees to accept and receive out of the production or the revenue realized from the production of such unit, such proportional share of the Royalty from each unit well as the number of Leasehold acres included in the unit bears to the total number of acres in the unit. Otherwise, as to any part of the unit, drilling, operations in preparation for drilling, production, or shut-in production from the unit, or payment of Royalty, Shut-in Royalty, Delay in Marketing payment or Delay Rental attributable to any part of the unit (including non-Leasehold land) shall have the same effect upon the terms of this Lease as if a well were located on, or the subject activity attributable to, the Leasehold. In the event of conflict or inconsistency between the Leasehold acres ascribed to the Lease, and the local property tax assessment calculation of the lands covered by the Lease, or the deeded acreage amount, Lessee may, at its option, rely on the latter as being determinative for the purposes of this paragraph.

FACILITIES. Lessee shall not drill a well on the Leasehold within 200 feet of any structure located on the Leasehold without Lessor's written consent. Lessor shall not erect any building or structure, or plant any trees within 200 feet of a well or within 25 feet of a pipeline without Lessee's written consent. Lessor shall not improve, modify, degrade, or restrict roads and facilities built by Lessee without Lessee's written consent.

CONVERSION TO STORAGE. Lessee is hereby granted the right to convert the Leasehold or lands pooled/unitized therewith to gas storage. At the time of conversion, Lessee shall pay Lessor's proportionate part for the estimated recoverable gas remaining in any well drilled pursuant to this Lease using methods of calculating gas reserves as are generally accepted by the natural gas industry and, in the event that all wells on the Leasehold and/or lands pooled/unitized therewith have permanently ceased production, Lessor shall be paid a Conversion to Storage payment in an amount equal to Delay Rental for as long thereafter as the Leasehold or lands pooled/unitized therewith is/are used for gas storage or for protection of gas storage; such Conversion to Storage payment shall first become due upon the next ensuing Delay Rental anniversary date. The use of any part of the Leasehold or lands pooled or unitized therewith for the underground storage of gas, or for the protection of stored gas will extend this Lease beyond the primary term as to all rights granted by this Lease, including but not limited to production rights, regardless of whether the production and storage rights are owned together or separately.

DISPOSAL AND INJECTION WELLS. Lessor hereby grants to Lessee the right to drill wells and/or re-enter existing wells, including necessary location, roadway and pipeline easements and rights of way, on any part of the Leasehold or lands pooled or unitized therewith for the disposal and/or injection into any subsurface strata, other than a potable water strata, of air, gas, brine, completion and production fluids, waste water and any hydrocarbon related substances from any source, including, but not limited to wells on the Leasehold or lands pooled or unitized therewith or from properties and lands outside the Leasehold or lands pooled or unitized therewith, and to conduct all operations as may be required, for so long as necessary and required by Lessee for purposes as herein provided. If, at the expiration of the primary term, Lessee is disposing and/or injecting into any subsurface strata underlying the Leasehold or lands pooled or unitized therewith or conducting operations for such disposal and/or injection and this lease is not being maintained by any other provision contained herein and no other payments are being made to Lessor as prescribed hereunder, Lessee shall pay to Lessor the sum of one thousand dollars (\$1,000.00) per year, proportionately reduced to Lessor's ownership in the Leasehold and surface as it bears to the full and undivided estate, beginning on the next anniversary date of this Lease and said payment and term of this Lease, insofar as to terms and provisions contained herein applicable to disposal and injection wells, shall continue annually thereafter for so long as necessary and required by Lessee for purposes as herein provided and until all disposal and/or injection wells located on the Leasehold or on lands pooled or unitized therewith are plugged and abandoned. Lessor agrees that if required by Lessee, regulatory agency or governmental authority having jurisdiction, Lessor shall enter a separate Disposal and Injection Agreement with Lessee for the purposes as herein provided.

TITLE AND INTERESTS. Lessor hereby warrants generally and agrees to defend title to the Leasehold and covenants that Lessee shall have quiet enjoyment hereunder and shall have benefit of the doctrine of after acquired title. Should any person having title to the Leasehold fail to execute this Lease, the Lease shall nevertheless be binding upon all persons who do execute it as Lessor.

LEASE DEVELOPMENT. There is no implied covenant to drill, prevent drainage, further develop or market production within the primary term or any extension of term of this Lease. There shall be no Leasehold forfeiture, termination, expiration or cancellation for failure to comply with said implied covenants. Provisions herein, including, but not limited to the prescribed payments, constitute full compensation for the privileges herein granted.

COVENANTS. This Lease and its expressed or implied covenants shall not be subject to termination, forfeiture of rights, or damages due to failure to comply with obligations if compliance is effectively prevented by federal, state, or local law, regulation, or decree, or the acts of God and/or third parties over whom Lessee has no control.

RIGHT OF FIRST REFUSAL. If at any time within the primary term of this lease or any continuation or extension thereof, Lessor receives any bona fide offer, acceptable to Lessor, to grant an additional lease which will take effect upon expiration of this Lease ("Top Lease") covering all or part of the Leasehold, Lessee shall have the continuing option by meeting any such offer to acquire a Top Lease on equivalent terms and conditions. Any offer must be in writing and must set forth the proposed Lessee's name, bonus consideration and royalty consideration to be paid for such Top Lease, and include a copy of the lease form to be utilized reflecting all pertinent and relevant terms and conditions of the Top Lease. Lessee shall have fifteen (15) days after receipt from Lessor of a complete copy of any such offer to advise Lessor in writing of its election to enter into an oil and gas lease with Lessor on equivalent terms and conditions. If Lessee fails to notify Lessor within the aforesaid fifteen (15) day period of its election to meet any such bona fide offer, Lessor shall have the right to accept said offer. Any Top Lease granted by Lessor in violation of this provision shall be null and void.

ARBITRATION. In the event of a disagreement between Lessor and Lessee concerning this Lease or the associated Order of Payment, performance thereunder, or damages caused by Lessee's operations, the resolution of all such disputes shall be determined by arbitration in accordance with the rules of the American Arbitration Association. Arbitration shall be the exclusive remedy and cover all disputes, including but not limited to, the formation, execution, validity and performance of the Lease and Order of Payment. All fees and costs associated with the arbitration shall be borne equally by Lessor and Lessee.

ENTIRE CONTRACT. The entire agreement between Lessor and Lessee is embodied herein and in the associated Order of Payment (if any). No oral warranties, representations, or promises have been made or relied upon by either party as an inducement to or modification of this Lease.

TITLE CURATIVE. Lessor agrees to execute consents, affidavits, ratifications, amendments, permits and other instruments as Lessee may request to carry out the purpose of this lease, including without limitation, applications necessary to obtain driveway entrance permits, and approvals of drilling or production units which Lessee may seek to form pursuant to governmental authorization.

Exhibit "A"

Addendum to Oil and Gas Lease dated May 2, 2017, from Brinn W. Johnston, single, of 1971 McCord Hill Rd., Wellsburg, WV 26070, Lessor to SWN Production Company, LLC, as Lessee, covering 31.623 acres, more or less, situated in Buffalo District, Brooke County, West Virginia:

Leasehold Description:

DESCRIPTION. The Leasehold is located in the District of Buffalo, in the County of Brooke, in the State of West Virginia, and described as follows:

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0130-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0139-0000, 03-B32-0137-0000, 0137-0001;
On the East by lands of 03-B32-0129-0000;
On the South by lands of 03-B32-0129-0000, 03-B37-0043-0000;
On the West by lands of 03-B37-0042-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0130-0001
On the North by lands of: 03-B32-0130-0000;
On the East by lands of 03-B32-0130-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0138-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0135-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0133-0000;
On the East by lands of 03-B32-0132-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0137-0001;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0137-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0136-0000;
On the East by lands of 03-B32-0137-0001;
On the South by lands of 03-B32-0138-0000;
On the West by lands of 03-B32-0136-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0137-0001
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0136-0000;
On the East by lands of 03-B32-0135-0000, 03-B32-0130-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0137-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0138-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0137-0000;
On the East by lands of 03-B32-0130-0001;
On the South by lands of 03-B32-0130-0001;
On the West by lands of 03-B32-0136-0000;

and being a portion of said lands acquired from Lillie Anna Johnston by virtue of Intestate Succession described in Affidavit of Death and Heirship NOT YET RECORDED in Brooke County, and described for the purposes of this agreement as containing a total of 31.623 Leasehold acres, whether actually more or less, and including contiguous lands owned by Lessor;

Exhibit "B"

Addendum to Oil and Gas Lease dated May 2, 2017, from Brian W. Johnston, single, of 1971 McCord Hill Rd., Wellsburg, WV 26070, Lessor to SWN Production Company, LLC, as Lessee, covering 31.623 acres, more or less, situated in Buffalo District, Brooke County, West Virginia:

Additional Provisions:

ROYALTY-All references made in Paragraph (B)1 and 2 of the section entitled "PAYMENT TO LESSOR" as to one-eighth (1/8) royalty shall be amended to eighteen percent (18%)

HOLD HARMLESS - Lessee agrees it will protect, save, and keep Lessor harmless and indemnified against any penalty or damage or charges imposed for any violation of any laws or ordinances, whether occasioned by the neglect of Lessee or those holding under Lessee, and Lessee will at all times protect, indemnify and save and keep harmless the Lessor against and from any and all loss, damage or expense, including any injury to any person or property whomsoever or whatsoever arising out of or caused by any negligence of the Lessee or those holding under Lessee.

NO STORAGE RIGHTS - Notwithstanding anything herein contained to the contrary, Lessee agrees the herein described Leaschold shall not be used for the purpose of gas storage as defined by the Federal Energy Regulatory Commission. Any reference to gas storage contained in this Lease is hereby deleted. If Lessor wishes to enter into an agreement regarding gas storage using the Leaschold with a third party, Lessor shall first give Lessee written notice of the identity of the third party, the price or the consideration for which the third party is prepared to offer, the effective date and closing date of the transaction and any other information respecting the transaction which Lessee believes would be material to the exercise of the offering. Lessor does hereby grant Lessee the first option and right to purchase the gas storage rights by matching and tendering to the Lessor any third party's offering within 30 days of receipt of notice from Lessor.

GROSS PROCEEDS - Royalties shall be paid on all Oil and Gas Substances produced and sold without deductions for the costs of producing, gathering, storing, separating, treating, dehydrating, and compressing, transporting, or otherwise making the oil and/or gas produced from the leased premises ready for sale or use. All oil and/or gas royalty shall be delivered free of cost into the tank or pipeline (for oil) and into the pipeline (for gas), with the exception of Lessor's prorated share of taxes, measured by volume, on the oil and/or gas royalty. However, any such costs which result in enhancing the value of the marketable oil, gas or other products to receive a better price may be deducted from the Lessor's share of production so long as such costs are based on Lessee's actual cost of enhancement. However, in no event shall Lessor receive royalty on a price that is less than, or more than, the price received by Lessee.

DISPOSAL WELLS - Lessee is not granted any right whatsoever to use the Leaschold, or any portion thereof, for construction and/or operation of any disposal or injection well.

NO WARRANTY OF TITLE - It is understood that Lessor warrants title to said property only with respect that the title is good to the best of Lessor's knowledge and Lessee agrees that no claims will be made against Lessor pertaining to warranty of title.

Signed for Identification:


 Brian W. Johnston

PAID-UP
OIL & GAS LEASE

Lease No. _____

1/15 - WV

This Lease, made this 2nd day of May, 2017, by and between Robert Johnston and Janice Johnston, husband and wife, of 1905 McCord Hill Rd., Wellsburg, WV 26070, hereinafter collectively called "Lessor," and SWN Production Company, L.L.C., a Texas limited liability company, 10000 Energy Drive, Spring, Texas 77389, hereinafter called "Lessee."

WITNESSETH, that for and in consideration of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and of the mutual covenants and agreements hereinafter set forth, the Lessor and Lessee agree as follows:

LEASING CLAUSE. Lessor hereby leases exclusively to Lessee all the oil and gas (including, but not limited to coal seam gas, coalbed methane gas, coalbed gas, methane gas, gob gas, occluded methane/natural gas and all associated natural gas and other hydrocarbons and non-hydrocarbons contained in, associated with, emitting from, or produced/originating within any formation, gob area, mined-out area, coal seam, and all communicating zones), and their liquid gaseous constituents, whether hydrocarbon or non-hydrocarbon, underlying the land herein leased, together with such exclusive rights as may be necessary or convenient for Lessee, at its election, to explore for, develop, produce, measure, and market production from the Leasehold, or from other lands, using methods and techniques which are not restricted to current technology, including, without limitation, the right to conduct geophysical and other exploratory tests; to drill, maintain, operate, cease to operate, plug, abandon, and remove wells; to use or install roads over and across the Leasehold for use in development of the Leasehold or other lands, electric power and telephone facilities, water impoundments, and to construct pipelines with appurtenant facilities, including data acquisition, compression and collection facilities for use in the production and transportation of products from the Leasehold or from other lands across the Leasehold, to use oil, gas, and non-domestic water sources, free of cost, to store gas of any kind underground, regardless of the source thereof, including the injecting of gas therein and removing the same therefrom; to protect stored gas; to operate, maintain, repair, and remove material and equipment; to use and occupy the subsurface of the Leasehold for the drilling of a wellbore(s) for use in development of the Leasehold or other lands.

DESCRIPTION. The Leasehold is located in the District of Buffalo, in the County of Brooke, in the State of West Virginia, and described as follows:

****See Exhibit "A" attached hereto and by reference made a part hereof for leasehold descriptions****

and described for the purposes of this agreement as containing a total of 31.623 Leasehold acres, whether actually more or less, and including contiguous lands owned by Lessor. This Lease also covers and includes, in addition to that above described, all land, if any, contiguous or adjacent to or adjoining the land above described and (a) owned or claimed by Lessor, by limitation, prescription, possession, reversion or unrecorded instrument or (b) as to which Lessor has a preference right of acquisition. Lessor agrees to execute any supplemental instrument requested by Lessee for a more complete or accurate description of said land.

LEASE TERM. This Lease shall remain in force for a primary term of Five (5) years from 12:00 A.M. May 2, 2017 (effective date) to 11:59 P.M. May 1, 2022 (last day of primary term) and shall continue beyond the primary term as to the entirety of the Leasehold if any of the following is satisfied: (i) operations are conducted on the Leasehold or lands pooled/unitized therewith in search of oil, gas, or their constituents, or (ii) a well deemed by Lessee to be capable of production is located on the Leasehold or lands pooled/unitized therewith, or (iii) oil or gas, or their constituents, are produced from the Leasehold or lands pooled/unitized therewith, or (iv) if the Leasehold or lands pooled/unitized therewith is used for the underground storage of gas, or for the protection of stored gas, or (v) if prescribed payments are made, or (vi) if Lessee's operations are delayed, postponed or interrupted as a result of any coal, stone or other mining or mining related operation under any existing and effective lease, permit or authorization covering such operations on the leased premises or on other lands affecting the leased premises, such delay will automatically extend the primary or secondary term of this oil and gas lease without additional compensation or performance by Lessee for a period of time equal to any such delay, postponement or interruption.

If there is any dispute concerning the extension of this Lease beyond the primary term by reason of any of the alternative mechanisms specified herein, the payment to the Lessor of the prescribed payments provided below shall be conclusive evidence that the Lease has been extended beyond the primary term.

EXTENSION OF PRIMARY TERM. Lessee has the option to extend the primary term of this Lease as to all or any part of the acreage then covered hereby, for one additional term of Five (5) years from the expiration of the primary term of this Lease; said extension to be under the same terms and conditions as contained in this Lease. Lessee may exercise this option to extend this Lease if on or before the expiration date of the primary term of this Lease, Lessee pays or tenders to the Lessor or to the Lessor's credit an amount equal to the sum of the initial consideration given for the execution hereof, which shall be paid in proportion to the number of net acres actually extended. Exercise of this option is at Lessee's sole discretion and may be invoked by Lessee where no other alternative of the Lease Term clause extends this Lease beyond the primary term. If this option is exercised by Lessee the lease as extended will thereafter be treated as if the original primary term was Ten (10) years.

NO AUTOMATIC TERMINATION OR FORFEITURE.

(A) **CONSTRUCTION OF LEASE:** The language of this Lease (including, but not limited to, the Lease Term and Extension of Term clauses) shall never be read as language of special limitation. This Lease shall be construed against termination, forfeiture, cancellation or expiration and in favor of giving effect to the continuation of this Lease where the circumstances exist to maintain this Lease in effect under any of the alternative mechanisms set forth above. In connection therewith, (i) a well shall be deemed to be capable of production if it has the capacity to produce a profit over operating costs, without regard to any capital costs to drill or equip the well, or to deliver the oil or gas to market, and (ii) the Lessee shall be deemed to be conducting operations in search of oil or gas, or their constituents, if the Lessee is engaged in geophysical and other exploratory work including, but not limited to, activities to drill an initial well, to drill a new well, or to rework, stimulate, deepen, sidetrack, frac, plug back in the same or different formation or repair a well or equipment on the Leasehold or any lands pooled/unitized therewith (such activities shall include, but not be limited to, performing any preliminary or preparatory work necessary for drilling, conducting internal technical analysis to initiate and/or further develop a well, obtaining permits and approvals associated therewith and may include reasonable gaps in activities provided that there is a continuum of activities showing a good faith effort to develop a well or that the cessation or interruption of activities was beyond the control of Lessee, including interruptions caused by the acts of third parties over whom Lessee has no control or regulatory delays associated with any approval process required for conducting such activities).

(B) **LIMITATION OF FORFEITURE:** This Lease shall never be subject to a civil action or proceeding to enforce a claim of termination, cancellation, expiration or forfeiture due to any action or inaction by the Lessee, including, but not limited to making any prescribed payments authorized under the terms of this Lease, unless the Lessee has received written notice of Lessor's demand and thereafter fails or refuses to satisfy or provide justification responding to Lessor's demand within 60 days from the receipt of such notice. If Lessee timely responds to Lessor's demand, but in good faith disagrees with Lessor's position and sets forth the reasons therefore, such a response shall be deemed to satisfy this provision, this Lease shall continue in full force and effect and no further damages (or other claims for relief) will accrue in Lessor's favor during the pendency of the dispute, other than claims for payments that may be due under the terms of this Lease.

PAYMENTS TO LESSOR. In addition to the bonus paid by Lessee for the execution hereof, Lessee covenants to pay Lessor, proportionate to Lessor's percentage of ownership, as follows:

(A) **DELAY RENTAL:** To pay Lessor as Delay Rental, after the first year, at the rate of five dollars (\$5.00) per net acre per year payable in advance. The parties hereto agree that this is a Paid-Up Lease with no further Delay Rental and/or Delay in Marketing payments due to Lessor during the primary term or, if so exercised, the extended primary term hereof.

(B) **ROYALTY:** To pay Lessor as Royalty, less all taxes, assessments, and adjustments on production from the Leasehold, as follows:

1. **OIL:** To deliver to the credit of Lessor a Royalty equal to one-eighth (1/8) of the net revenue realized by Lessee for all oil and any constituents thereof produced and marketed from the Leasehold, less the cost to transport, handle, separate, meter, treat, process and market the oil.

2. **GAS:** To pay Lessor on actual volumes of gas and any constituents thereof sold from said land, one-eighth of the net amount realized by Lessee, computed at the wellhead. As used in this lease, the term "net amount realized by Lessee, computed at the wellhead" shall mean the gross proceeds received by Lessee from the sale of oil and gas minus post-production costs incurred by Lessee between the wellhead and the point of sale. As used in this Lease, the term "post-production costs" shall mean all costs and expenses of (a) treating and processing oil and/or gas, and (b) separating liquid hydrocarbons from gas, other than condensate separated at the well, and (c) transporting oil and/or gas, including but not limited to transportation between the wellhead and any production or treating facilities, and transportation to the point of sale, and (d) compressing gas for transportation and delivery purposes, and (e) metering oil and/or gas to determine the amount sold and/or the amount used by Lessee, and (f) sales charges, commissions and fees paid to third parties (whether or not affiliated) in connection with the sale of the gas, and (g) any and all other costs and expenses of any kind or nature incurred in regard to the gas, or the handling thereof, between the wellhead and the point of sale. Lessee may use its own pipelines and equipment to provide such treating, processing, separating, transportation, compression and metering services, or it may engage others to provide such services; and if Lessee uses its own pipelines and/or equipment, post-production costs shall include without limitation reasonable depreciation and amortization expenses relating to such facilities, together with Lessee's cost of capital and a reasonable return on its investment in such facilities. Prior to payment of royalty, Lessor may be required to execute a Division Order certifying Lessor's interest in production. Lessee may pay all taxes and fees levied upon the oil and gas as produced, including, without limitation, severance taxes and privilege and surveillance fees, and deduct a proportionate share of the amount so paid from any monies payable to Lessor hereunder. Lessee may withhold Royalty payment until such time as the total withheld exceeds one hundred dollars (\$100.00).

(C) **DELAY IN MARKETING:** In the event that Lessee drills a well on the Leasehold or lands pooled/unitized therewith that is awaiting completion (including, without limitation, hydraulic fracture stimulation), or that Lessee deems to be capable of production, but does not market producible gas, oil, or their constituents, therefrom, and there is no other basis for extending this Lease, Lessee shall pay after the primary term and until such time as marketing is established (or Lessee surrenders the Lease) a Delay in Marketing payment equal in amount and frequency to the annual Delay Rental payment, and this Lease shall remain in full force and effect to the same extent as payment of Royalty.

(D) **SHUT-IN:** In the event that production of oil, gas, or their constituents, is interrupted and not marketed for a period of twelve (12) months, and there is no producing well on the Leasehold or lands pooled/unitized therewith, Lessee shall, after the primary term, as Royalty for constructive production, pay a Shut-in Royalty equal in amount and frequency to the annual Delay Rental payment until such time as production is re-established (or Lessee surrenders the Lease) and this Lease shall remain in full force and effect. During Shut-in, Lessee shall have the right to rework, stimulate, or deepen any well on the Leasehold or to drill a new well on the Leasehold in an effort to re-establish production, whether from an original producing formation or from a different formation. In the event that the production from the only producing well on the Leasehold is interrupted for a period of less than twelve (12) months, this Lease shall remain in full force and effect without payment of Royalty or Shut-in Royalty.

(E) **DAMAGES:** Lessee will remove unnecessary equipment and materials and reclaim all disturbed lands at the completion of all activities on the Leasehold, and Lessee agrees to repair any damaged improvements to the land and pay for the loss of growing crops or marketable timber.

(F) **MANNER OF PAYMENT:** Lessee shall make or tender all payments due hereunder by check, payable to Lessor, at Lessor's last known address, and Lessee may withhold any payment pending notification by Lessor of a change in address. Payment may be tendered by mail or any comparable method (e.g., Federal Express), and payment is deemed complete upon mailing or dispatch. Where the due date for any payment specified herein falls on a holiday, Saturday or Sunday, payment tendered (mailed or dispatched) on the next business day is timely.

(G) **CHANGE IN LAND OWNERSHIP:** Lessee shall not be bound by any change in the ownership of the Leasehold until furnished by Lessor with such documentation as Lessee may reasonably require. Pending the receipt of documentation, Lessee may elect either to continue to make or withhold payments as if such a change had not occurred.

(H) **TITLE:** If Lessee receives evidence that Lessor does not have title to all or any part of the rights herein leased, Lessee may immediately withhold payments that would be otherwise due and payable hereunder to Lessor until the adverse claim is fully resolved. Lessor represents and warrants that there is no existing oil and gas lease which is presently in effect covering the Leasehold.

(I) **LIENS:** Lessee may, at its option, pay and discharge any past due taxes, mortgages, judgments, or other liens and encumbrances on or against any land or interest included in the Leasehold; and Lessee shall be entitled to recover from the debtor, with legal interest and costs, by deduction from any future payments to Lessor or by any other lawful means. In the event the leased lands are encumbered by a prior mortgage, then, notwithstanding anything contained herein to the contrary, Lessee shall have the right to suspend the payment of any royalties due hereunder, without liability for interest, until such time as Lessor obtains at its own expense a subordination of the mortgage in a form acceptable to Lessee.

(J) **CHARACTERIZATION OF PAYMENTS:** Payments set forth herein are covenants, not special limitations, regardless of the manner in which these payments may be invoked. Any failure on the part of the Lessee to timely or otherwise properly tender payment can never result in an automatic termination, expiration, cancellation, or forfeiture of this Lease. Lessor recognizes and acknowledges that oil and gas lease payments, in the form of rental, bonus and royalty, can vary depending on multiple factors and that this Lease is the product of good faith negotiations. Lessor hereby agrees that the payment terms, as set forth herein, and any bonus payments paid to Lessor constitute full consideration for the Leasehold. Lessor further agrees that such payment terms and bonus payments are final and that Lessor

will not seek to amend or modify the lease payments, or seek additional consideration based upon any differing terms which Lessee has or will negotiate with any other lessor/oil and gas owner.

(K) PAYMENT REDUCTIONS. If Lessor owns a lesser interest in the oil or gas than the entire undivided fee simple estate, then the rentals (except for Delay Rental payments as set forth above), royalties and shut-in royalties hereunder shall be paid to Lessor only in the proportion which Lessor's interest bears to the whole and undivided fee.

UNITIZATION AND POOLING. Lessor grants Lessee the right to pool, unitize, or combine all or parts of the Leasehold with other lands, whether contiguous or not contiguous, leased or unleased, whether owned by Lessee or by others, at a time before or after drilling to create drilling or production units either by contract right or pursuant to governmental authorization. Pooling or unitizing in one or more instances shall not exhaust Lessee's pooling and unitizing rights hereunder, and Lessee is granted the right to change the size, shape, and conditions of operation or payment of any unit created. Lessor agrees to accept and receive out of the production or the revenue realized from the production of such unit, such proportional share of the Royalty from each unit well as the number of Leasehold acres included in the unit bears to the total number of acres in the unit. Otherwise, as to any part of the unit, drilling, operations in preparation for drilling, production, or shut-in production from the unit, or payment of Royalty, Shut-in Royalty, Delay in Marketing payment or Delay Rental attributable to any part of the unit (including non-Leasehold land) shall have the same effect upon the terms of this Lease as if a well were located on, or the subject activity attributable to, the Leasehold. In the event of conflict or inconsistency between the Leasehold acres ascribed to the Lease, and the local property tax assessment calculation of the lands covered by the Lease, or the deeded acreage amount, Lessee may, at its option, rely on the latter as being determinative for the purposes of this paragraph.

FACILITIES. Lessee shall not drill a well on the Leasehold within 200 feet of any structure located on the Leasehold without Lessor's written consent. Lessor shall not erect any building or structure, or plant any trees within 200 feet of a well or within 25 feet of a pipeline without Lessee's written consent. Lessor shall not improve, modify, degrade, or restrict roads and facilities built by Lessee without Lessee's written consent.

CONVERSION TO STORAGE. Lessee is hereby granted the right to convert the Leasehold or lands pooled/unitized therewith to gas storage. At the time of conversion, Lessee shall pay Lessor's proportionate part for the estimated recoverable gas remaining in any well drilled pursuant to this Lease using methods of calculating gas reserves as are generally accepted by the natural gas industry and, in the event that all wells on the Leasehold and/or lands pooled/unitized therewith have permanently ceased production, Lessor shall be paid a Conversion to Storage payment in an amount equal to Delay Rental for as long thereafter as the Leasehold or lands pooled/unitized therewith is/are used for gas storage or for protection of gas storage; such Conversion to Storage payment shall first become due upon the next ensuing Delay Rental anniversary date. The use of any part of the Leasehold or lands pooled or unitized therewith for the underground storage of gas, or for the protection of stored gas will extend this Lease beyond the primary term as to all rights granted by this Lease, including but not limited to production rights, regardless of whether the production and storage rights are owned together or separately.

DISPOSAL AND INJECTION WELLS. Lessor hereby grants to Lessee the right to drill wells and/or re-enter existing wells, including necessary location, roadway and pipeline easements and rights of way, on any part of the Leasehold or lands pooled or unitized therewith for the disposal and/or injection into any subsurface strata, other than a potable water strata, of air, gas, brine, completion and production fluids, waste water and any hydrocarbon related substances from any source, including, but not limited to wells on the Leasehold or lands pooled or unitized therewith or from properties and lands outside the Leasehold or lands pooled or unitized therewith, and to conduct all operations as may be required, for so long as necessary and required by Lessee for purposes as herein provided. If, at the expiration of the primary term, Lessee is disposing and/or injecting into any subsurface strata underlying the Leasehold or lands pooled or unitized therewith or conducting operations for such disposal and/or injection and this lease is not being maintained by any other provision contained herein and no other payments are being made to Lessor as prescribed hereunder, Lessee shall pay to Lessor the sum of one thousand dollars (\$1,000.00) per year, proportionately reduced to Lessor's ownership in the Leasehold and surface as it bears to the full and undivided estate, beginning on the next anniversary date of this Lease and said payment and term of this Lease, insofar as to terms and provisions contained herein applicable to disposal and injection wells, shall continue annually thereafter for so long as necessary and required by Lessee for purposes as herein provided and until all disposal and/or injection wells located on the Leasehold or on lands pooled or unitized therewith are plugged and abandoned. Lessor agrees that if required by Lessee, regulatory agency or governmental authority having jurisdiction, Lessor shall enter a separate Disposal and Injection Agreement with Lessee for the purposes as herein provided.

TITLE AND INTERESTS. Lessor hereby warrants generally and agrees to defend title to the Leasehold and covenants that Lessee shall have quiet enjoyment hereunder and shall have benefit of the doctrine of after acquired title. Should any person having title to the Leasehold fail to execute this Lease, the Lease shall nevertheless be binding upon all persons who do execute it as Lessor.

LEASE DEVELOPMENT. There is no implied covenant to drill, prevent drainage, further develop or market production within the primary term or any extension of term of this Lease. There shall be no Leasehold forfeiture, termination, expiration or cancellation for failure to comply with said implied covenants. Provisions herein, including, but not limited to the prescribed payments, constitute full compensation for the privileges herein granted.

COVENANTS. This Lease and its expressed or implied covenants shall not be subject to termination, forfeiture of rights, or damages due to failure to comply with obligations if compliance is effectively prevented by federal, state, or local law, regulation, or decree, or the acts of God and/or third parties over whom Lessee has no control.

RIGHT OF FIRST REFUSAL. If at any time within the primary term of this lease or any continuation or extension thereof, Lessor receives any bona fide offer, acceptable to Lessor, to grant an additional lease which will take effect upon expiration of this Lease ("Top Lease") covering all or part of the Leasehold, Lessee shall have the continuing option by meeting any such offer to acquire a Top Lease on equivalent terms and conditions. Any offer must be in writing and must set forth the proposed Lessee's name, bonus consideration and royalty consideration to be paid for such Top Lease, and include a copy of the lease form to be utilized reflecting all pertinent and relevant terms and conditions of the Top Lease. Lessee shall have fifteen (15) days after receipt from Lessor of a complete copy of any such offer to advise Lessor in writing of its election to enter into an oil and gas lease with Lessor on equivalent terms and conditions. If Lessee fails to notify Lessor within the aforesaid fifteen (15) day period of its election to meet any such bona fide offer, Lessor shall have the right to accept said offer. Any Top Lease granted by Lessor in violation of this provision shall be null and void.

ARBITRATION. In the event of a disagreement between Lessor and Lessee concerning this Lease or the associated Order of Payment, performance thereunder, or damages caused by Lessee's operations, the resolution of all such disputes shall be determined by arbitration in accordance with the rules of the American Arbitration Association. Arbitration shall be the exclusive remedy and cover all disputes, including but not limited to, the formation, execution, validity and performance of the Lease and Order of Payment. All fees and costs associated with the arbitration shall be borne equally by Lessor and Lessee.

ENTIRE CONTRACT. The entire agreement between Lessor and Lessee is embodied herein and in the associated Order of Payment (if any). No oral warranties, representations, or promises have been made or relied upon by either party as an inducement to or modification of this Lease.

TITLE CURATIVE. Lessor agrees to execute consents, affidavits, ratifications, amendments, permits and other instruments as Lessee may request to carry out the purpose of this lease, including without limitation, applications necessary to obtain driveway entrance permits, and approvals of drilling or production units which Lessee may seek to form pursuant to governmental authorization.

Exhibit "A"

Addendum to Oil and Gas Lease dated May 2, 2017, from Robert Johnston and Janice Johnston, husband and wife, of 1905 McCord Hill Rd., Wellsburg, WV 26070, Lessor to SWN Production Company, L.L.C., as Lessee, covering 31.623 acres, more or less, situated in Buffalo District, Brooke County, West Virginia:

Leasehold Description:

DESCRIPTION. The Leasehold is located in the District of Buffalo, in the County of Brooke, in the State of West Virginia, and described as follows:

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0130-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0139-0000, 03-B32-0137-0000, 0137-0001;
On the East by lands of 03-B32-0129-0000;
On the South by lands of 03-B32-0129-0000, 03-B37-0043-0000;
On the West by lands of 03-B37-0042-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0130-0001
On the North by lands of: 03-B32-0130-0000;
On the East by lands of 03-B32-0130-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0138-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0135-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0133-0000;
On the East by lands of 03-B32-0132-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0137-0001;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0137-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0136-0000;
On the East by lands of 03-B32-0137-0001;
On the South by lands of 03-B32-0138-0000;
On the West by lands of 03-B32-0136-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0137-0001
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0136-0000;
On the East by lands of 03-B32-0135-0000, 03-B32-0130-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0137-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0138-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0137-0000;
On the East by lands of 03-B32-0130-0001;
On the South by lands of 03-B32-0130-0001;
On the West by lands of 03-B32-0136-0000;

and being a portion of said lands acquired from Lillie Anna Johnston by virtue of Intestate Succession described in Affidavit of Death and Heirship NOT YET RECORDED in Brooke County, and described for the purposes of this agreement as containing a total of 31.623 Leasehold acres, whether actually more or less, and including contiguous lands owned by Lessor;

Exhibit "B"

Addendum to Oil and Gas Lease dated May 2, 2017, from Robert Johnston and Janice Johnston, husband and wife, of 1905 McCord Hill Rd., Wellsburg, WV 26070, Lessor to SWN Production Company, L.L.C., as Lessee, covering 31.623 acres, more or less, situated in Buffalo District, Brooke County, West Virginia:

Additional Provisions:

ROYALTY-All references made in Paragraph (B)1 and 2 of the section entitled "PAYMENT TO LESSOR" as to one-eighth (1/8) royalty shall be amended to eighteen percent (18%)

HOLD HARMLESS - Lessee agrees it will protect, save, and keep Lessor harmless and indemnified against any penalty or damage or charges imposed for any violation of any laws or ordinances, whether occasioned by the neglect of Lessee or those holding under Lessee, and Lessee will at all times protect, indemnify and save and keep harmless the Lessor against and from any and all loss, damage or expense, including any injury to any person or property whomsoever or whatsoever arising out of or caused by any negligence of the Lessee or those holding under Lessee.

NO STORAGE RIGHTS - Notwithstanding anything herein contained to the contrary, Lessee agrees the herein described Leasehold shall not be used for the purpose of gas storage as defined by the Federal Energy Regulatory Commission. Any reference to gas storage contained in this Lease is hereby deleted. If Lessor wishes to enter into an agreement regarding gas storage using the Leasehold with a third party, Lessor shall first give Lessee written notice of the identity of the third party, the price or the consideration for which the third party is prepared to offer, the effective date and closing date of the transaction and any other information respecting the transaction which Lessee believes would be material to the exercise of the offering. Lessor does hereby grant Lessee the first option and right to purchase the gas storage rights by matching and tendering to the Lessor any third party's offering within 30 days of receipt of notice from Lessor.

GROSS PROCEEDS - Royalties shall be paid on all Oil and Gas Substances produced and sold without deductions for the costs of producing, gathering, storing, separating, treating, dehydrating, and compressing, transporting, or otherwise making the oil and/or gas produced from the leased premises ready for sale or use. All oil and/or gas royalty shall be delivered free of cost into the tank or pipeline (for oil) and into the pipeline (for gas), with the exception of Lessor's prorated share of taxes, measured by volume, on the oil and/or gas royalty. However, any such costs which result in enhancing the value of the marketable oil, gas or other products to receive a better price may be deducted from the Lessor's share of production so long as such costs are based on Lessee's actual cost of enhancement. However, in no event shall Lessor receive royalty on a price that is less than, or more than, the price received by Lessee.

DISPOSAL WELLS - Lessee is not granted any right whatsoever to use the Leasehold, or any portion thereof, for construction and/or operation of any disposal or injection well.

NO WARRANTY OF TITLE - It is understood that Lessor warrants title to said property only with respect that the title is good to the best of Lessor's knowledge and Lessee agrees that no claims will be made against Lessor pertaining to warranty of title.

Signed for Identification:


Robert Johnston


Janice Johnston

PAID-UP
OIL & GAS LEASE

Lease No. _____

1/15 - WV

This Lease, made this 2nd day of May, 2017, by and between Ralph G. Johnston and Tracy A. Johnston, husband and wife, of 1907 McConi Hill Rd., Wellsburg, WV 26070, hereinafter collectively called "Lessor," and SWN Production Company, L.L.C., a Texas limited liability company, 10000 Energy Drive, Spring, Texas 77389, hereinafter called "Lessee."

WITNESSETH, that for and in consideration of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and of the mutual covenants and agreements hereinafter set forth, the Lessor and Lessee agree as follows:

LEASING CLAUSE. Lessor hereby leases exclusively to Lessee all the oil and gas (including, but not limited to coal seam gas, coalbed methane gas, coalbed gas, methane gas, gob gas, occluded methane/natural gas and all associated natural gas and other hydrocarbons and non-hydrocarbons contained in, associated with, emitting from, or produced/originating within any formation, gob area, mined-out area, coal seam, and all communicating zones), and their liquid gaseous constituents, whether hydrocarbon or non-hydrocarbon, underlying the land herein leased, together with such exclusive rights as may be necessary or convenient for Lessee, at its election, to explore for, develop, produce, measure, and market production from the Leasehold, or from other lands, using methods and techniques which are not restricted to current technology, including, without limitation, the right to conduct geophysical and other exploratory tests; to drill, maintain, operate, cease to operate, plug, abandon, and remove wells; to use or install roads over and across the Leasehold for use in development of the Leasehold or other lands, electric power and telephone facilities, water impoundments, and to construct pipelines with appurtenant facilities, including data acquisition, compression and collection facilities for use in the production and transportation of products from the Leasehold or from other lands across the Leasehold, to use oil, gas, and non-domestic water sources, free of cost, to store gas of any kind underground, regardless of the source thereof, including the injecting of gas therein and removing the same therefrom; to protect stored gas; to operate, maintain, repair, and remove material and equipment; to use and occupy the subsurface of the Leasehold for the drilling of a wellbore(s) for use in development of the Leasehold or other lands.

DESCRIPTION. The Leasehold is located in the District of Buffalo, in the County of Brooks, in the State of West Virginia, and described as follows:

****See Exhibit "A" attached hereto and by reference made a part hereof for leasehold descriptions****

and described for the purposes of this agreement as containing a total of 31.623 Leasehold acres, whether actually more or less, and including contiguous lands owned by Lessor. This Lease also covers and includes, in addition to that above described, all land, if any, contiguous or adjacent to or adjoining the land above described and (a) owned or claimed by Lessor, by limitation, prescription, possession, reversion or unrecorded instrument or (b) as to which Lessor has a preference right of acquisition. Lessor agrees to execute any supplemental instrument requested by Lessee for a more complete or accurate description of said land.

LEASE TERM. This Lease shall remain in force for a primary term of Five (5) years from 12:00 A.M. May 2, 2017 (effective date) to 11:59 P.M. May 1, 2022 (last day of primary term) and shall continue beyond the primary term as to the entirety of the Leasehold if any of the following is satisfied: (i) operations are conducted on the Leasehold or lands pooled/unitized therewith in search of oil, gas, or their constituents, or (ii) a well deemed by Lessee to be capable of production is located on the Leasehold or lands pooled/unitized therewith, or (iii) oil or gas, or their constituents, are produced from the Leasehold or lands pooled/unitized therewith, or (iv) if the Leasehold or lands pooled/unitized therewith is used for the underground storage of gas, or for the protection of stored gas, or (v) if prescribed payments are made, or (vi) if Lessee's operations are delayed, postponed or interrupted as a result of any coal, stone or other mining or mining related operation under any existing and effective lease, permit or authorization covering such operations on the leased premises or on other lands affecting the leased premises, such delay will automatically extend the primary or secondary term of this oil and gas lease without additional compensation or performance by Lessee for a period of time equal to any such delay, postponement or interruption.

If there is any dispute concerning the extension of this Lease beyond the primary term by reason of any of the alternative mechanisms specified herein, the payment to the Lessor of the prescribed payments provided below shall be conclusive evidence that the Lease has been extended beyond the primary term.

EXTENSION OF PRIMARY TERM. Lessee has the option to extend the primary term of this Lease as to all or any part of the acreage then covered hereby, for one additional term of Five (5) years from the expiration of the primary term of this Lease; said extension to be under the same terms and conditions as contained in this Lease. Lessee may exercise this option to extend this Lease if on or before the expiration date of the primary term of this Lease, Lessee pays or tenders to the Lessor or to the Lessor's credit an amount equal to the sum of the initial consideration given for the execution hereof, which shall be paid in proportion to the number of net acres actually extended. Exercise of this option is at Lessee's sole discretion and may be invoked by Lessee where no other alternative of the Lease Term clause extends this Lease beyond the primary term. If this option is exercised by Lessee the lease as extended will thereafter be treated as if the original primary term was Ten (10) years.

NO AUTOMATIC TERMINATION OR FORFEITURE.

(A) CONSTRUCTION OF LEASE: The language of this Lease (including, but not limited to, the Lease Term and Extension of Term clauses) shall never be read as language of special limitation. This Lease shall be construed against termination, forfeiture, cancellation or expiration and in favor of giving effect to the continuation of this Lease where the circumstances exist to maintain this Lease in effect under any of the alternative mechanisms set forth above. In connection therewith, (i) a well shall be deemed to be capable of production if it has the capacity to produce a profit over operating costs, without regard to any capital costs to drill or equip the well, or to deliver the oil or gas to market, and (ii) the Lessee shall be deemed to be conducting operations in search of oil or gas, or their constituents, if the Lessee is engaged in geophysical and other exploratory work including, but not limited to, activities to drill an initial well, to drill a new well, or to rework, stimulate, deepen, sidetrack, frac, plug back in the same or different formation or repair a well or equipment on the Leasehold or any lands pooled/unitized therewith (such activities shall include, but not be limited to, performing any preliminary or preparatory work necessary for drilling, conducting internal technical analysis to initiate and/or further develop a well, obtaining permits and approvals associated therewith and may include reasonable gaps in activities provided that there is a continuum of activities showing a good faith effort to develop a well or that the cessation or interruption of activities was beyond the control of Lessee, including interruptions caused by the acts of third parties over whom Lessee has no control or regulatory delays associated with any approval process required for conducting such activities).

(B) **LIMITATION OF FORFEITURE:** This Lease shall never be subject to a civil action or proceeding to enforce a claim of termination, cancellation, expiration or forfeiture due to any action or inaction by the Lessee, including, but not limited to making any prescribed payments authorized under the terms of this Lease, unless the Lessee has received written notice of Lessor's demand and thereafter fails or refuses to satisfy or provide justification responding to Lessor's demand within 60 days from the receipt of such notice. If Lessee timely responds to Lessor's demand, but in good faith disagrees with Lessor's position and sets forth the reasons therefore, such a response shall be deemed to satisfy this provision, this Lease shall continue in full force and effect and no further damages (or other claims for relief) will accrue in Lessor's favor during the pendency of the dispute, other than claims for payments that may be due under the terms of this Lease.

PAYMENTS TO LESSOR. In addition to the bonus paid by Lessee for the execution hereof, Lessee covenants to pay Lessor, proportionate to Lessor's percentage of ownership, as follows:

(A) **DELAY RENTAL:** To pay Lessor as Delay Rental, after the first year, at the rate of five dollars (\$5.00) per net acre per year payable in advance. The parties hereto agree that this is a Paid-Up Lease with no further Delay Rental and/or Delay in Marketing payments due to Lessor during the primary term or, if so exercised, the extended primary term hereof.

(B) **ROYALTY:** To pay Lessor as Royalty, less all taxes, assessments, and adjustments on production from the Leasehold, as follows:

1. **OIL:** To deliver to the credit of Lessor a Royalty equal to one-eighth (1/8) of the net revenue realized by Lessee for all oil and any constituents thereof produced and marketed from the Leasehold, less the cost to transport, handle, separate, meter, treat, process and market the oil.

2. **GAS:** To pay Lessor on actual volumes of gas and any constituents thereof sold from said land, one-eighth of the net amount realized by Lessee, computed at the wellhead. As used in this lease, the term "net amount realized by Lessee, computed at the wellhead" shall mean the gross proceeds received by Lessee from the sale of oil and gas minus post-production costs incurred by Lessee between the wellhead and the point of sale. As used in this Lease, the term "post-production costs" shall mean all costs and expenses of (a) treating and processing oil and/or gas, and (b) separating liquid hydrocarbons from gas, other than condensate separated at the well, and (c) transporting oil and/or gas, including but not limited to transportation between the wellhead and any production or treating facilities, and transportation to the point of sale, and (d) compressing gas for transportation and delivery purposes, and (e) metering oil and/or gas to determine the amount sold and/or the amount used by Lessee, and (f) sales charges, commissions and fees paid to third parties (whether or not affiliated) in connection with the sale of the gas, and (g) any and all other costs and expenses of any kind or nature incurred in regard to the gas, or the handling thereof, between the wellhead and the point of sale. Lessee may use its own pipelines and equipment to provide such treating, processing, separating, transportation, compression and metering services, or it may engage others to provide such services; and if Lessee uses its own pipelines and/or equipment, post-production costs shall include without limitation reasonable depreciation and amortization expenses relating to such facilities, together with Lessee's cost of capital and a reasonable return on its investment in such facilities. Prior to payment of royalty, Lessor may be required to execute a Division Order certifying Lessor's interest in production. Lessee may pay all taxes and fees levied upon the oil and gas as produced, including, without limitation, severance taxes and privilege and surveillance fees, and deduct a proportionate share of the amount so paid from any monies payable to Lessor hereunder. Lessee may withhold Royalty payment until such time as the total withheld exceeds one hundred dollars (\$100.00).

(C) **DELAY IN MARKETING:** In the event that Lessee drills a well on the Leasehold or lands pooled/unitized therewith that is awaiting completion (including, without limitation, hydraulic fracture stimulation), or that Lessee deems to be capable of production, but does not market producible gas, oil, or their constituents, therefrom, and there is no other basis for extending this Lease, Lessee shall pay after the primary term and until such time as marketing is established (or Lessee surrenders the Lease) a Delay in Marketing payment equal in amount and frequency to the annual Delay Rental payment, and this Lease shall remain in full force and effect to the same extent as payment of Royalty.

(D) **SHUT-IN:** In the event that production of oil, gas, or their constituents, is interrupted and not marketed for a period of twelve (12) months, and there is no producing well on the Leasehold or lands pooled/unitized therewith, Lessee shall, after the primary term, as Royalty for constructive production, pay a Shut-in Royalty equal in amount and frequency to the annual Delay Rental payment until such time as production is re-established (or Lessee surrenders the Lease) and this Lease shall remain in full force and effect. During Shut-in, Lessee shall have the right to rework, stimulate, or deepen any well on the Leasehold or to drill a new well on the Leasehold in an effort to re-establish production, whether from an original producing formation or from a different formation. In the event that the production from the only producing well on the Leasehold is interrupted for a period of less than twelve (12) months, this Lease shall remain in full force and effect without payment of Royalty or Shut-in Royalty.

(E) **DAMAGES:** Lessee will remove unnecessary equipment and materials and reclaim all disturbed lands at the completion of all activities on the Leasehold, and Lessee agrees to repair any damaged improvements to the land and pay for the loss of growing crops or marketable timber.

(F) **MANNER OF PAYMENT:** Lessee shall make or tender all payments due hereunder by check, payable to Lessor, at Lessor's last known address, and Lessee may withhold any payment pending notification by Lessor of a change in address. Payment may be tendered by mail or any comparable method (e.g., Federal Express), and payment is deemed complete upon mailing or dispatch. Where the due date for any payment specified herein falls on a holiday, Saturday or Sunday, payment tendered (mailed or dispatched) on the next business day is timely.

(G) **CHANGE IN LAND OWNERSHIP:** Lessee shall not be bound by any change in the ownership of the Leasehold until furnished by Lessor with such documentation as Lessee may reasonably require. Pending the receipt of documentation, Lessee may elect either to continue to make or withhold payments as if such a change had not occurred.

(H) **TITLE:** If Lessee receives evidence that Lessor does not have title to all or any part of the rights herein leased, Lessee may immediately withhold payments that would be otherwise due and payable hereunder to Lessor until the adverse claim is fully resolved. Lessor represents and warrants that there is no existing oil and gas lease which is presently in effect covering the Leasehold.

(I) **LIENS:** Lessee may, at its option, pay and discharge any past due taxes, mortgages, judgments, or other liens and encumbrances on or against any land or interest included in the Leasehold; and Lessee shall be entitled to recover from the debtor, with legal interest and costs, by deduction from any future payments to Lessor or by any other lawful means. In the event the leased lands are encumbered by a prior mortgage, then, notwithstanding anything contained herein to the contrary, Lessee shall have the right to suspend the payment of any royalties due hereunder, without liability for interest, until such time as Lessor obtains at its own expense a subordination of the mortgage in a form acceptable to Lessee.

(J) **CHARACTERIZATION OF PAYMENTS:** Payments set forth herein are covenants, not special limitations, regardless of the manner in which these payments may be invoked. Any failure on the part of the Lessee to timely or otherwise properly tender payment can never result in an automatic termination, expiration, cancellation, or forfeiture of this Lease. Lessor recognizes and acknowledges that oil and gas lease payments, in the form of rental, bonus and royalty, can vary depending on multiple factors and that this Lease is the product of good faith negotiations. Lessor hereby agrees that the payment terms, as set forth herein, and any bonus payments paid to Lessor constitute full consideration for the Leasehold. Lessor further agrees that such payment terms and bonus payments are final and that Lessor

will not seek to amend or modify the lease payments, or seek additional consideration based upon any differing terms which Lessee has or will negotiate with any other lessor/oil and gas owner.

(K) **PAYMENT REDUCTIONS.** If Lessor owns a lesser interest in the oil or gas than the entire undivided fee simple estate, then the rentals (except for Delay Rental payments as set forth above), royalties and shut-in royalties hereunder shall be paid to Lessor only in the proportion which Lessor's interest bears to the whole and undivided fee.

UNITIZATION AND POOLING. Lessor grants Lessee the right to pool, unitize, or combine all or parts of the Leasehold with other lands, whether contiguous or not contiguous, leased or unleased, whether owned by Lessee or by others, at a time before or after drilling to create drilling or production units either by contract right or pursuant to governmental authorization. Pooling or unitizing in one or more instances shall not exhaust Lessee's pooling and unitizing rights hereunder, and Lessee is granted the right to change the size, shape, and conditions of operation or payment of any unit created. Lessor agrees to accept and receive out of the production or the revenue realized from the production of such unit, such proportional share of the Royalty from each unit well as the number of Leasehold acres included in the unit bears to the total number of acres in the unit. Otherwise, as to any part of the unit, drilling, operations in preparation for drilling, production, or shut-in production from the unit, or payment of Royalty, Shut-in Royalty, Delay in Marketing payment or Delay Rental attributable to any part of the unit (including non-Leasehold land) shall have the same effect upon the terms of this Lease as if a well were located on, or the subject activity attributable to, the Leasehold. In the event of conflict or inconsistency between the Leasehold acres ascribed to the Lease, and the local property tax assessment calculation of the lands covered by the Lease, or the deeded acreage amount, Lessee may, at its option, rely on the latter as being determinative for the purposes of this paragraph.

FACILITIES. Lessee shall not drill a well on the Leasehold within 200 feet of any structure located on the Leasehold without Lessor's written consent. Lessor shall not erect any building or structure, or plant any trees within 200 feet of a well or within 25 feet of a pipeline without Lessee's written consent. Lessor shall not improve, modify, degrade, or restrict roads and facilities built by Lessee without Lessee's written consent.

CONVERSION TO STORAGE. Lessee is hereby granted the right to convert the Leasehold or lands pooled/unitized therewith to gas storage. At the time of conversion, Lessee shall pay Lessor's proportionate part for the estimated recoverable gas remaining in any well drilled pursuant to this Lease using methods of calculating gas reserves as are generally accepted by the natural gas industry and, in the event that all wells on the Leasehold and/or lands pooled/unitized therewith have permanently ceased production, Lessor shall be paid a Conversion to Storage payment in an amount equal to Delay Rental for as long thereafter as the Leasehold or lands pooled/unitized therewith is/are used for gas storage or for protection of gas storage; such Conversion to Storage payment shall first become due upon the next ensuing Delay Rental anniversary date. The use of any part of the Leasehold or lands pooled or unitized therewith for the underground storage of gas, or for the protection of stored gas will extend this Lease beyond the primary term as to all rights granted by this Lease, including but not limited to production rights, regardless of whether the production and storage rights are owned together or separately.

DISPOSAL AND INJECTION WELLS. Lessor hereby grants to Lessee the right to drill wells and/or re-enter existing wells, including necessary location, roadway and pipeline easements and rights of way, on any part of the Leasehold or lands pooled or unitized therewith for the disposal and/or injection into any subsurface strata, other than a potable water strata, of air, gas, brine, completion and production fluids, waste water and any hydrocarbon related substances from any source, including, but not limited to wells on the Leasehold or lands pooled or unitized therewith or from properties and lands outside the Leasehold or lands pooled or unitized therewith, and to conduct all operations as may be required, for so long as necessary and required by Lessee for purposes as herein provided. If, at the expiration of the primary term, Lessee is disposing and/or injecting into any subsurface strata underlying the Leasehold or lands pooled or unitized therewith or conducting operations for such disposal and/or injection and this lease is not being maintained by any other provision contained herein and no other payments are being made to Lessor as prescribed hereunder, Lessee shall pay to Lessor the sum of one thousand dollars (\$1,000.00) per year, proportionately reduced to Lessor's ownership in the Leasehold and surface as it bears to the full and undivided estate, beginning on the next anniversary date of this Lease and said payment and term of this Lease, insofar as to terms and provisions contained herein applicable to disposal and injection wells, shall continue annually thereafter for so long as necessary and required by Lessee for purposes as herein provided and until all disposal and/or injection wells located on the Leasehold or on lands pooled or unitized therewith are plugged and abandoned. Lessor agrees that if required by Lessee, regulatory agency or governmental authority having jurisdiction, Lessor shall enter a separate Disposal and Injection Agreement with Lessee for the purposes as herein provided.

TITLE AND INTERESTS. Lessor hereby warrants generally and agrees to defend title to the Leasehold and covenants that Lessee shall have quiet enjoyment hereunder and shall have benefit of the doctrine of after acquired title. Should any person having title to the Leasehold fail to execute this Lease, the Lease shall nevertheless be binding upon all persons who do execute it as Lessor.

LEASE DEVELOPMENT. There is no implied covenant to drill, prevent drainage, further develop or market production within the primary term or any extension of term of this Lease. There shall be no Leasehold forfeiture, termination, expiration or cancellation for failure to comply with said implied covenants. Provisions herein, including, but not limited to the prescribed payments, constitute full compensation for the privileges herein granted.

COVENANTS. This Lease and its expressed or implied covenants shall not be subject to termination, forfeiture of rights, or damages due to failure to comply with obligations if compliance is effectively prevented by federal, state, or local law, regulation, or decree, or the acts of God and/or third parties over whom Lessee has no control.

RIGHT OF FIRST REFUSAL. If at any time within the primary term of this lease or any continuation or extension thereof, Lessor receives any bona fide offer, acceptable to Lessor, to grant an additional lease which will take effect upon expiration of this Lease ("Top Lease") covering all or part of the Leasehold, Lessee shall have the continuing option by meeting any such offer to acquire a Top Lease on equivalent terms and conditions. Any offer must be in writing and must set forth the proposed Lessee's name, bonus consideration and royalty consideration to be paid for such Top Lease, and include a copy of the lease form to be utilized reflecting all pertinent and relevant terms and conditions of the Top Lease. Lessee shall have fifteen (15) days after receipt from Lessor of a complete copy of any such offer to advise Lessor in writing of its election to enter into an oil and gas lease with Lessor on equivalent terms and conditions. If Lessee fails to notify Lessor within the aforesaid fifteen (15) day period of its election to meet any such bona fide offer, Lessor shall have the right to accept said offer. Any Top Lease granted by Lessor in violation of this provision shall be null and void.

ARBITRATION. In the event of a disagreement between Lessor and Lessee concerning this Lease or the associated Order of Payment, performance thereunder, or damages caused by Lessee's operations, the resolution of all such disputes shall be determined by arbitration in accordance with the rules of the American Arbitration Association. Arbitration shall be the exclusive remedy and cover all disputes, including but not limited to, the formation, execution, validity and performance of the Lease and Order of Payment. All fees and costs associated with the arbitration shall be borne equally by Lessor and Lessee.

ENTIRE CONTRACT. The entire agreement between Lessor and Lessee is embodied herein and in the associated Order of Payment (if any). No oral warranties, representations, or promises have been made or relied upon by either party as an inducement to or modification of this Lease.

TITLE CURATIVE. Lessor agrees to execute consents, affidavits, ratifications, amendments, permits and other instruments as Lessee may request to carry out the purpose of this lease, including without limitation, applications necessary to obtain driveway entrance permits, and approvals of drilling or production units which Lessee may seek to form pursuant to governmental authorization.

SURRENDER. Lessee, at any time, and from time to time, may surrender and cancel this Lease as to all or any part of the Leasehold by recording a Surrender of Lease and thereupon this Lease, and the rights and obligations of the parties hereunder, shall terminate as to the part so surrendered; provided, however, that upon each surrender as to any part of the Leasehold, Lessee shall have reasonable and convenient easements for then existing wells, pipelines, pole lines, roadways and other facilities on the lands surrendered.

SUCCESSORS. All rights, duties, and liabilities herein benefit and bind Lessor and Lessee and their heirs, successors, and assigns.

FORCE MAJEURE. All terms, provisions and express or implied covenants of this Lease shall be subject to all applicable laws, rules, regulations and orders. If Lessee is unable, in its sole discretion, to effectively accomplish the purposes and objectives of this Lease or to exercise its rights hereunder because of such laws, rules, regulations or orders, or if drilling, reworking, production or other operations hereunder, or Lessee's fulfillment of its obligations hereunder are prevented or delayed by such laws, rules, regulations or orders, or by inability to obtain necessary permits, equipment, services, material, water, electricity, fuel, access or easements, or by fire, flood, adverse weather conditions, war, sabotage, rebellion, insurrection, riot, strike or labor disputes, or by inability to obtain a satisfactory market for production or failure of purchasers or carriers to take or transport such production, or by any other cause not reasonably within Lessee's control, then this Lease shall not terminate, in whole or in part, because of such inability, prevention or delay, and, at Lessee's option, the period of such inability, prevention or delay shall be added to the term hereof. Lessee shall not be liable in damages for breach of any express or implied covenants of this Lease for failure to comply therewith, if compliance is prevented by, or failure is the result of any applicable laws, rules, regulations or orders or operation of force majeure. If this Lease is the subject matter of any lawsuit, arbitration proceeding, or other action, then this Lease shall not expire during the pendency of such lawsuit, arbitration proceeding, or other action, or any appeal thereof, and the period of the lawsuit, arbitration proceeding, or other action, and any appeal thereof, shall be added to the term of this Lease.

SEVERABILITY. This Lease is intended to comply with all applicable laws, rules, regulations, ordinances and governmental orders. If any provision of this Lease is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions shall survive and continue in full force and effect to the maximum extent allowed by law. If a court of competent jurisdiction holds any provision of this Lease invalid, void, or unenforceable under applicable law, the court shall give the provision the greatest effect possible under the law and modify the provision so as to conform to applicable law if that can be done in a manner which does not frustrate the purpose of this Lease.

COUNTERPARTS. This Lease may be executed in one or more counterparts, each of which will be deemed to be an original copy of this Lease and all of which, when taken together, will be deemed to constitute one and the same agreement.

**See Exhibit "B" attached hereto and by reference made a part hereof for additional provisions.

IN WITNESS WHEREOF, Lessor hereunto sets hand and seal.

LESSOR
Notary Public, State of West Virginia
Phyllis P. Marker
110 View Drive
Wellsburg, WV 26070
My commission expires: February 9, 2023

Witness [Signature]

Ralph G. Johnston (Seal)
Ralph G. Johnston

Witness _____

Tracy A. Johnston (Seal)
Tracy A. Johnston

Witness _____

Official Seal
Notary Public, State of West Virginia
Phyllis P. Marker
110 View Drive
Wellsburg, WV 26070
My commission expires: February 9, 2023

Witness _____

Document prepared by: SWN Production Company, L.L.C., 1000 Energy Drive, Spring, Texas 77389.

ACKNOWLEDGMENT

STATE OF) WEST VIRGINIA
) SS:
COUNTY OF) BROOKE

On this the _____ day of _____, 2016, before me, the undersigned officer, personally appeared Ralph G. Johnston and Tracy A. Johnston, husband and wife known to me (or satisfactorily proven) to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged that he/she/they executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission Expires: FEBRUARY 9 2023
Signature/Notary Public: [Signature]
Name/Notary Public (print): Phyllis P. Marker

Exhibit "A"

Addendum to Oil and Gas Lease dated May 2, 2017, from Ralph G. Johnston and Tracy A. Johnston, husband and wife, of 1907 McCord Hill Rd., Wellsburg, WV 26070, Lessor to SWN Production Company, LLC, as Lessee, covering 31.623 acres, more or less, situated in Buffalo District, Brooke County, West Virginia:

Leasehold Description:

DESCRIPTION. The Leasehold is located in the District of Buffalo, in the County of Brooke, in the State of West Virginia, and described as follows:

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0130-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0139-0000, 03-B32-0137-0000, 0137-0001;
On the East by lands of 03-B32-0129-0000;
On the South by lands of 03-B32-0129-0000, 03-B37-0043-0000;
On the West by lands of 03-B37-0042-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0130-0001
On the North by lands of: 03-B32-0130-0000;
On the East by lands of 03-B32-0130-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0138-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0135-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0133-0000;
On the East by lands of 03-B32-0132-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0137-0001;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0137-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0136-0000;
On the East by lands of 03-B32-0137-0001;
On the South by lands of 03-B32-0138-0000;
On the West by lands of 03-B32-0136-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0137-0001
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0136-0000;
On the East by lands of 03-B32-0135-0000, 03-B32-0130-0000;
On the South by lands of 03-B32-0130-0000;
On the West by lands of 03-B32-0137-0000;

Property Tax Parcel Identification Number: Tax Parcel I.D. 03-B32-0138-0000
and is bounded formerly or currently as follows:
On the North by lands of: 03-B32-0137-0000;
On the East by lands of 03-B32-0130-0001;
On the South by lands of 03-B32-0130-0001;
On the West by lands of 03-B32-0136-0000;

and being a portion of said lands acquired from Lillie Anna Johnston by virtue of Intestate Succession described in Affidavit of Death and Heirship NOT YET RECORDED in Brooke County, and described for the purposes of this agreement as containing a total of 31.623 Leasehold acres, whether actually more or less, and including contiguous lands owned by Lessor;

Exhibit "B"

Addendum to Oil and Gas Lease dated May 2, 2017, from Ralph G. Johnston and Tracy A. Johnston, husband and wife, of 1907 McCord Hill Rd., Wellsburg, WV 26070, Lessor to SWN Production Company, LLC, as Lessee, covering 31.623 acres, more or less, situated in Buffalo District, Brooke County, West Virginia:

Additional Provisions:

ROYALTY-All references made in Paragraph (B)1 and 2 of the section entitled "PAYMENT TO LESSOR" as to one-eighth (1/8) royalty shall be amended to eighteen percent (18%)

HOLD HARMLESS - Lessee agrees it will protect, save, and keep Lessor harmless and indemnified against any penalty or damage or charges imposed for any violation of any laws or ordinances, whether occasioned by the neglect of Lessee or those holding under Lessee, and Lessee will at all times protect, indemnify and save and keep harmless the Lessor against and from any and all loss, damage or expense, including any injury to any person or property whomsoever or whatsoever arising out of or caused by any negligence of the Lessee or those holding under Lessee.

NO STORAGE RIGHTS - Notwithstanding anything herein contained to the contrary, Lessee agrees the herein described Leasehold shall not be used for the purpose of gas storage as defined by the Federal Energy Regulatory Commission. Any reference to gas storage contained in this Lease is hereby deleted. If Lessor wishes to enter into an agreement regarding gas storage using the Leasehold with a third party, Lessor shall first give Lessee written notice of the identity of the third party, the price or the consideration for which the third party is prepared to offer, the effective date and closing date of the transaction and any other information respecting the transaction which Lessee believes would be material to the exercise of the offering. Lessor does hereby grant Lessee the first option and right to purchase the gas storage rights by matching and tendering to the Lessor any third party's offering within 30 days of receipt of notice from Lessor.

GROSS PROCEEDS - Royalties shall be paid on all Oil and Gas Substances produced and sold without deductions for the costs of producing, gathering, storing, separating, treating, dehydrating, and compressing, transporting, or otherwise making the oil and/or gas produced from the leased premises ready for sale or use. All oil and/or gas royalty shall be delivered free of cost into the tank or pipeline (for oil) and into the pipeline (for gas), with the exception of Lessor's prorated share of taxes, measured by volume, on the oil and/or gas royalty. However, any such costs which result in enhancing the value of the marketable oil, gas or other products to receive a better price may be deducted from the Lessor's share of production so long as such costs are based on Lessee's actual cost of enhancement. However, in no event shall Lessor receive royalty on a price that is less than, or more than, the price received by Lessee.

DISPOSAL WELLS - Lessee is not granted any right whatsoever to use the Leasehold, or any portion thereof, for construction and/or operation of any disposal or injection well.

NO WARRANTY OF TITLE - It is understood that Lessor warrants title to said property only with respect that the title is good to the best of Lessor's knowledge and Lessee agrees that no claims will be made against Lessor pertaining to warranty of title.

Signed for Identification:

Ralph G. Johnston
Ralph G. Johnston

Tracy A. Johnston
Tracy A. Johnston

**Horizontal Natural Gas Well Work Permit
Application Notice By Publication**

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-10(e), prior to filing an application for a permit for a horizontal well the applicant shall publish in the county in which the well is located or is proposed to be located a Class II legal advertisement.

Paper: Brooke County Review
55-7th Street Townsquare
Wellsburg, WV 26070

Public Notice Date: April 7, 2017 & April 14, 2017

The following applicant intends to apply for a horizontal natural gas well work permit which disturbs three acres or more of surface excluding pipelines, gathering lines and roads or utilizes more than two hundred ten thousand gallons of water in any thirty day period.

Applicant: SWN Production Co., LLC

Well Number: Robert Bone BRK 210H

**Address: P.O. Box 6070
Charleston, WV 25362**

Business Conducted: Natural gas production.

Location:

State: West Virginia
County: Brooke
District: Buffalo
Quadrangle: Bethany
UTM NAD83 Northing: 4452139
UTM NAD83 Easting: 533827
Watershed: Buffalo Creek

Any interested person may submit written comments or request a copy of the proposed permit application by emailing dep.oogcomments@wv.gov, sending a letter to Permit Review, Office of Oil and Gas, 601 57th Street, SE, Charleston, WV 25304, or calling 304-926-0450. Emailed or written comments must reference the county, well number, and operator and be received by May 14, 2017.

Copies of the proposed permit application may be reviewed at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450). Full copies of the proposed permit application will cost \$15.00, whether mailed or obtained at DEP headquarters.

For information related to horizontal drilling, and all horizontal well applications filed in this state, visit www.dep.wv.gov/oil-and-gas/pages/default.aspx

RECEIVED
Office of Oil and Gas
APR 24 2017
WV Department of
Environmental Protection

9-00201

PUBLIC NOTICES

CITY OF FOLLANSBEE 2017-2018 BUDGETED REVENUES

Table with columns: REVENUE SOURCE, AMOUNT, % of Total. Includes categories like PROPERTY TAX, SALES TAX, POLICE, etc.

CITY OF FOLLANSBEE 2017-2018 BUDGETED EXPENSES

Table with columns: DEPARTMENT, AMOUNT, % of Total. Includes categories like MAYOR, COUNCIL, CITY MANAGER, POLICE, FIRE, etc.

2017-2018 Coal Severance

Table with columns: Description, Amount. Includes Unassigned balance, Coal Severance Tax, Interest, etc.

Horizontal Natural Gas Well Work Permit Application Notice By Publication

Notice is hereby given:

Pursuant to West Virginia Code § 22-26-10(a), prior to filing an application for a permit for a horizontal well...

Public Notice Date: April 7, 2017 & April 14, 2017

The following applicant intends to apply for a horizontal natural gas well work permit which disturbs three acres or more of surface...

Applicant: SWN Production Co., LLC Well Number: Robert Drake DRK 21011

Business Conducted: Natural gas production

Location: State: West Virginia County: Brooke District: Buffalo Quadrangle: Sully UTM 14Q82 Northing: 4982341

Any interested person may submit written comments or request a copy of the proposed permit application by emailing...

BCR 0407 - 041417



VILLAGE OF BEECH BOTTOM LEVEL ESTIMATE - BUDGET ACKNOWLEDGMENT

STATE OF WEST VIRGINIA In accordance with Code § 18A-14, an amended, the Council prescribes to make an estimate of the amount necessary to be raised by levies for the current fiscal year...

The amount for and the amount that will increase for the total levies for every item during the fiscal year INCLUDING THE LEVY OF TAXES is as follows:

Table with columns: Description, Amount. Includes Video Letters, Miscellaneous, TOTAL ESTIMATED FIVE (5) GENERAL FUND, etc.

Table with columns: Description, Amount. Includes EX-MUNICIPAL LAWYERS SERVICES, Mayor's Office, City Council, etc.

VILLAGE OF BEECH BOTTOM Regular Council Expense Levy FISCAL YEAR JULY 1, 2017 - JUNE 30, 2018 Certificate of Valuation

Table with columns: CLASS, Annual Value, Levy Rate, Tax Level. Includes Personal Property, Total Class 1, etc.

Levy Information: Administration & Coordination Services, Info Tech Services, etc.

2017 Projected Property Tax Calculation

Assessment Value: \$1,270,000. \$4 Assessed to be Raised by Levy of Property Taxes

COUNTY OF BROOKE

MUNICIPALITY OF BEECH BOTTOM

I, David L. Zorn, Recording Officer of said municipality, do hereby certify that the foregoing is true and correct to the best of my knowledge and belief as of the date hereof.

David L. Zorn, Recording Officer

ADVERTISEMENT FOR BIDS

Bids will be received at the office of the Board of Education of the County of Brooke, West Virginia, for the following:

VARIOUS ASPHALT AND CONCRETE PROJECTS

Winners may submit copies of the specifications and forms of proposal together with any further information needed from the office of the Director of Facilities, Maintenance and Technology...

Please submit your proposal to Mr. Rob Robinson, Brooke County Board of Education, Director of Facilities, Maintenance and Technology, 1201 Pleasant Avenue, Weirsdale, WV 26070...

The Board of Education reserves the right to reject any or all bids to avoid the contract if other than the low bidder to accept any and all alterations, to make irregularities and/or informatics, and in general to make the award in any manner deemed by it, in its sole discretion to be in the best interest of Brooke County Schools.

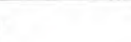
THE BOARD OF EDUCATION OF THE COUNTY OF BROOKE, WEST VIRGINIA

Shirley A. Parsons, State Superintendent

BCR 0407 - 041417

STORAGE UNITS R/J ENTERPRISES

Warehouse & Outside Units (304) 975-2053 (304) 794-9211



BROOKE COUNTY COMMISSION

NOTICE OF ADMINISTRATION AND NOTICE TO CREDITORS AND BENEFICIARIES

The administration of the estates of the following deceased is pending in the Clerk of the County Commission of Brooke County, 201 Courthouse Square, Weirsdale, WV 26070.

Any interested person objecting to the qualifications of the personal representative or the venue or jurisdiction of the court, shall file notice of an objection with the County Commission within SIXTY (60) days after the date of the first publication of this notice...

Any person seeking to appoint or establish a will trust shall file a petition in accordance with the provisions of article two or article three-a of Chapter 44 of the West Virginia Code.

Notice is hereby given that settlement of the estate of the following named decedents will proceed without reference to a Fiduciary Commission unless within SIXTY (60) days from the first publication of this notice such reference is requested by a party in interest or an unpaid creditor files a claim and good cause is shown to support reference to a Fiduciary Commission.

- DARLENE KAY SIMS-ESTATE, CATRIK CROSSWELL, ADMINISTRATRIX, 100 LEXINGTON CT., WEIRSDALE, WV 26072; SHARON N. BODRARD, ATTORNEY, 3112 WEST ST., WEIRSDALE, WV 26072; CARL LAWYER-ESTATE, WILLIAM LAWYER, ADMINISTRATOR, 1629 BOYD ROAD, COLLETSVILLE, WV 26038; MARY JANE KIRKPATRICK-ESTATE, MRS. EDWARD KEMP, JR., EXECUTOR, P.O. BOX 214, SETHANY, WV 26032; DAVID WILLIAMS, ATTORNEY, 3200 MAIN STREET, WEIRSDALE, WV 26072; HELEN R. BUICK-ESTATE, LOUIS W. BUICK, III AS LESSEE, W. BUCK, III, EXECUTOR, 403 GARDENVIEW DR., WINDSOR HEIGHTS, WV 26072; JAMES H. JONES, III-ESTATE, JAMES H. JONES, JR., EXECUTOR, 4947 STATE ROUTE 213, HAMMONDSVILLE, OH 43033; JASON ANDREW JOHN-ESTATE, MICHAEL C. WATKINS, ADMINISTRATOR, 714 GOTTI CREEK, WINDSOR HEIGHTS, WV 26072; JAMES HEEGAN-ESTATE, NEWMAN MICHAEL KEGGAN, EXECUTOR, 8 CHIMBORNE PLACE, POTTSVILLE, GREEN, BUCKE HPY ZWO, ENOLA, MD, MARCO CHERNENKO, ATTORNEY, P.O. BOX 111, WELLSBURG, WV 26070.

Sylvia J. Benzo, Brooke County Clerk; Kathryn L. Snyder, Deputy Clerk.

BCR 0407 - 041417

Horizontal Natural Gas Well Work Permit Application Notice By Publication

Notice is hereby given:

Pursuant to West Virginia Code § 22-26-10(a), prior to filing an application for a permit for a horizontal well...

Applicant: SWN Production Co., LLC Well Number: Robert Drake DRK 21011

Business Conducted: Natural gas production

Location: State: West Virginia County: Brooke District: Buffalo Quadrangle: Sully UTM 14Q83 Northing: 4492136

Any interested person may submit written comments or request a copy of the proposed permit application by emailing...

For information related to horizontal drilling, and all horizontal well applications filed in this state, visit: www.wv.gov/oh-and-gas/permits/default.aspx

BCR 0407 - 041417



West Virginia Statewide Classified Network Reaching Readers Across West Virginia

Advertisement for West Virginia Statewide Classified Network. Includes text: 'STOP OVERPAYING FOR YOUR PRES...', 'HANDS ON THE RIVER MASSAGE...', 'SOCIAL SECURITY BENEFITS...', 'GOT KNEE PAIN? Back Pain? Shoulder Pain? Get a pain-relieving brace...'

Advertisement for West Virginia Press. Includes text: 'Place YOUR statewide ad today any of three easy ways Call This Newspaper - Call 1-800-235-6881 Visit www.wvpress.org'

CLASSIFIED ADS

SALES

FOLLANSBEE UNITED METHODIST RUMMAGE SALE Thursday, April 20, 9 a.m.-5 p.m. and Friday, April 21, 9 a.m.-3 p.m. Sale will be held at the Follansbee Park Community House. 04/14/17

NOTICES

FOSTER PARENTS NEEDED in your area. Make a difference in the lives of youth in your community. Become a foster parent today! Please call the National Youth Advocate Program. 304.366.5632, or go to www.nyap.org for more information. 05/23/17

FOR RENT

2 BEDROOM HOUSES in Beech Bottom \$500 per month. Call 304.934.5864 for more information.

FOR SALE

2005 LINCOLN TOWNCAR, Signature Series, 4-door, V8, Tan in color, 60,000 miles, \$6,500. Call 304.737.5550. 04/14/17. SOLID WOOD PINE GRIB, good condition, \$50. Call 304.737.3560. 04/14/17. ALL WEATHER SECURITY OFFICER JACKET, Navy blue, all weather, size XL. Navy blue and white security officer polo shirts, size XL. All for \$50. 304.737.5550. 04/14/17. MISC ITEMS, Dining room set, bedroom suit and odds and ends. Like new condition. Cash only. Good price. 901 Jefferson St., Follansbee. Call 304.527.0776. 04/21/17

EMPLOYMENT

The Brooke County Assessor's Office is accepting applications for a part time clerical position. Experience in data entry, computer and office equipment is preferred. Applications are being accepted until April 21, 2017 at the Brooke County Assessor's Office, 200 Courthouse Square, Weirsdale, WV 26070. 04/14/17

Paper: Brooke County Review 55-75 Steel Townsquare Weirsdale, WV 26070

Public Notice Date: April 7, 2017 & April 14, 2017

The following applicant intends to apply for a horizontal natural gas well work permit which disturbs three acres or more of surface excluding pipelines, gathering lines and roads or utilizes more than two hundred ten thousand gallons of water in any thirty day period.

Applicant: SWN Production Co., LLC Well Number: Robert Drake DRK 21011

Business Conducted: Natural gas production

Location: State: West Virginia County: Brooke District: Buffalo Quadrangle: Sully UTM 14Q83 Northing: 4492136

Any interested person may submit written comments or request a copy of the proposed permit application by emailing...

For information related to horizontal drilling, and all horizontal well applications filed in this state, visit: www.wv.gov/oh-and-gas/permits/default.aspx

BCR 0407 - 041417

RECEIVED

OFFICE OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

WEST VIRGINIA Press

**STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE CERTIFICATION**

Date of Notice Certification: 4/24/17

API No. 47- 009 - 00201
Operator's Well No. Robert Bone BRK 210H
Well Pad Name: Robert Bone BRK PAD

Notice has been given:

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State: <u>WV</u>	UTM NAD 83	Easting: <u>533827.70</u>
County: <u>009-Brooke</u>		Northing: <u>4452139.91</u>
District: <u>Buffalo</u>	Public Road Access: <u>Hukill Run Road</u>	
Quadrangle: <u>Bethany</u>	Generally used farm name: <u>Robert Bone</u>	
Watershed: <u>Buffalo Creek</u>		

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 100px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
--	---

Required Attachments:

The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit or personal service, the return receipt card or other postal receipt for certified mailing.

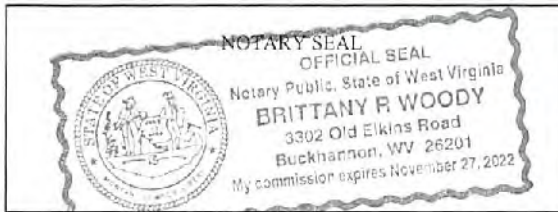
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WV Department of
Environmental Protection

Certification of Notice is hereby given:

THEREFORE, I _____, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator: SWN Production Co., LLC
By: Dee Southall
Its: Regulatory Supervisor
Telephone: 832-796-1610

Address: P.O. Box 1300
Jane Lew, WV 26378
Facsimile: 304-471-2497
Email: Dee_Southall@swn.com



Subscribed and sworn before me this 3rd day of April 2017.
Brittany R. Woody Notary Public
My Commission Expires 11/27/22

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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WW-6A
(9-13)

API NO. 47- 009 - 00301
OPERATOR WELL NO. Robert Bone BRK 210H
Well Pad Name: Robert Bone BRK PAD

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.

Date of Notice: 4/21/17 Date Permit Application Filed: 4/21/17

Notice of:

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice WSSP Notice E&S Plan Notice Well Plat Notice is hereby provided to:

SURFACE OWNER(s)
Name: Robert O. Bone
Address: 511 Paw Paw Ridge Road
Wellsburg, WV 26070
Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: See Attachment #2
Address: _____

COAL OPERATOR
Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: _____
Address: _____
Name: _____
Address: _____

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: See Attachment #1
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)
Name: _____
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: _____
Address: _____

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APR 24 2017

*Please attach additional forms if necessary
WV Department of Environmental Protection

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

This Notice Shall Include:

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Location Restrictions

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referred in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

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examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

Water Well Testing:

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

Water Testing Laboratories:

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

Written Comment:

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

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Time Limits and Methods for Filing Comments.

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

Comment Requirements

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

Permit Denial or Condition

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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Environmental Protection

WW-6A
(8-13)

API NO. 47-~~009~~ - 00201
OPERATOR WELL NO. Robert Bone BRK 21011
Well Pad Name: Robert Bone BRK PAD

Notice is hereby given by:

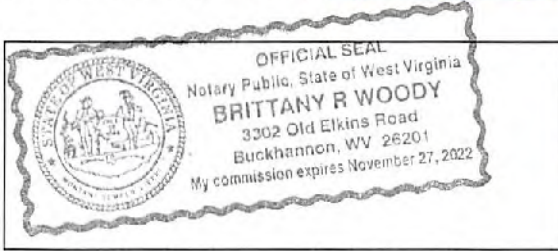
Well Operator: SWN Production Co., LLC
Telephone: 632-796-1610
Email: Dee_Southall@swn.com



Address: P.O. Box 1300
Jane Law, WV 26378
Facsimile: 304-471-2497

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.



Subscribed and sworn before me this 3rd day of April 2017
Brittany R Woody Notary Public
My Commission Expires 11/27/22

Attachment #1

Robert Bone BRK Pad - Water Purveyors w/in 1500'

Sources

Landowner

Address

~~Michael Aracich~~

1822 Hukill Run Road, Wellsburg, WV 26070 1 spring

~~Robert Bone~~

611 Paw Paw Ridge Lane, Wellsburg, WV 26070 1 spring/ 1 well

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Environmental Protection

9-00201

Attachment #2

Coal Owners:	Address:
Conrhein Coal Company C/O Leatherwood, Inc.	1000 Consol Energy Drive Canonsburg, PA 15317-6506
Consol Pennsylvania Coal Company, LLC C/O Leatherwood, Inc.	1000 Consol Energy Drive Canonsburg, PA 15317-6506
Reserve Coal Properties Company C/O Leatherwood, Inc.	1000 Consol Energy Drive Canonsburg, PA 15317-6506
Consolidation Coal Company C/O Leatherwood, Inc.	1000 Consol Energy Drive Canonsburg, PA 15317-6506
McElroy Coal Company C/O Leatherwood, Inc.	1000 Consol Energy Drive Canonsburg, PA 15317-6506
CNX Land Resources, Inc. C/O Leatherwood, Inc.	1000 Consol Energy Drive Canonsburg, PA 15317-6506

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9-00201

U.S. Postal Service
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee \$ _____

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage \$ _____

APR 24 2017
 Postmark Here

Robert O. Bone
 611 Paw Paw Ridge Lane
 Wellsburg, WV 26070

water / surface

U.S. Postal Service
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee \$ _____

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage \$ _____

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 Postmark Here

Michael Aracich
 1822 Hukill Run Road
 Wellsburg, WV 26070

water

U.S. Postal Service
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee \$ _____

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage \$ _____

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 Postmark Here

Comrheim Coal Company, Consol Pennsylvania Coal Company,
 Reserve Coal Company, Consolidation Coal Company,
 McElroy Coal Company, CNX Land Resources
 C/O Leatherwood, Inc.
 1000 Consol Energy Drive
 Canonsburg, PA 15317-6506

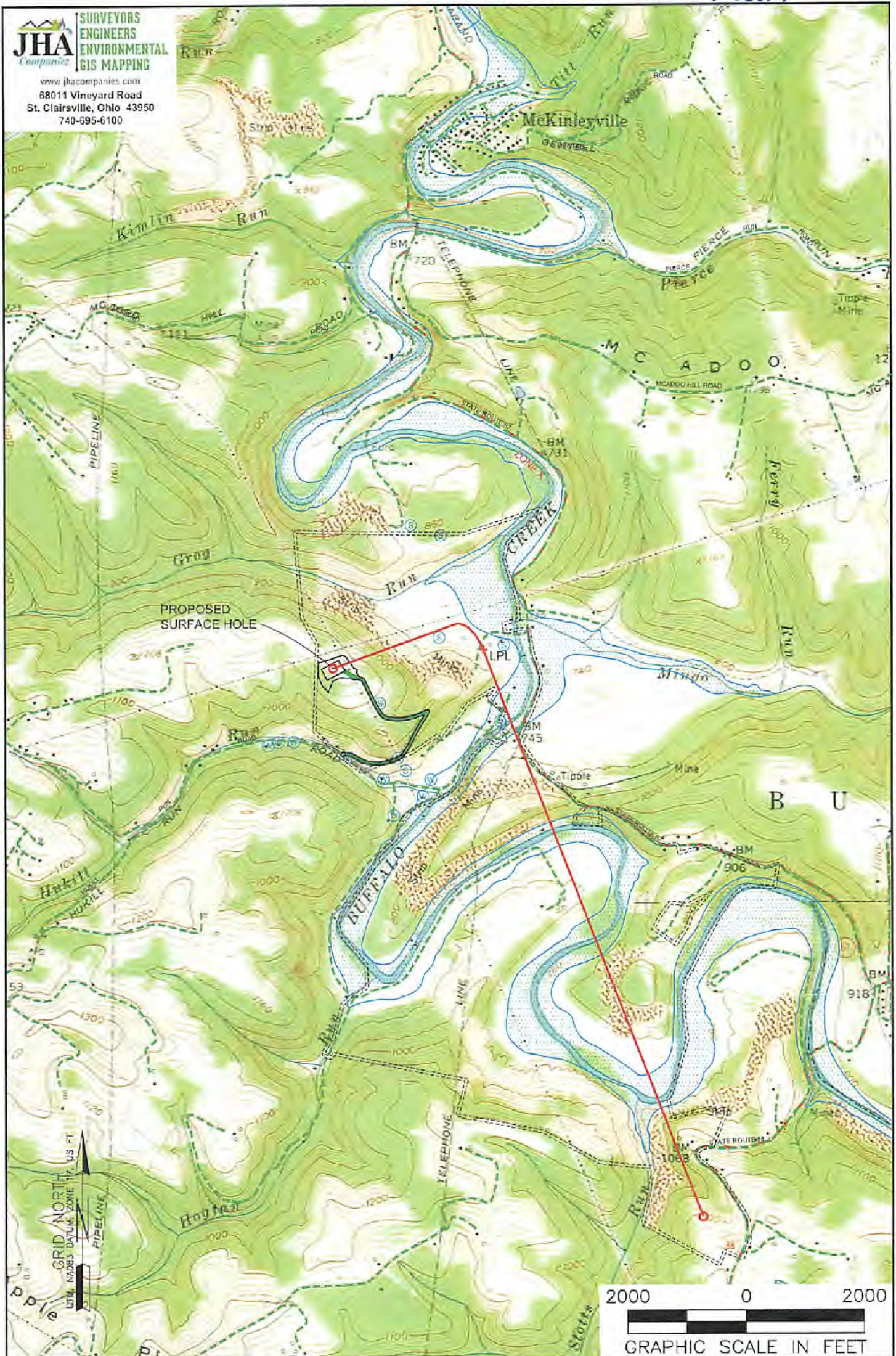
Coal

2016 2070 0001 1353 8999

2070 0001 1353 8999

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 WV Department of
 Environmental Protection

JHA SURVEYORS
 ENGINEERS
 ENVIRONMENTAL
 GIS MAPPING
 Companies
 www.jhacompanies.com
 68011 Vineyard Road
 St. Clairsville, Ohio 43950
 740-695-6100



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.

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:
 P.O. BOX 1300 JANE LEW, WV 26378

SURFACE OWNER:
 ROBERT BONE

WELL (FARM) NAME:
 ROBERT BONE BRK

COUNTY - CODE
 BROOKE - 009

USGS 7 1/2 QUADRANGLE MAP NAME
 BETHANY, WV

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 Office of Oil and Gas
 APR 24 2017

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least **TEN (10)** days prior to filling a permit application.

Date of Notice: 04/03/2017

Date Permit Application Filed: 4/11/17

Delivery method pursuant to West Virginia Code § 22-6A-16(b)

HAND DELIVERY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):

Name: Robert Bone
Address: 611 Paw Paw Ridge Ln
Wellsburg, WV 26070

Name: _____
Address: _____

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	<u>West Virginia</u>	UTM NAD 83 Easting:	<u>533,827.70</u>
County:	<u>Brooke</u>	Northing:	<u>4,452,139.91</u>
District:	<u>Buffalo</u>	Public Road Access:	<u>Hukill Run Road</u>
Quadrangle:	<u>Bethany, WV</u>	Generally used farm name:	<u>Robert Bone BRK</u>
Watershed:	<u>Buffalo Creek</u>		

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator: SWN Production Company, LLC
Address: PO Box 1300, 179 Innovation Drive
Jane Lew, WV 26378
Telephone: 304-517-6603
Email: Michael_Yates@swn.com
Facsimile: 304-884-1691

Authorized Representative: Mike Yates
Address: PO Box 1300, 179 Innovation Drive
Jane Lew, WV 26378
Telephone: 304-517-6603
Email: Michael_Yates@swn.com
Facsimile: 304-884-1691

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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APR 24 2017
WV Department of
Environmental Protection

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U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
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For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

7014 2120 0000 7243 6524

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$



Sent To
 Street & Apt. No.,
 or PO Box No. Robert Bone
 611 Paw Paw Ridge Ln
 City, State, ZIP+4 Wellsburg, WV 26070

PS Form 3800, July 2014

See Reverse for Instructions

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 WV Department of
 Environmental Protection

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PS Form 3800, July 2014

See Reverse for Instructions

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 APR 24 2017
 WV Department of
 Environmental Protection



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110
 Charleston, West Virginia 25305-0430 • (304) 558-3505

Jim Justice
 Governor

Thomas J. Smith, P. E.
 Secretary of Transportation/
 Commissioner of Highways

April 5, 2017

James A. Martin, Chief
 Office of Oil and Gas
 Department of Environmental Protection
 601 57th Street, SE
 Charleston, WV 25304

Subject: DOH Permit for the Robert Bone Pad, Brooke County

Robert Bone BRK 210H

Dear Mr. Martin,

The West Virginia Division of Highways has transferred Permit #06-2011-0364 for the subject site to Southwestern Energy for access to the State Road for the well site located off of Brooke County Route 30 SLS.

The operator has signed an OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

Gary K. Clayton, P.E.
 Regional Maintenance Engineer
 Central Office Oil & Gas Coordinator
 Office of Oil and Gas

Cc: Brittany Woody
 Southwestern Energy
 CH, OM, D-6
 File

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 Environmental Protection

Product Name	Product Use	Chemical Name	CAS Number
EC6734A (Champion Technologies)	Biocide	Hydrogen Peroxide	7722-84-1
		Acetic Acid	64-19-7
		Peroxyacetic Acid	79-21-0
GYPTRON T-390 (Champion Technologies)	Scale Inhibitor	Methanol	67-56-1
		Nonylphenol Ethoxylate	Proprietary
Bactron K-139 (Champion Technologies)	Biocide	Glutaraldehyde	111-30-8
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
		Ethanol	64-17-5
Bactron K-219 (Champion Technologies)	Biocide	Methanol	67-56-1
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
A264 (Schlumberger)	Corrosion Inhibitor	Methanol	67-56-1
		Aliphatic Acids	Proprietary
		Prop-2-yn-1-ol	107-19-7
		Aliphatic Alcohols, Ethoxylated #1	Proprietary
Myacide GA 25 (Schlumberger)	Biocide	Water	7732-18-5
		Glutaral	111-30-8
Scale Inhibitor B317 (Schlumberger)	Scale Inhibitor	Trisodium Ortho Phosphate	7601-54-9
		Ethane-1,2-diol	107-21-1
H215 (Schlumberger)	Hydrochloric Acid	Hydrochloric Acid	7647-01-0
J218 (Schlumberger)	Breaker	Diammonium Peroxidisulphate	7727-54-0
EB-Clean* J475 (Schlumberger)	Breaker	Diammonium Peroxidisulphate	7727-54-0
Water Gelling Agent J580 (Schlumberger)	Gel	Carbohydrate Polymer	Proprietary
Friction Reducer J609W (Schlumberger)	Friction Reducer	Ammonium Sulfate	7783-20-2
		Urea	57-13-6
Crosslinker J610 (Schlumberger)	Crosslinker	Potassium Hydroxide	1310-58-3
		Aliphatic Polyol	Proprietary
Iron Stabilizer L58 (Schlumberger)	Iron Stabilizer	Sodium Erythorbate	6381-77-7
40/70-Mesh Sand S012 (Schlumberger)	Sand	Crystalline Silica	14808-60-7
Sand S100 (Schlumberger)	Sand	Crystalline Silica	14808-60-7
EC6486A (Nalco Champion)	Scale Inhibitor	Amine Triphosphate	Proprietary
		Ethylene Glycol	107-21-1
SSA-2 (Halliburton)	Sand	Crystalline Silica	14808-60-7
FR-76 (Halliburton)	Friction Reducer	Inorganic salt	64742-47-8
		Hydrotreated light petroleum distillate	Proprietary
LCA-1 (Halliburton)		Hydrotreated light petroleum distillate	Proprietary
SP BREAKER (Halliburton)	Breaker	Sodium Persulfate	7775-27-1

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Office of Oil and Gas
APR 24 2014
Department of
Environmental Protection

9-002014

Product Name	Product Use	Chemical Name	CAS Number
HAI-150E (Halliburton)	Corrosion Inhibitor	Methanol	NA
		Aliphatic Acids	
		Prop-2-yn-1-ol	
		Aliphatic Alcohols, Ethoxylated #1	
Diesel Fuel (Halliburton)		Diesel Fuel	68476-34-6
Hydrochloric Acid 10-30% (Halliburton)		Hydrochloric Acid	7647-01-0
WG-36 Gelling Agent (Halliburton)	Gel	Polysaccharide	9000-30-0
BC-140C (Halliburton)	Crosslinker		NA

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WV Department of
Environmental Protection

OPERATOR: SWN Production Co., LLC WELL NO: Robert Bone BRK 210H

PAD NAME: Robert Bone BRK PAD

REVIEWED BY: _____ SIGNATURE: _____

WELL RESTRICTIONS CHECKLIST

HORIZONTAL 6A WELL

**Pad Built 9/22/11*

Well Restrictions

At Least 100 Feet from Pad and LOD (including any E&S Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland; OR

DEP Waiver and Permit Conditions

At Least 300 Feet from Pad and LOD (including any E&S Control Feature) to any Naturally Producing Trout Stream; OR

DEP Waiver and Permit Conditions

At Least 1000 Feet from Pad and LOD (including any E&S Control Feature) to any Groundwater Intake or Public Water Supply; OR

DEP Waiver and Permit Conditions

At Least 250 Feet from an Existing Water Well or Developed Spring to Well Being Drilled; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

At Least 625 Feet from an Occupied Dwelling Structure to Center of the Pad; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

At Least 625 Feet from Agricultural Buildings Larger than 2500 Square Feet to the Center of the Pad; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

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APR 24 2017

WV Department of
Environmental Protection

ROBERT BONE BRK PAD CONSTRUCTION AS-BUILT BUFFALO DISTRICT, BROOKE COUNTY, WV APRIL 2017

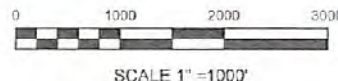


SHEET INDEX	
C-001	COVER SHEET
C-101	EVACUATION ROUTE / PREVAILING WIND
C-102	EVACUATION ROUTE / PREVAILING WIND
C-201	AS-BUILT OVERVIEW
C-301	AS-BUILT (SHEET 1)
C-302	AS-BUILT (SHEET 2)
C-303	AS-BUILT (SHEET 3)
C-304	AS-BUILT (SHEET 4)
C-401	CONSTRUCTION AS-BUILT ACCESS ROAD PROFILE

COORDINATES:
SITE ENTRANCE
 (NAD 83)
 LAT: 40.214996
 LONG: -80.601844
AT BONE PAD
 (NAD 83)
 LAT: 40.218911
 LONG: -80.601750
CENTER OF PAD
 (NAD 83)
 LAT: 40.218938
 LONG: -80.602417
GATHERING AREA
 (NAD 83)
 LAT: 40.215111
 LONG: -80.601799

EXISTING WELLS:
 BONE 3H
 (NAD 83)
 LAT: 40.219033
 LONG: -80.602342
PROPOSED WELLS:
 BONE 1H
 (NAD 83)
 LAT: 40.218912
 LONG: -80.602488
 BONE 5H
 (NAD 83)
 LAT: 40.218983
 LONG: -80.602310
 BONE 10H
 (NAD 83)
 LAT: 40.219014
 LONG: -80.602387
 BONE 205H
 (NAD 83)
 LAT: 40.218965
 LONG: -80.602354
 BONE 210H
 (NAD 83)
 LAT: 40.218996
 LONG: -80.602432
 BONE 405H
 (NAD 83)
 LAT: 40.218948
 LONG: -80.602399

REVISION	DATE



PROJECT LOCATION



WEST VIRGINIA 811
 CALL BEFORE YOU DIG! Dial 811 or 800.245.4848
www.wv811.com

WV Department of
 Environmental Protection
 Office of Oil and Gas
 APR 24 2017

LOD	
DESCRIPTION	ACRES
ROAD DISTURBED AREA	9.46
PAD DISTURBED AREA	6.68
TOTAL	16.14



**ROBERT BONE
COVER SHEET C-001
BUFFALO DISTRICT, BROOKE COUNTY, WV.**

DRAWN	DATE	CHECKED	DATE	APPROVED	DATE
JDK	04-03-17	DSK	04-03-17	JD	04-03-17

SUPPORTERS
ENGINEERS
ENVIRONMENTAL
GIS MAPPING

DRAWING: 2017-219 As-Built Plans 03-30-2017.dwg
www.jhacorp.com

9-00201

- LEGEND -

- ⊙ SPRING
- ⊕ WATER WELL

2,640' RADIUS

625' RADIUS

CENTER OF PAD

EVACUATION ROUTE

GATHERING AREA

HUKILL RUN

HUKILL RUN ROAD

DRIVEWAY

DRIVEWAY

LAZEAR RUN

BUFFALO CREEK

WV 67

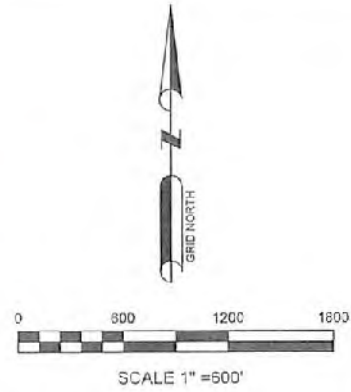
WV 67

BUFFALO CREEK

PRIVATE DRIVE

PRIVATE DRIVE

GROG RUN



COORDINATES:
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REVISION	DATE

- Notes:
- The existing gas lines shown here are based on the location of above ground gas line markers or paint marks. The location of the gas lines may vary and additional buried utilities may be present. Prior to any excavation, call West Virginia Miss Utility @ 811.
 - Elevation datum: NAVD 88
 - Horizontal Datum: NAD 83 (2011) West Virginia North Zone

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 APR 24 2017
 WV Department of
 Environmental Protection



SWN
Production Company, LLC

SWN ^{R+V+0}
Production Company™

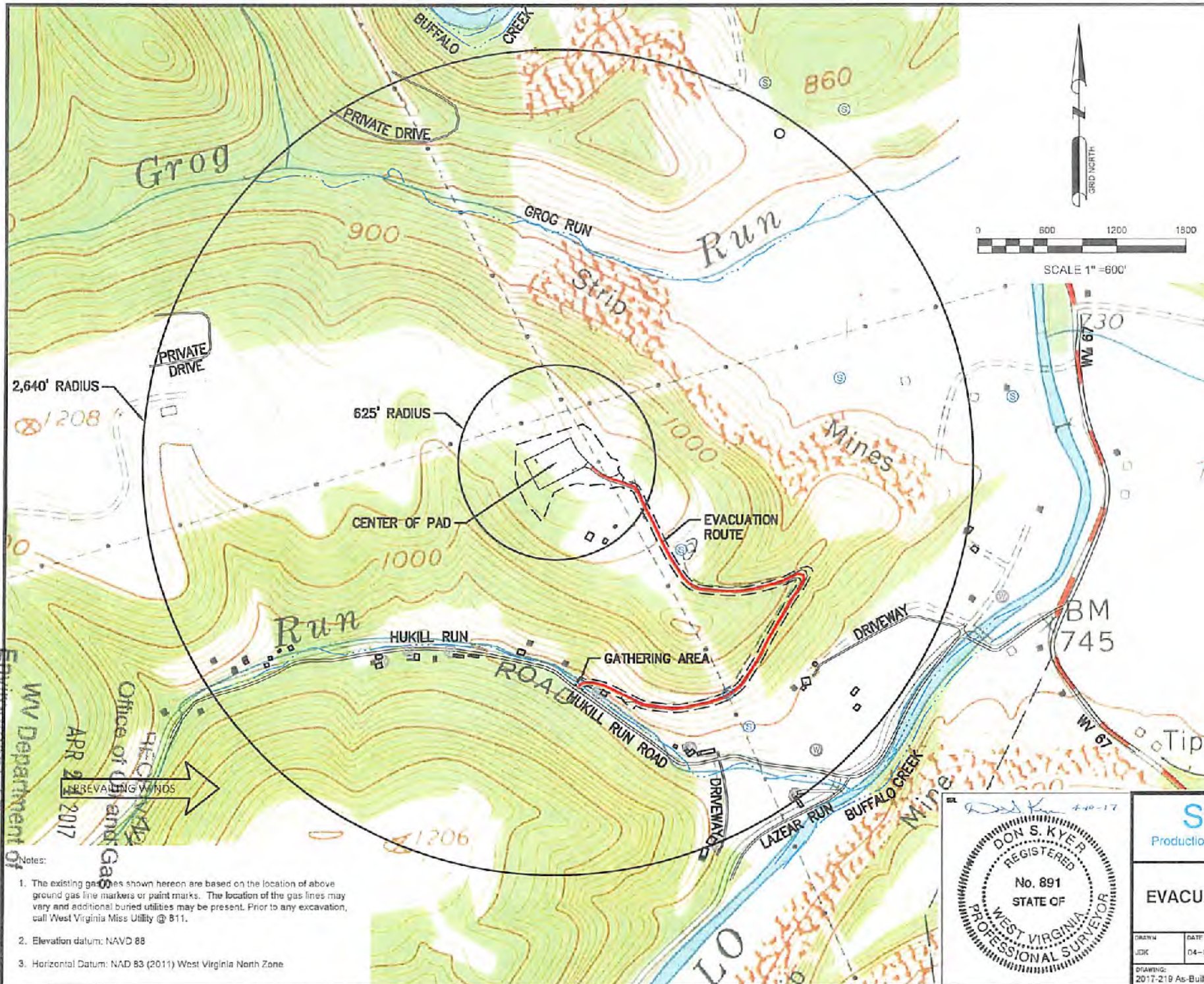
ROBERT BONE
EVACUATION ROUTE / PREVAILING WINDS C-101
 BUFFALO DISTRICT, BROOKE COUNTY, WV.

DRAWN	DATE	CHECKED	DATE	APPROVED	DATE
JDK	04-03-17	DSK	04-03-17	JD	04-03-17

DRAWING:
2017-219 As-Built Plans 03-30-2017.dwg

JHA
 SURVEYORS
 ENGINEERS
 ENVIRONMENTAL
 GIS MAPPING
www.jhacorp.com

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COORDINATES:
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- LEGEND -

⊙ SPRING

⊕ WATER WELL

REVISION	DATE

WV Department of Environmental Protection
 Office of Land and Gas
 APR 2 2017
 PREVAILING WINDS

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SWN
 Production Company, LLC

SWN *PA-V+D*
 Production Company™

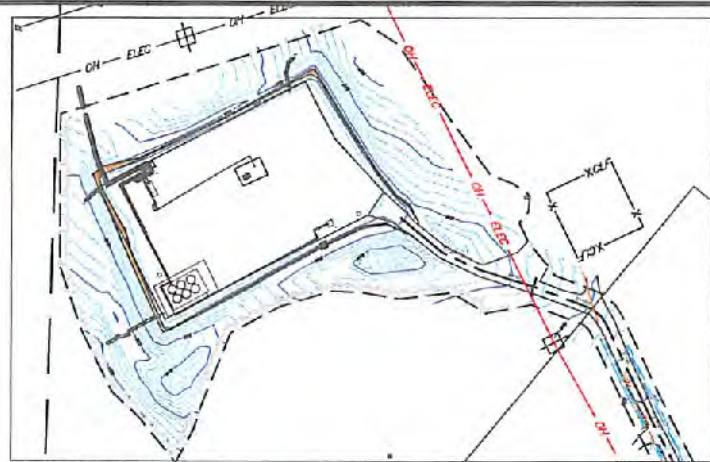
ROBERT BONE
EVACUATION ROUTE / PREVAILING WINDS C-102
 BUFFALO DISTRICT, BROOKE COUNTY, WV.

DRAWN	DATE	CHECKED	DATE	APPROVED	DATE
JDK	04-03-17	DSK	04-03-17	JU	04-03-17

DRAWING:
 2017-219 As-Built Plans C3-30-2017.dwg

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 SURVEYORS ENGINEERS ENVIRONMENTAL GIS MAPPING
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SHEET C-304

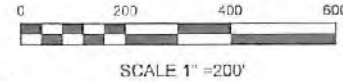
SHEET C-303

03-B37-0081.0000
ROBERT BONE
80.99 AC.

SHEET C-301

03-B37-0079.0000
JOHN T. HARVEY JOHNSTON JR.;
SANDRA JOHNSTON ETAL
2.71 AC.

03-B37-0080.0000
TERRENCE BONE &
SUSAN BONE
2.58 AC.



COORDINATES:
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- LEGEND -

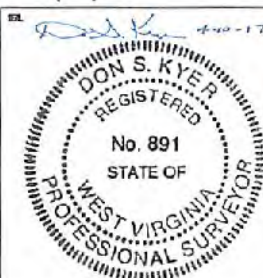
- SPRING
- WATER WELL

DRIVEWAY

03-B37-0074.0000
BENJAMIN M. MOSA &
CHRISTINE L. HEISE (SURV.)
24.41 AC.

REVISION	DATE

WV Department of Environmental Protection
Office of Oil and Gas
APR 24 2017
The existing gas pads shown hereon are based on the location of above ground gas line markers or paint marks. The location of the gas lines may vary and additional buried utilities may be present. Prior to any excavation, call West Virginia Miss Utility @ 811.
2. Elevation datum: NAVD 88
3. Horizontal Datum: NAD 83 (2011) West Virginia North Zone



SWN
Production Company, LLC

SWN
Production Company™

ROBERT BONE
AS-BUILT OVERVIEW C-201
BUFFALO DISTRICT, BROOKE COUNTY, WV.

DRAWN	DATE	CHECKED	DATE	APPROVED	DATE
JCK	04-03-17	DSK	04-03-17	JD	04-03-17

DRAWING: 2017-219 As-Built Plans 03-30-2017.dwg

JHA
SURVEYORS ENGINEERS ENVIRONMENTAL GIS MAPPING
www.jhaengineers.com

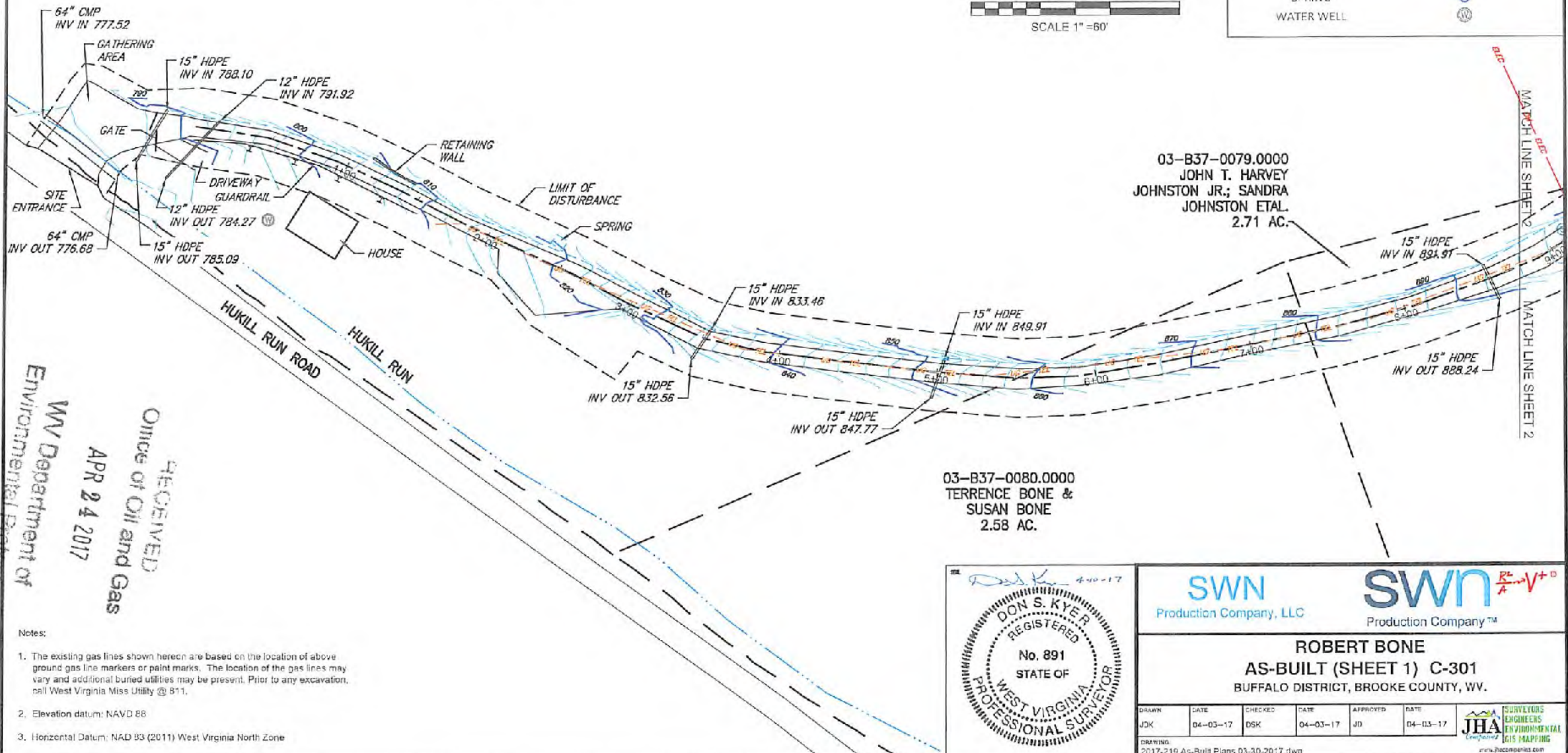
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03-B37-0081.0000
ROBERT BONE
80.99 AC.



- LEGEND -

EDGE OF ACCESS ROAD	—
PUBLIC / PRIVATE ROAD	—
LIMIT OF DISTURBANCE	- - -
CHAIN LINK FENCE	- X - X -
OVERHEAD UTILITIES	— OH — ELEC —
PROPERTY LINES	- - -
CL ACCESS ROAD	—
CONTOUR MAJOR ASBUILT	—
CONTOUR MINOR ASBUILT	—
SPRING	⊙
WATER WELL	⊙

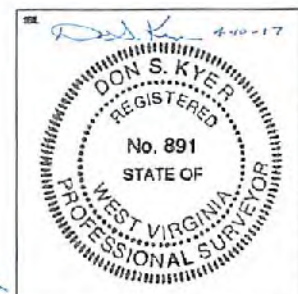


03-B37-0079.0000
JOHN T. HARVEY
JOHNSTON JR.; SANDRA
JOHNSTON ETAL.
2.71 AC.

03-B37-0080.0000
TERRENCE BONE &
SUSAN BONE
2.58 AC.

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APR 24 2017
WV Department of
Environmental Protection

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ROBERT BONE AS-BUILT (SHEET 1) C-301 BUFFALO DISTRICT, BROOKE COUNTY, WV.			
DRAWN	DATE	CHECKED	DATE
JDK	04-03-17	DSK	04-03-17
APPROVED	DATE		
JJD	04-03-17	SURVEYORS ENGINEERS ENVIRONMENTAL GIS MAPPING www.jha.com/ncs	
DRAWING: 2017-219 As-Built Plans 03-30-2017.dwg			

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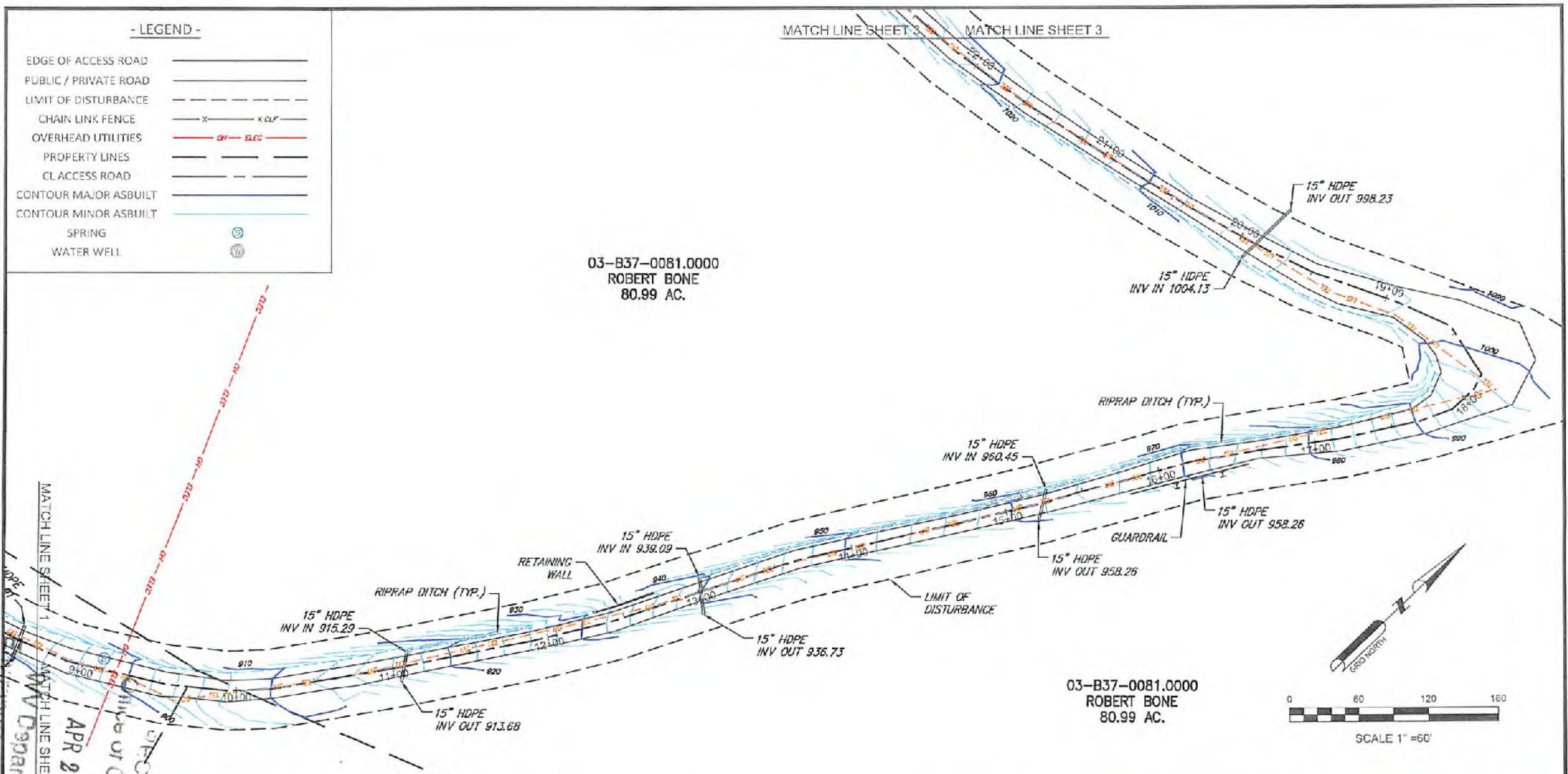
- LEGEND -

EDGE OF ACCESS ROAD	———
PUBLIC / PRIVATE ROAD	———
LIMIT OF DISTURBANCE	- - - - -
CHAIN LINK FENCE	-x- - - - -x- CLF
OVERHEAD UTILITIES	—OH— —ELEC—
PROPERTY LINES	———
CL ACCESS ROAD	———
CONTOUR MAJOR ASBUILT	———
CONTOUR MINOR ASBUILT	———
SPRING	⊙
WATER WELL	⊙

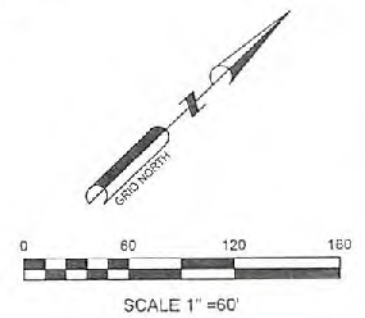
03-B37-0081.0000
ROBERT BONE
80.99 AC.

03-B37-0074.0000
BENJAMIN M. MOSA &
CHRISTINE L. HEISE (SURV.)
24.41 AC.

MATCH LINE SHEET 3 MATCH LINE SHEET 3

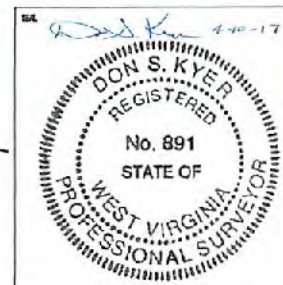


03-B37-0081.0000
ROBERT BONE
80.99 AC.



Environmental Protection
 Department of
 APR 24 2017
 Office of Oil and Gas
 (PROCESSED)

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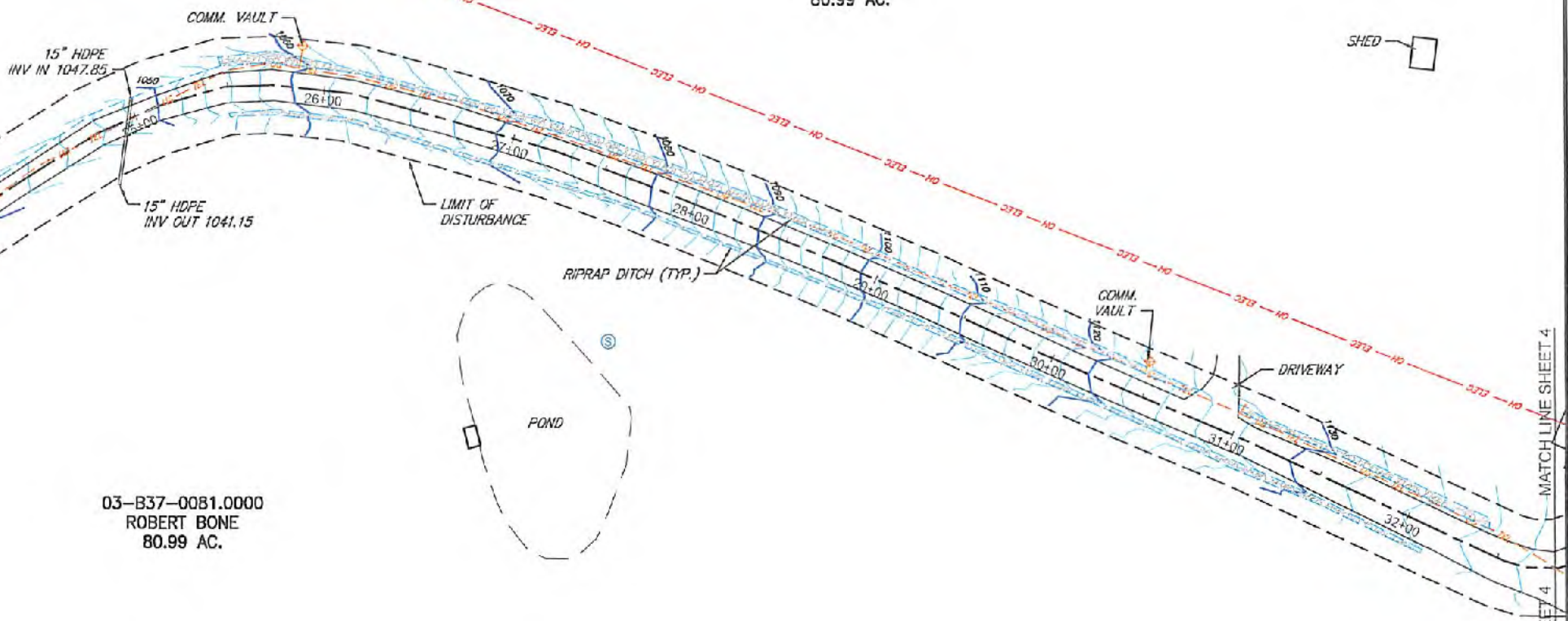
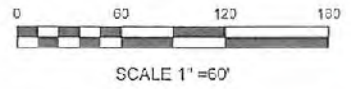
ROBERT BONE AS-BUILT (SHEET 2) C-302 BUFFALO DISTRICT, BROOKE COUNTY, WV.			
DRAWN: LDK	DATE: 04-03-17	CHECKED: DSK	DATE: 04-03-17
APPROVED: JD		DATE: 04-03-17	
DRAWING: 2017-219 As-Built Plans 03-30-2017.dwg			

9-00201

BLDG.

03-B37-0081.0000
ROBERT BONE
80.99 AC.

SHED



03-B37-0081.0000
ROBERT BONE
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Environmental Protection
Department of

Office of Organic Gas

APR 24 2017

LEGEND -

EDGE OF ACCESS ROAD	—————
PUBLIC / PRIVATE ROAD	—————
LIMIT OF DISTURBANCE	- - - - -
CHAIN LINK FENCE	- x - x -
OVERHEAD UTILITIES	OH - ELEC
PROPERTY LINES	—————
CL ACCESS ROAD	- - - - -
CONTOUR MAJOR ASBUILT	—————
CONTOUR MINOR ASBUILT	—————
SPRING	⊙
WATER WELL	⊙

Notes:

1. The existing gas lines shown hereon are based on the location of above ground gas line markers or point marks. The location of the gas lines may vary and additional buried utilities may be present. Prior to any excavation, call West Virginia Miss Utility @ 811.
2. Elevation datum: NAVD 85
3. Horizontal Datum: NAD 83 (2011) West Virginia North Zone



SWN
Production Company, LLC

SWN
Production Company™

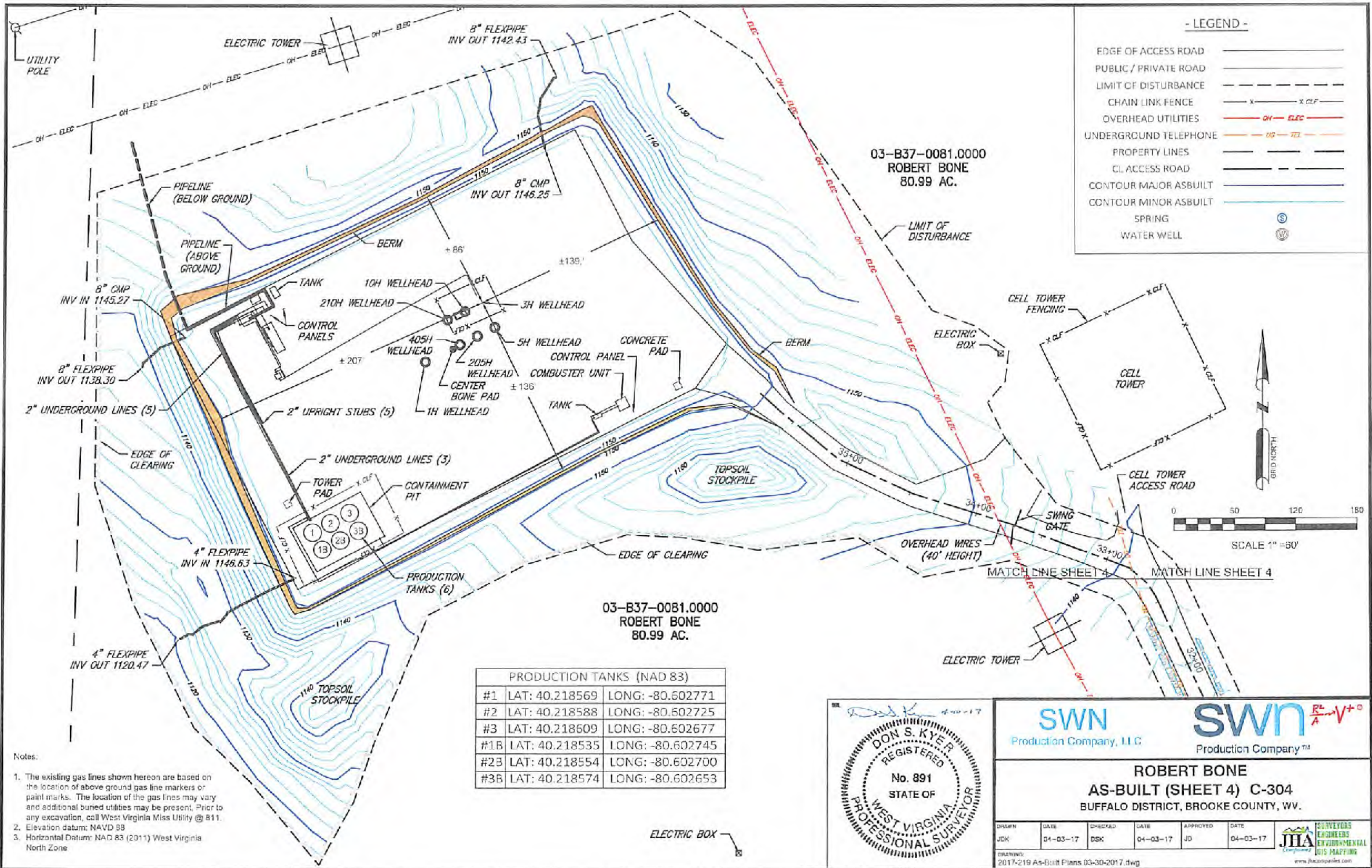
ROBERT BONE
AS-BUILT (SHEET 3) C-303
BUFFALO DISTRICT, BROOKE COUNTY, WV.

DRAWN	DATE	CHECKED	DATE	APPROVED	DATE
JDK	04-03-17	OSK	04-03-17	JD	04-03-17

DRAWING:
2017-219 As-Built Plans 03-30-2017.dwg

SURVEYORS
ENGINEERS
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SWN Production Company, I.L.C.

SWN Production Company™

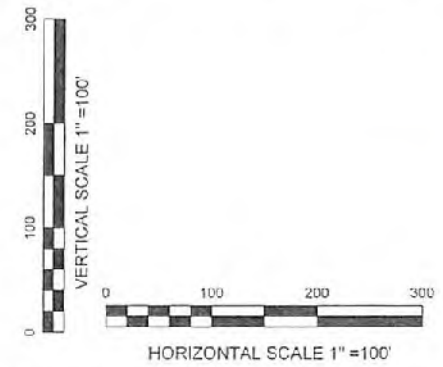
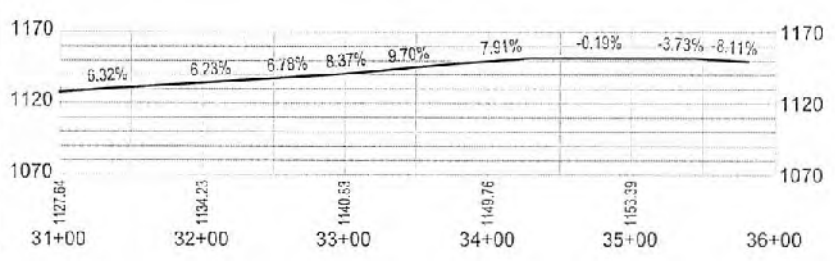
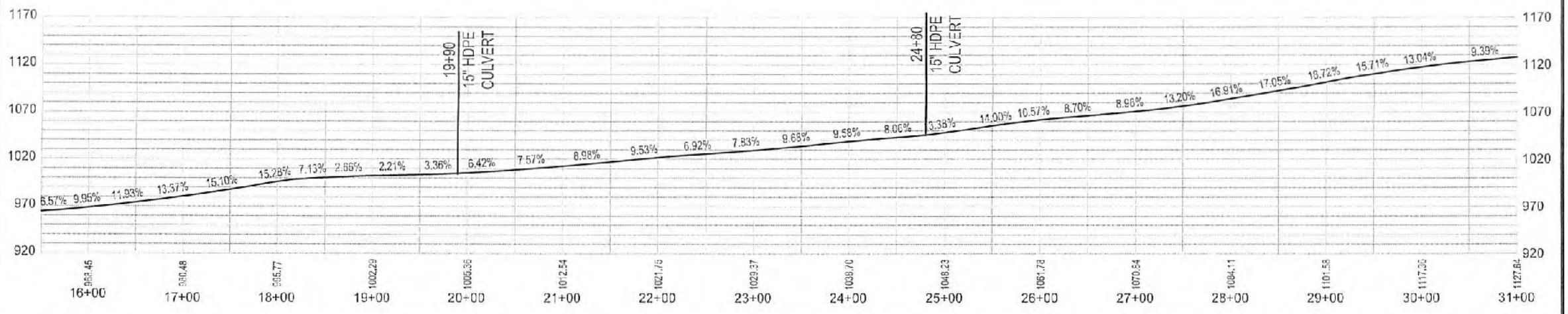
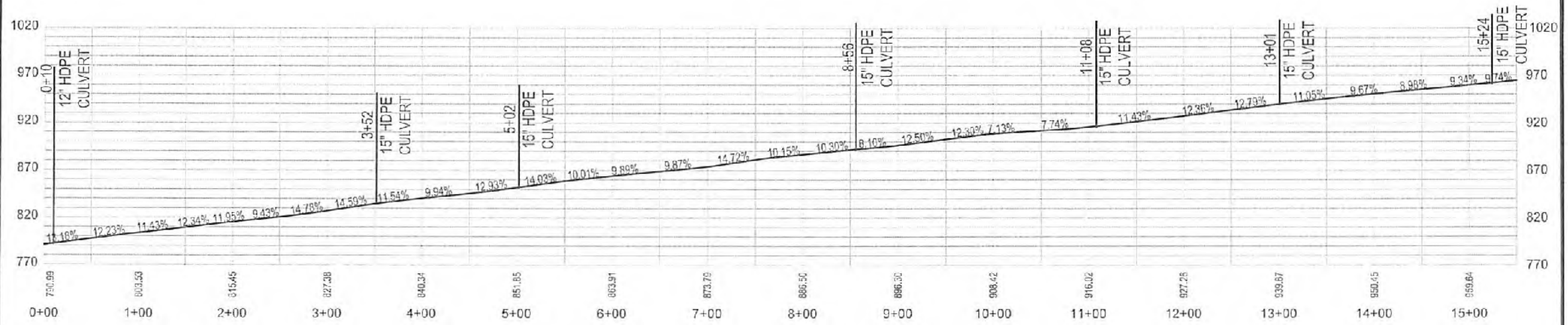
ROBERT BONE
AS-BUILT (SHEET 4) C-304
 BUFFALO DISTRICT, BROOKE COUNTY, WV.

DRAWN	DATE	CHECKED	DATE	APPROVED	DATE
JDK	04-03-17	DSK	04-03-17	JD	04-03-17

DRAWING: 2017-219 As-Built Plans 03-30-2017.dwg

JHA SURVEYORS ENGINEERS ENVIRONMENTAL GIS-MAPPING

www.jhacorp.net



SWN Production Company, LLC

SWN Production Company™

ROBERT BONE
CONSTRUCTION AS-BUILT ACCESS RD. PROFILE C-401
 BUFFALO DISTRICT, BROOKE COUNTY, WV.

DRAWN	DATE	CHECKED	DATE	APPROVED	DATE
JAD	04-03-17	DSK	04-03-17	JD	04-03-17

2017-219 As-Built Plans 03-30-2017.dwg

JHA ENGINEERS ENVIRONMENTAL GIS MAPPING

www.jhacompany.com

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OPERATOR: SWN Production Co., LLC

*CK 1019360
515208*

PAD NAME: Robert Bone BRK PAD WELL: Robert Bone BRK 210H

PAD BUILT: YES NO DATE REVIEWED: _____ INT. _____

REVIEWED BY (APPLICANT): _____

CONTACT PHONE: _____ EMAIL: 4700900201

APPLICANT SIGNATURE: 

CHECKLIST FOR FILING A PERMIT HORIZONTAL 6A WELL

Please include these required elements in the Horizontal Well 6A applications, in order listed below.
Do not use staples.

First Well	Subsequent Well
\$10,150.00 <input type="checkbox"/>	\$5,150.00 <input checked="" type="checkbox"/>

- Fees
- Checklist / Cover letter
- WW-6B Notice of Application _____ Field Approved
- Cement Additives
- Well Bore Schematic
- WW-9 Fluids/Cuttings Disposal and Reclamation Plan *CB 4-20-17* _____ Field Approved
- Site Safety Plan _____ Field Approved
- Water Management Plan _____ DWWM Approval
- Topographic Map w/water purveyors, showing access road
- Mylar Plat (Signed and sealed) (Surface Owner matches WW-6A)
- WW-6A1 Lease Information
- Road Crossing Letter
- WW-PN Application Notice by Publication
- Public Notice (dated copy of advertisement or affidavit of publication)

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- WW-6AC Notice Certifications, notarized
- WW-6A Notice of Application notarized w/ any attachments
- Topographic Map with labeled surrounding water wells
- Certified Mail receipts for WW-6A
- NA WW-6A3 Notice of Entry for Plat Survey
- NA Certified Mail receipts for WW-6A3
- WW-6A4 Notice of Intent to Drill
- Certified Mail receipts for WW-6A4
- WW-6A5 Notice of Planned Operation
- Certified Mail receipts for WW-6A5
- NA WW-6RW Well Location Restriction Waiver
- NA WW-6AW Voluntary Statement of No Objection

- Waiver for Surface Owner at Wellhead
- Waiver for Surface Owner for Roads or other Disturbances
- Waiver for Coal Owner, Operator or Lessee
- Waiver for surface owner for Impoundment or Pit
- Waiver for Surface Owner or Water Purveyor within 1500 feet of Center of Pad
- Waiver for Natural gas Storage Field Operator

- Road Bonding Agreement / DOH Certification
- Frac Additives List of Chemical Names & CAS #s
- Site Construction, Reclamation, Erosion & Sediment Control Plans

CBY-2017
 Field Approved

- Copy of To Scale Plans
- Inspector packet mailed to inspector (Plat, Topographic Map, WW-6B, WW-9, All Plans)
- Bond (\$250,000)
- Operator is registered with the SOS

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- Workers Compensation / Unemployment Insurance account is OK
- Professional Engineer/Company has COA
- Check for Mine Data at proposed coordinates
- Check for Floodplain Data at proposed coordinates
- IMP-1A Associated Pit or Impoundment
- WW-6A7 Well Restrictions Form w/ Signature

_____ At Least 100 Feet from Pad and LOD (including any E&S Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland

_____ DEP Waiver and Permit Conditions

_____ At Least 300 Feet from Pad and LOD (including any E&S Control Feature) to any Naturally Producing Trout Stream

_____ DEP Waiver and Permit Conditions

_____ At Least 1000 Feet from Pad and LOD (including any E&S Control Feature) to any Groundwater Intake or Public Water Supply

_____ DEP Waiver and Permit Conditions

_____ At Least 250 Feet from an Existing Water Well or Developed Spring to Well Being Drilled

_____ Surface Owner Waiver and Recorded with County Clerk, OR

_____ DEP Variance and Permit Conditions

_____ At Least 625 Feet from an Occupied Dwelling Structure to the Center of the Pad

_____ Surface Owner Waiver and Recorded with County Clerk, OR

_____ DEP Variance and Permit Conditions

_____ At Least 625 Feet from Agricultural Buildings Larger than 2500 Square Feet to the Center of the Pad

_____ Surface Owner Waiver and Recorded with County Clerk, OR

_____ DEP Variance and Permit Conditions

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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 49447757 009-Brooke 3- Buffalo 247-Bethany
Operator ID County District Quadrangle

2) Operator's Well Number: Robert Bone BRK 210H Well Pad Name: Robert Bone BRK PAD

3) Farm Name/Surface Owner: Robert Bone Public Road Access: Hukill Run Road

4) Elevation, current ground: 1148' Elevation, proposed post-construction: 1148'

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

(b) If Gas Shallow Deep _____
Horizontal _____

6) Existing Pad: Yes or No yes

BRK 4.20.17

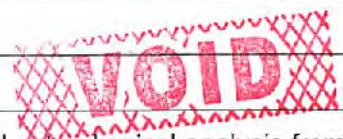
7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Target Formation- Marcellus, Target Top TVD- 5822', Target Base TVD-5864', Anticipated Thickness- 42', Associated Pressure- 3511

8) Proposed Total Vertical Depth: 5997'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 17031'

11) Proposed Horizontal Leg Length: 10213.4'



12) Approximate Fresh Water Strata Depths: 519'

13) Method to Determine Fresh Water Depths: offset water wells and petrophysical analysis from wells on the pad

14) Approximate Saltwater Depths: 627'

15) Approximate Coal Seam Depths: 309'

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	94#	355'	355'	391 sx/CTS
Coal	9 5/8"	New	J-55	48#	599'	599'	906 sx/CTS
Intermediate	7"	New	J-55	36#	1633'	1633'	828 sx/CTS
Production	5 1/2"	New	HCP-110	20#	17031'	17031'	Lead 16/2x tall 339lbs/100' inside interval
Tubing	2 3/8"	New	HCP-110	4.7#	Approx. 5871'	Approx. 5871'	
Liners							

C. BLO 4/20/17

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Max. Associated Surface 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	9 5/8"	12 1/4"	0.395	3950	1768	Class A	1.19/50% Excess
Intermediate	7"	8 3/4"	0.317	4360	3250	Class A	1.20/15% Excess
Production	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/15% Excess
Tubing	2 3/8"	4.778"	0.190				
Liners							

VOID

PACKERS

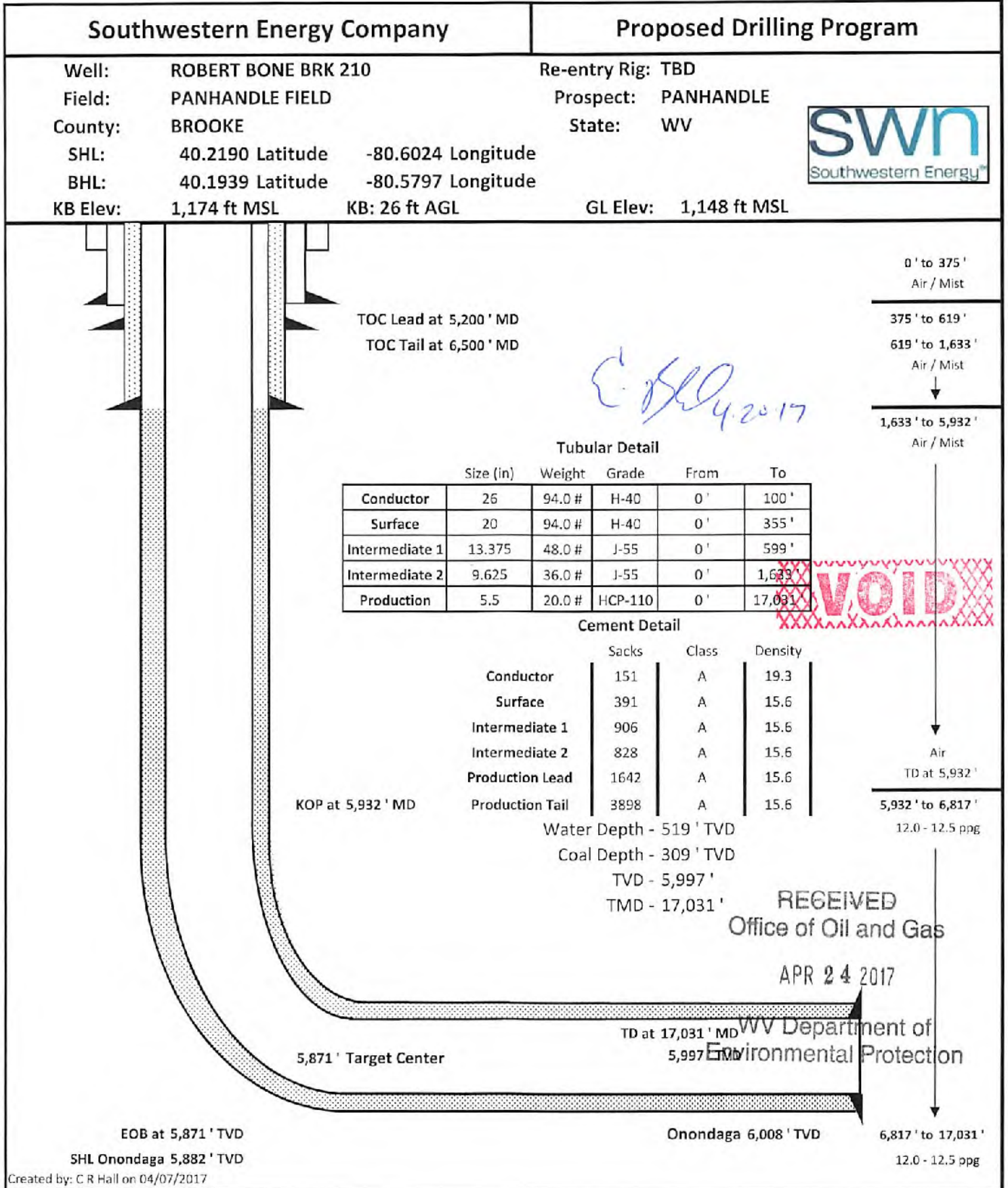
Kind:	10K Arrowset AS1-X			
Sizes:	5 1/2"			
Depths Set:				

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Environmental Protection

9-00201



Adkins, Laura L

From: Adkins, Laura L
Sent: Wednesday, November 08, 2017 12:12 PM
To: 'Dee Southall'; Brittany Woody
Subject: Bone Pad
Attachments: S2064 Copie17110812260.pdf

Dee and Brittany,

I have reviewed the Robert Bone permit applications and have the following to be reconciled so that the permits can be issued:

Need Mylar plats for the revised wells

Please have 500' buffer shown on the plats

Revised 6A1s for the revised wells

Proof of notice for the Coal Company for the change in coal coverage

Please review all of the schematics against the 6Bs for accuracy

Please compare horizontal lengths on plats with 6Bs, most don't match

Please compare TMDs on plats with TMDs on 6Bs

Please compare the TVD and target formation with the footage shown for target information

Please send page 3 of the 6B for the 205H

I have attached a plat above, please explain the highlighted area....it appears to be a small tract that is not labeled but the well bore is going through.

Do you have inspector approved as-builts?

Please let me know if you have questions or need additional information.

Thanks!

Laura

Laura L. Adkins

Environmental Resource Specialist III
Permit Review
WVDEP Office of Oil and Gas
601 57th Street, SE
Charleston, WV 25304
304-926-0499 ext. 1495

Adkins, Laura L

From: Adkins, Laura L
Sent: Monday, November 13, 2017 12:23 PM
To: 'Dee Southall'; Brittany Woody
Subject: Robert Bone Pad

Just a few things needed to tie these up. :0)

Thanks for sending the updates, really helped!

5H-

Schematic depths don't match the 6B

205H-

Mylar horizontal length doesn't match the the horizontal length on 6B

Schematic shows Onondaga at 5775' and 6B shows Marcellus to 5864'

Need insp app on 6B

Need 3rd page of 6B (my fault, I accidentally voided the one we had..sorry)

What does "pending" mean on the 6A1s?

1H-

Schematic depths don't jive with the 6B10H-

What is the highlighted space on the plat between tracts 4 and 5?

Laura L. Adkins

Environmental Resource Specialist III

Permit Review

WVDEP Office of Oil and Gas

601 57th Street, SE

Charleston, WV 25304

304-926-0499 ext. 1495

THE ITEMS REQUESTED IN THIS EMAIL WILL NEED TO BE RECEIVED BY THE OFFICE OF OIL AND GAS WITHIN **20 DAYS** TO AVOID THE PERMIT APPLICATION BEING RETURNED. IF AN OPERATOR WISHES TO RESUBMIT AN APPLICATION THAT HAS BEEN RETURNED, THE OPERATOR IS REQUIRED TO COMPLETE AND SUBMIT NEW FORMS, MYLAR PLAT AND ASSOCIATED FEES.

Adkins, Laura L

From: Dee Southall <Dee_Southall@SWN.COM>
Sent: Wednesday, June 06, 2018 9:43 AM
To: Brewer, Charles T
Cc: Adkins, Laura L; Brittany Woody
Subject: Robert Bone Permits

Good Morning~

We would like to withdraw the pending Robert Bone BRK permits. There are 5 of them: 10H, 5H, 205H, 1H and 210H. Thank you!!

Thanks.
Dee Southall
Senior Regulatory Analyst



179 Innovation Drive
Jane Lew, WV 26378
Tel: 304-884-1614
Cell: 304-997-5233
dee_southall@swn.com

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