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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Tuesday, January 12, 2021  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC  
POST OFFICE BOX 12359  
SPRING, TX 773914954

Re: Permit Modification Approval for STATE OF WV DNR C BRK 8H  
47-009-00310-00-00

**Shorten Lateral on the Pennsylvania Bottom Hole Location. Updated location**

SWN PRODUCTION COMPANY, LLC

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

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

A handwritten signature in blue ink, appearing to read 'James A. Martin'.

James A. Martin  
Chief

Operator's Well Number: STATE OF WV DNR C BRK 8H  
Farm Name: STATE OF WV, BUREAU OF COMMERCE, DIVISIO  
U.S. WELL NUMBER: 47-009-00310-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 01/12/2021

Promoting a healthy environment.

Check # 1054028  
\$5,000.00  
12/15/2020

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

1) Well Operator: SWN Production Co., LLC 494512924 009-Brooke 4-Cross 620-Steubenville  
Operator ID County District Quadrangle

2) Operator's Well Number: State of WV DNR C BRK 8H Well Pad Name: State of WV DNR C BRK

3) Farm Name/Surface Owner: State of WV DNR Public Road Access: Putney Ridge Road

4) Elevation, current ground: 993' Elevation, proposed post-construction: 990'

5) Well Type (a) Gas  Oil  Underground Storage

Other

(b) If Gas Shallow  Deep

Horizontal

6) Existing Pad: Yes or No No

*C-7110 12-29-20*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Target Formation- Marcellus, Down-Dip Well to the South, Target Top TVD- 5852', Target Base TVD- 5914', Anticipated Thickness- 62', Associated Pressure- 3844

8) Proposed Total Vertical Depth: 5898'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 28526'

11) Proposed Horizontal Leg Length: 22,488.66'

12) Approximate Fresh Water Strata Depths: 371'

13) Method to Determine Fresh Water Depths: nearby water well.

14) Approximate Saltwater Depths: 575' salinity profile analysis

15) Approximate Coal Seam Depths: 6'

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

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Office of Oil and Gas

DEC 30 2020

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes  No

WV Department of  
Environmental Protection

(a) If Yes, provide Mine Info: Name: \_\_\_\_\_  
Depth: \_\_\_\_\_  
Seam: \_\_\_\_\_  
Owner: \_\_\_\_\_

WW-6B  
(04/15)

API NO. 47- 009 -  
 OPERATOR WELL NO. State of WV DNR C BRK 6H  
 Well Pad Name: State of WV DNR C BRK

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	J-55	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	H-40	48#	421'	421'	415 sx/CTS
Coal	See	Conductor	Casing				
Intermediate	9 5/8"	New	J-55	36#	1380'	1380'	456 sx/CTS
Production	6"		P-110 HP	24#	0'	4800'	
Production	5 1/2"	New	P-110 HP	20#	4800'	28,526'	tail 5535sx/100' inside intermediate
Liners							

*C. H. O.* 12-29-20

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	30"	0.25	2120	81	Class A	1.20/30% Excess
Fresh Water	13 3/8"	17.5"	0.380	2730	633	Class A	1.20/30% Excess
Coal	See	Conductor	Casing				
Intermediate	9 5/8"	12 1/4"	0.352	3520	1768	Class A	1.19/40% Excess
Production	5 1/2"	8 3/4"-8 1/2"	0.361	14360	10500	Class A	1.19/5% Excess
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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 DEC 30 2020  
 WV Department of  
 Environmental Protection

# Southwestern Energy Company

# Proposed Drilling Program

Well: STATE OF WV DNR C BRK 8

Re-entry Rig: TBD

Field: PANHANDLE FIELD WET

Prospect: Marcellus Shale

County: BROOKE

State: WV



SHL: 40.3024 Latitude -80.5378 Longitude

BHL: 40.2441 Latitude -80.5071 Longitude

KB Elev: 1,016 ft MSL

KB: 26 ft AGL

GL Elev: 990 ft MSL

PROD TOC Lead @ 1,500' MD

PROD TOC Tail @ 5,050' MD

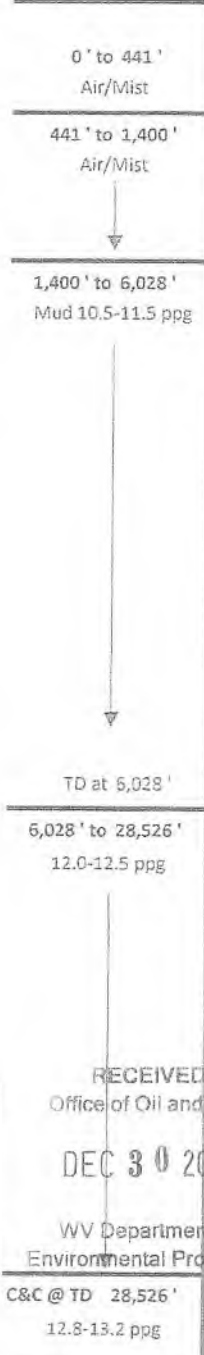
*ESD*  
12-29-20

### TUBULAR DETAIL

Casing String	Casing Size (in)	Weight (Min)	Grade (Min)	Planned Interval	
				From	To
Cond/Coal	20	94.0 #	J-55	0'	100'
Surface	13.375	48.0 #	H-40	0'	421'
Intermediate	9.625	36.0 #	J-55	0'	1,380'
Production	6	24.0 #	P-110 HP	0'	4,800'
	5.5	20.0 #	P-110 HP	4,800'	28,526'

### CEMENT DETAIL

	Sacks	Class	Density
Conductor:	151	A	19.3
Surface:	415	A	15.6
Intermediate:	456	A	15.6
Production:	5535	A	15.0



KOP at 4,819' MD

Freshwater Depth - 371' TVD

Coal Depth - 6' TVD

Saltwater Depth - 575' TVD

TVD - 5,898'

TMD - 28,526'

5,632' TVD Target Center

TD at 28,526' MD

5,898' TVD

EOB at 6,028' MD

EOB at 5,632' TVD

SHL Onondaga 5,648' TVD

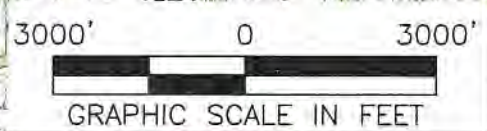
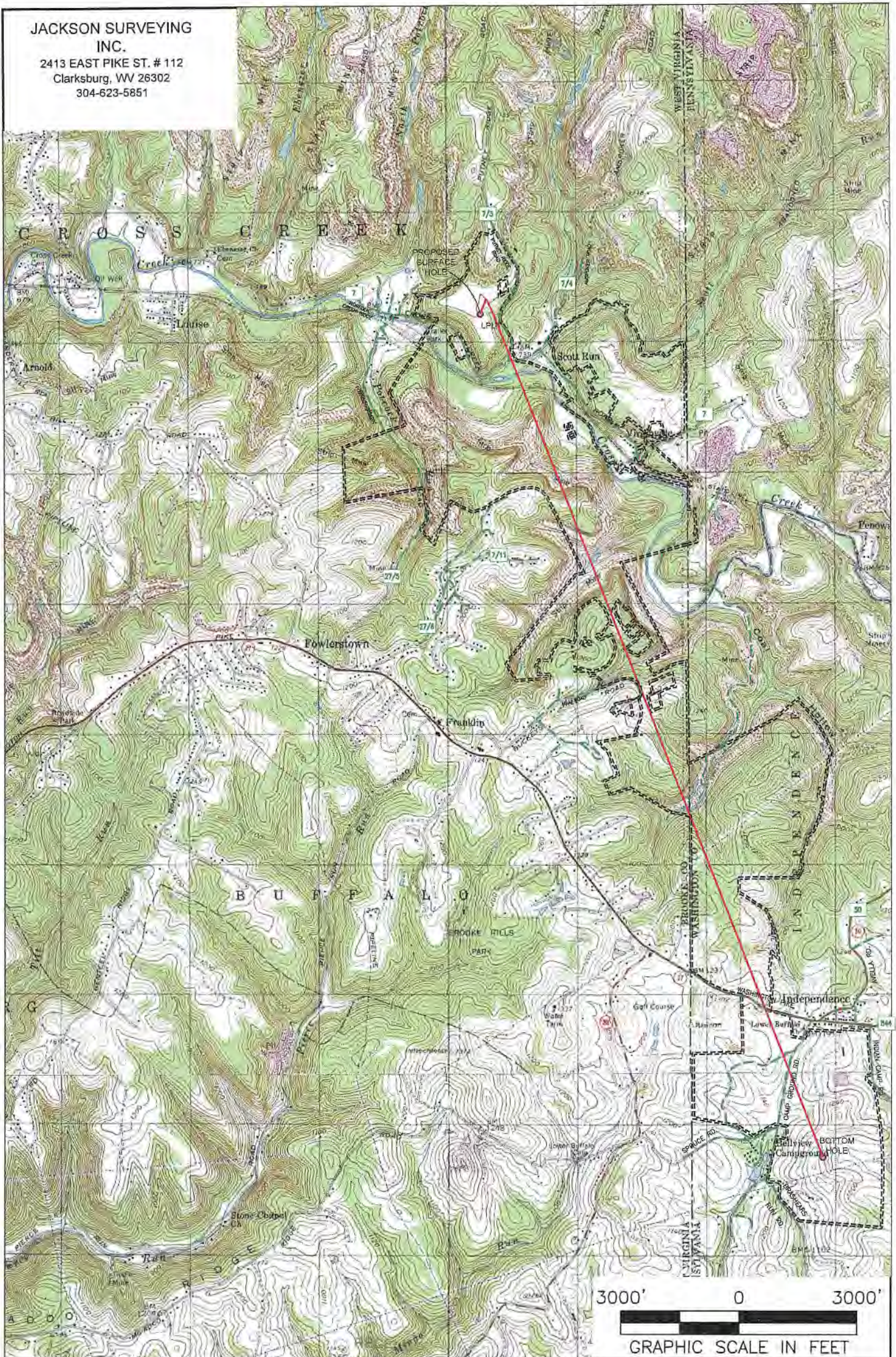
Onondaga 5,914' TVD

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Office of Oil and Gas  
DEC 30 2020  
WV Department of  
Environmental Protection  
C&C @ TD 28,526'  
12.8-13.2 ppg



**JACKSON SURVEYING  
INC.**

2413 EAST PIKE ST. # 112  
Clarksburg, WV 26302  
304-623-5851



**NOTES ON SURVEY**

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

DEC 30

WV Department of Environmental Protection

**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

<b>WELL OPERATOR:</b> SWN PRODUCTION COMPANY, LLC		<b>WELL (FARM) NAME:</b> STATE OF WV DNR C BRK		<b>WELL #</b> 8H	<b>SERIAL #</b> 47-009-00310
<b>ADDRESS:</b> 1300 FORT PIERPONT ROAD, SUITE 200 MORGANTOWN, WV 26508		<b>COUNTY - CODE</b> BROOKE - 009		<b>DISTRICT;</b> CROSS CREEK	
<b>SURFACE OWNER:</b> STATE OF WEST VIRGINIA, BUREAU OF COMMERCE, DIVISION OF NATURAL RESOURCES, PUBLIC LAND CORPORATION		<b>USGS 7 1/2 QUADRANGLE MAP NAME</b> STUEBENVILLE EAST, WV			

Latitude: 40°20'00"

SURFACE HOLE 10,530'

BOTTOM HOLE 1,975'

JACKSON SURVEYING Latitude: 40°15'00"

INC.
2413 EAST PIKE ST # 112
Clarksburg, WV 26302
304-623-5851

Table with 2 columns: Location Name and UTM Coordinates (Northing, Easting). Rows include Surface Hole Location (SHL), Landing Point Location (LPL), and Bottom Hole Location (BHL).

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



BOTTOM HOLE 2,157'

Longitude: 80°30'00"

SURFACE HOLE 11,272'

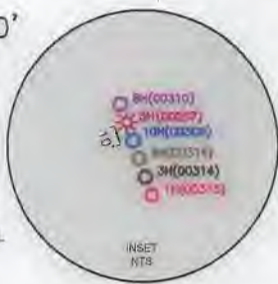
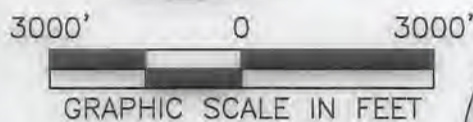


Table with 5 columns: Line, Bearing, Distance, Description, Monument. Contains survey data for lines L1, L2, and L3.

WELL RESTRICTIONS

- List of 6 well restrictions including distance requirements from dwellings, buildings, water wells, streams, and public water supply.

NOTES ON SURVEY

- Notes on survey including information on boundaries, tax parcel maps, and inlets.

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



P.S. 708 David L Jackson

COMPANY: SWN Production Company, LLC

Table with 2 columns: Information and Value. Includes well type, accuracy, proven source, and well identification numbers.

Form with multiple rows for well type, watershed, district, surface owner, oil & gas royalty owner, drill type, convert options, and target formation.



Form with 2 columns: Well Operator and Designated Agent. Includes address and city/state/zip information.

Table with 2 columns: Legend and Revisions. Legend includes symbols for proposed holes, existing wells, and boundaries. Revisions list dates and descriptions.

JACKSON SURVEYING  
 INC.  
 2413 EAST PIKE ST. # 112  
 Clarksburg, WV 26302  
 304-623-5851

SEE DETAIL "A"



<b>REVISIONS:</b> ▲ REVISED REFERENCES 06-05-2020 ▲ REVISED DHP 12-16-2020		<b>COMPANY:</b> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div>	
<b>OPERATOR'S</b> STATE OF WV DNR C BRK		<b>API:</b> 47-009-00310	<b>DATE:</b> 03-12-2020
<b>WELL #:</b> 8H		<b>DRAWN BY:</b> N. MANO	
<b>DISTRICT:</b> CROSS CREEK		<b>COUNTY:</b> BROOKE	<b>SCALE:</b> N/A
		<b>STATE:</b> WV	<b>DRAWING NO:</b>
		<b>WELL LOCATION PLAT 2</b>	





**JACKSON SURVEYING  
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304-623-5851

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	STATE OF WEST VIRGINIA, BUREAU OF COMMERCE, DIVISION OF NATURAL RESOURCES, PUBLIC LAND CORPORATION (S/R)	4-CC20-06
TRACT	SURFACE OWNER	TAX PARCEL
2	SUSAN KAY PRONCHIK (S)	4-CC20-08
3	BARBARA J. MCCONNELL (S)	4-CC20-10
4	STATE OF WEST VIRGINIA, BUREAU OF COMMERCE, DIVISION OF NATURAL RESOURCES, PUBLIC LAND CORPORATION (S)	4-CC19-169
5	NICKOLES 3, LLC (S)	4-CC20-33
6	NORFOLK & WESTERN RAILWAY CO. (S)	4-C19K-18
7	STATE OF WEST VIRGINIA, BUREAU OF COMMERCE, DIVISION OF NATURAL RESOURCES, PUBLIC LAND CORPORATION (S)	4-CC23-325
8	STATE OF WEST VIRGINIA, BUREAU OF COMMERCE, DIVISION OF NATURAL RESOURCES, PUBLIC LAND CORPORATION (S)	4-CC24-03
9	MICHAEL OBER (S)	4-CC24-07
10	DEAN SMITH (S)	4-CC24-98
11	DEAN SMITH (S)	4-CC24-99
12	JOHN R. COOK & BEVERLY A. COOK (S)	04-CC24-97
13	WILLIAM L. MONK & TINA M. MONK (S)	4-CC24-99.4
14	BRIAN M. TAYLOR (S)	04-CC24-100
15	BRIAN TAYLOR (S)	4-CC24-99.5
16	BRIAN TAYLOR (S)	4-CC24-133
17	COREY T. CARROLL & KATELYN N. SWAGER (S)	4-CC24-134
18	RYAN E. HALL & NICOLE M. STANLEY (S)	4-CC24-137
19	JASON MICHAEL KUSIC & ALICIA RENEE KUSIC (S)	4-CC24-136
20	JOHN L. DAVIS & F. LYNN DAVIS (S)	4-CC24-145
21	MICHAEL D. JONES & LOIS J. JONES (S)	4-CC24-128
22	JOSEPH M. WHITE & RACHEL E. WHITE (S)	4-CC29-39.19
23	JOSEPH M. WHITE & RACHEL E. WHITE (S)	4-CC29-39.18
24	ELLEN CATTARUZZA (S)	4-CC29-39
25	JOSEPH E. CROSS JR. & JENNIFER L. CROSS (S)	4-CC29-39.17
26	JOSEPH E. CROSS JR. & JENNIFER L. CROSS (S)	4-CC29-39.21
27	DAVID H. MCCLAIN & KAREN MCCLAIN (S)	4-CC29-39.7
28	DEBRA CYPHERT, MATTHEW FAIR & SUSAN BRUFFY (S)	4-CC29-57
29	STATE LINE REAL ESTATE LLC (S)	370-004-00-00-0001-00
30	NICOLE R. SMITH & NEAL E. SMITH (S)	370-007-00-00-0001-02
31	RYAN M. SMITH & BROOKE N. SMITH (S)	370-007-00-00-0001-01
32	JOSEPH D. DEPETRO III (S)	370-007-00-00-0001-00
33	CHERYL BUTYA (S)	370-007-00-00-0002-01
34	ROBERT G. BRIGGS & NANCY L. BRIGGS (S)	370-007-00-00-0002-00
35	ROBERT G. McALPINE & RHONDA McALPINE (S)	370-007-00-00-0002-04
36	BROWNLEE LAND VENT LP (S)	370-007-00-00-0005-00
37	JOSEPH J. DEPETRO III (S)	370-011-00-00-0009-00

ADJOINING OWNERS TABLE			ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL	TRACT	SURFACE OWNER	TAX PARCEL
A	LINDY L. BLACK	04-CC20-07	Z	GREG NICKOLES & CAROL NICKOLES	04-C24B-14
B	JUDITH ANN BERNARDINI	04-CC20-09	A2	H3, LLC.	04-C24B-15
C	MICHAEL LEE BERNARDINI & JULIE LYNN BERNARDINI	04-CC20-44	B2	GREG NICKOLES & CAROL NICKOLES	04-C24B-16
D	LARRY E. REED	04-CC24-02	C2	RANDY L. NICKOLES	04-C24B-33
E	MICHAEL L. OBER	04-CC24-01	D2	RANDY L. NICKOLES	04-C24B-08
F	WILLIAM MORGAN ROUSE & DORIS J. ROUSE	04-CC20-20	E2	ANNETTE MILLER & FRANK MCQUILLIAN & ANNA MAE MCQUILLIAN	04-C24B-07
G	LINDY L. GALIANO & SANTY GALIANO	04-CC20-19.1	F2	GREGORY NICKOLES	04-C24B-06
H	EDWARD L. CARTER & DEBORAH C. CARTER	04-CC20-18	G2	DEBRA MCQUILLAN & ANNETTE MILLER	04-C24B-27
I	EDWARD L. CARTER & DEBORAH C. CARTER	04-CC20-17	H2	DEBRA MCQUILLAN & ANNETTE MILLER	04-C24B-28
J	ERIC T. GALIANO	04-CC20-16	I2	JANE KIERCE	04-C24B-04
K	ERIC T. GALIANO	04-CC20-14	J2	WVA DEPARTMENT OF HIGHWAYS	04-C24B-03
L	ERIC T. GALIANO	04-CC20-19	K2	EDWARD L. THOMPSON & CAROL J. THOMPSON	04-C24B-02
M	KEVIN MCCONNELL	04-CC20-11	L2	JEFFERY NICKOLES, RANDY NICKOLES & GREGORY NICKOLES	04-C24B-01
N	NORFOLK & WESTERN RAILWAY CO.	04-C24B-29	M2	JEFFERY O. NICKOLES	04-CC20-33.1
O	MICHAEL L. OBER	04-C24F-01	N2	JAMES JOHNSON & CHARLENE JOHNSON	04-CC20-43
P	MICHAEL L. OBER	04-C24F-10	O2	TIMOTHY J. DISERIO	04-CC20-42
Q	MICHAEL L. OBER	04-C24F-09	P2	ROBERT G. HIGGINBOTHAM JR.	04-CC20-41
R	JOSEPH SANTORO & LINA SANTORO	04-C24F-08	Q2	RON GASPARENE	04-CC20-40
S	ROBERT ANKROM & PEGGY ANKROM	04-C24F-12	R2	WILLIAM & MILDRED T. MARINO	04-CC20-35
T	ROBERT ANKROM & PEGGY ANKROM	04-C24F-13	S2	ROBERT & DELORIS CLINE	04-CC20-34
U	NORFOLK & WESTERN RAILWAY CO.	04-C19K-18	T2	WILLIAM MORGAN ROUSE & DORIS J. ROUSE	04-CC20-20
V	JAMES JOHNSON & CHARLENE JOHNSON	04-C24B-10	U2	DEBORAH K. SLIDAY	04-CC20-32
W	GREG NICKOLES & CAROL NICKOLES	04-C24B-11	V2	STATE OF WV DNR	04-CC20-25
X	GREG NICKOLES & CAROL NICKOLES	04-C24B-12	W2	CALVIN H. MYERS JR.	380-014-00-00-0002-00
Y	GREG NICKOLES & CAROL NICKOLES	04-C24B-13			



<b>REVISIONS:</b>		<b>COMPANY:</b>	
▲ REVISED REFERENCES 06-05-2020		 	
▲ REVISED DHP 12-16-2020			
OPERATOR'S STATE OF WV DNR C BRK		API: 47-009-00310	DATE: 03-12-2020
WELL #: 8H		DRAWN BY: N. MANO	
DISTRICT: CROSS CREEK		COUNTY: BROOKE	SCALE: N/A
		STATE: WV	DRAWING NO: WELL LOCATION PLAT 3

**JACKSON SURVEYING**

INC.

2413 EAST PIKE ST. # 112  
Clarksburg, WV 26302  
304-623-5851


ADJOINING OWNERS TABLE			ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL	TRACT	SURFACE OWNER	TAX PARCEL
X2	JEFFERSON QTW EXEMPT PROPERTY	380-014-00-00-0001-00	P4	GARY RUSH	370-011-00-00-0008-00
Y2	RANDY L. NICKOLES	380-015-00-00-0019-00	Q4	JOSEPH J. DEPETRO	370-011-00-00-0009-02
Z2	JEFFERY O. NICKOLES	04-C24B-09	R4	BROWNLEE LAND	370-011-00-00-0007-00
A3	PITTSBURGH & WVA RAILWAY CO	04-C24F-14	S4	RONALD BERNARD SENG & JOANNE ALICE SENG	370-011-00-00-0006-00
B3	JEFFERSON EXEMPT PROPERTY PITTSBURGH & WVA RAILWAY COMPANY	380-015-00-00-0011-00	T4	BELLVIEW CAMP MEETING ASSOC, LINDA HEPBURN	370-007-00-00-0003-00
C3	PITTSBURGH & WVA RAILWAY CO	380-015-00-00-0010-00	U4	LISA J. JACOBS & TERRY G. JACOBS	370-011-00-00-0009-01
D3	PITTSBURGH & WVA RAILWAY CO	380-015-00-00-0010-02	V4	PAUL A. CUNNINGHAM	370-007-00-00-0004-00
E3	WHEELING & LAKE ERIE RAILWAY	380-015-00-00-0010-01	W4	BROWNLEE LAND VENT, L.P.	370-011-00-00-0004-00
F3	ROBERT ROTELLINI & ANDREA L. PUSKARICH	380-015-00-00-0009-00	X4	BROWNLEE LAND VENTURES, L.P.	03-B34-66
G3	EUGENE CRUNY	04-CC24-130	Y4	BROWNLEE LAND VENTURES, L.P.	03-B34-78
H3	JASON D. DRUM & AMANDA R. DRUM	04-CC24-146	Z4	HIGHLAND SPRINGS GOLF COURSE, LLC	03-B29-18
I3	LARRY T. MAIN	04-CC24-99.8	A5	HIGHLAND SPRINGS GOLF COURSE	370-007-00-00-0006-00
J3	GARRETT AUSTIN INGRAM	04-CC24-99.7	B5	DARREN P. MILLS	04-CC29-235
K3	JUSTIN A. GRIFFITH & KERI D. GRIFFITH	04-CC24-148	C5	L & G REALTY LLC	04-CC29-234
L3	LESLIE J. JOHNS & MELISSA J. JOHNS	04-CC24-139	D5	GARLAND E. MINOR	04-CC29-232
M3	LESLIE J. JOHNS & MELISSA J. JOHNS	04-CC24-140	E5	KEVIN A. JEFFRIES & RACHAEL M. JEFFRIES	04-CC29-230
N3	JOHN L. DAVIS & F. LYNN DAVIS	4-CC24-144	F5	JEREMY J. KOLBA	04-CC29-229
O3	STARVAGGI INDUSTRIES	04-CC24-129	G5	GERALD D. JACKSON & JUDITH JACKSON	04-CC29-228
P3	BROWNLEE LAND VENTURES	370-001-00-00-0015-00	H5	NEAL E. SMITH & JOAN W. SMITH	04-CC29-194.2
Q3	KENNETH D. VARNER JR. & CECELIA C. VARNER	370-001-00-00-0014-00	I5	RUTH ANN STEWART & MADELOEN DAWN JACKSON	04-CC29-194
R3	PETER J. KLOVANISH INC., PETE KLOVANISH	370-001-00-00-0012-00	J5	ROBERT LEE FRESHWATER	04-CC29-134
S3	KENNETH D. VARNER JR. & CECILIA C. VARNER	370-004-00-00-0002-00	K5	JERRY FLUHARTY & MARY FLUHARTY	04-CC29-133
T3	ANGELO F. FALCONI & PHILLIP FALCONI	370-004-00-00-0003-00	L5	ROBERT L. YOUNG	04-CC29-132
U3	WILLIAM TACZAK & GEORGE TACZAK	370-004-00-00-0047-00	M5	ERIC W. CAMPBELL	04-CC29-117
V3	RONALD B. POWELL JR. & ROSEANNE POWELL	370-007-00-00-0002-02	N5	CHARLES L. KRAFT	04-CC29-111
W3	DAVID J. DEMPSTER & JOANNE K. DEMPSTER	370-007-00-00-0002-03	O5	EMILIO A. MUSCEDERE & JUDITH A. MUSCEDERE	04-CC29-53
X3	WILLIAM TACZAK & GEORGE TACZAK	370-008-01-01-0001-01	P5	EMILIO A. MUSCEDERE & JUDITH A. MUSCEDERE	04-CC29-54
Y3	ALBERT PETRUSH & JAMIE GMITER	370-007-00-00-0002-05	Q5	JOHN H. LYLE JR. & MARY C. LYLE	04-CC29-55
Z3	INDEPENDENCE-EXEMPT PROPERTY, LOWER BUFFALO PRESBYTERIAN CHURCH	370-008-01-03-0002-00	R5	JOHN H. LYLE JR. & MARY C. LYLE	04-CC29-56
A4	LINDA LEA HALL	370-008-01-03-0003-00	S5	BRIAN T. FERDA & VI-EVA FERDA	04-CC29-58
B4	EUGENE F. GEORGETTI & SHIRLEY L. GEORGETTI	370-008-01-03-0006-00	T5	BRIAN T. FERDA & VI-EVA FERDA	04-CC29-59
C4	JOSEPH J. DEPETRO III	370-008-01-03-0011-00	U5	BRIAN T. FERDA & VI-EVA FERDA	04-CC29-60
D4	JASON J. ATKINSON	370-008-01-03-0012-00	V5	GARY KUSICH & PATRICIA ELAINE KUSICH	04-CC29-61
E4	KENNETH H. RUSH & SANDRA K. RUSH	370-008-01-03-0013-00	W5	GARY KUSICH & PATRICIA ELAINE KUSICH	04-CC29-62
F4	ROBERT S. KLEM & TERESA A. KLEM	370-008-01-03-0014-00	X5	ROGER L. CLEM & MILDRED O. CLEM	04-CC29-63
G4	WALTER J. KOPKO & HOLLY A. KOPKO	370-008-01-03-0015-00	Y5	RONALD LEE HICKS & DEBRA V. HICKS	04-CC29-43
H4	WALTER J. KOPKO & HOLLY A. KOPKO	370-008-01-03-0016-00	Z5	ROBERT R. NEWTON JR.	04-CC29-41.1
I4	LISA M. PITTMAN	370-008-01-03-0017-00	A6	NATALIE J. PAPSON	04-CC29-41
J4	LISA M. PITTMAN	370-008-01-03-0018-00	B6	MARK A. HONE & LAUREN M. HONE	04-CC29-39.2
K4	INDEPENDENCE-EXEMPT PROPERTY, TOWNSHIP SUPERVISORS	370-008-01-03-0019-00	C6	ARLEY R. MITCHELL & NANCY E. MITCHELL	04-CC29-39.11
L4	TERRY G. JACOBS JR. & SAMANTHA L. JACOBS	370-008-00-00-0008-00	D6	ALFRED J. ROCCHIO JR. & SHERRY E. ROCCHIO	04-CC29-39.8
M4	ROBERT L. DEPETRO JR. & REBECCA DEPETRO	370-008-00-00-0005-00	E6	JEFFERY LUCK & JANE DAUGHERTY-LUCK	04-CC29-39.13
N4	JACK M. HOPWOOD	370-011-00-00-0010-01	F6	JEFFERY LUCK & JANE DAUGHERTY-LUCK	04-CC29-39.1
O4	PAUL A. CUNNINGHAM	370-012-00-00-0002-00	G6	MITCHELL SPURLOCK & RANA D. MITCHELL	04-CC29-40
			H6	JOHN E. MITCHELL & JOAN R. MITCHELL	04-CC29-39.16
			I6	EMILY BEALL & STEPHANIE BEALL	04-CC29-39.15
			J6	CHAD A. SOLE & MISTY D. SOLE	04-CC29-39.20
			K6	COREY L. PALMER & ALLYSON M. PALMER	04-CC24-143
			L6	PHILLIP E. BLANKENSHIP	04-CC24-153
			M6	KEITH J. FISCHER & DAWN MARIE FISCHER	04-CC24-152
			N6	KIMBERLY L. DEFIBAUGH	04-CC24-149
			O6	JOHN E. MITCHELL & JOAN R. MITCHELL	04-CC29-39.5
			P6	FREDERICK C. CASALE & SUZANNE CASALE	04-CC29-39.12
			Q6	THOMAS COLE & VIRGINIA COLE	04-CC24-127
			R6	EUGENE MITCHELL JR. & MARGARET MITCHELL - LIFE, JESSE MITCHELL ET AL	04-CC24-131
			S6	EUGENE MITCHELL JR. & MARGARET MITCHELL - LIFE, JESSE MITCHELL ET AL	04-CC24-126
			T6	GEORGE A. BARCHIESI & PAMELA J. BARCHIESI	04-CC24-125
			U6	GEORGE A. BARCHIESI & PAMELA J. BARCHIESI	04-CC24-122
			V6	TODD P. FERGUSON & LISA FERGUSON	04-CC24-99.1
			W5	TODD P. FERGUSON & LISA FERGUSON	04-CC24-120
			X6	JERRY M. BOOTH & DEBRA D. BOOTH	04-CC24-119
			Y6	PAUL J. SICURELLA & LEA M. SICURELLA	04-CC24-118
			Z6	DAVID HUNT KINS & PATRICIA ANN KINS	04-CC24-116
			A7	JEFFREY L. ADAMS & SHELIA D. ADAMS	04-CC24-115
			B7	JEFFREY L. ADAMS & SHELIA D. ADAMS	04-CC24-114
			C7	ARTHUR SCHERICH & LEIGH ANN SCHERICH	04-CC24-113

<b>REVISIONS:</b> Δ REVISED REFERENCES 06-05-2020 Δ REVISED DHP 12-16-2020	COMPANY: <div style="text-align: center;">  </div>	<div style="text-align: center;">  </div>
OPERATOR'S STATE OF WV DNR C BRK WELL #: 8H DISTRICT: CROSS CREEK	COUNTY: BROOKE	API: 47-009-00310 STATE: WV
DATE: 03-12-2020		DRAWN BY: N. MANO SCALE: N/A DRAWING NO: WELL LOCATION PLAT 4

**JACKSON SURVEYING  
INC.**

2413 EAST PIKE ST. # 112  
Clarksburg, WV 26302  
304-623-5851

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
D7	TRAVIS SMITH	04-CC24-112
E7	DEAN SMITH	04-CC24-111
F7	DEAN SMITH	04-CC24-110
G7	DEAN SMITH	04-CC24-109
H7	STEVEN BROWN	04-CC24-99.2
I7	RICHARD H. SCOTT & DENA M. SCOTT	04-CC24-104
J7	KEVIN L. CRAFT & MARGARET K. CRAFT	04-CC24-103
K7	SHELLY D. GAUMER	04-CC24-102
L7	JAY THOMAS GAUMER & SHELLY DAWN GAUMER	04-CC24-99.3
M7	MARK A. LAW & SANDRA K. LAW	04-CC24-101
N7	JOHN R. COOK & BEVERLY A. COOK	04-CC24-147
O7	JOSEPH M. MULLENBACH & SUSAN B. MULLENBACH	04-CC24-95
P7	JOSEPH M. MULLENBACH & SUSAN B. MULLENBACH	04-CC24-135
Q7	MICHAEL K. MCFADDEN & SHARON MCFADDEN	04-CC24-93
R7	MICHAEL J. CIPRIANI	04-CC24-142
S7	MICHAEL J. CIPRIANI	04-CC24-141
T7	JACK EARNEST & LESLIE M. EARNEST	04-CC24-138
U7	KEVIN M. FARRELL & HEIDI J. FARRELL	04-CC24-92
V7	KEVIN M. FARRELL & HEIDI J. FARRELL	04-CC24-91
W7	EDWARD ROBERT MARKS III & TONI JO MARKS	04-CC24-117
X7	RALPH A. BRADY & KIM BRADY	04-CC24-90
Y7	BRIAN L. FERGUSON & NANCY J. FERGUSON	04-CC24-89
Z7	JAMES E. HUFFNER & PATRICIA HUFFNER	04-CC24-88
AB	JAMES E. HUFFNER & PATRICIA HUFFNER	04-CC24-99.6
BB	CHRISTOPHER L. CECCHINI	04-CC24-87
CB	CHRISTOPHER L. CECCHINI & AMY CECCHINI	04-CC24-86
DB	MICHAEL SCOTT BOLEN	04-CC24-85
EB	DREW FERGUSON	04-CC24-84.1
FB	TERRI HEFFNER	04-CC24-84
GB	CHARLES WAYNE MALONEY & NANCY L. MALONEY	04-CC29-17
HB	JOHN STEVENS & LINDA STEVENS	04-CC24-56
IB	GEORGE L. BRADLEY	04-CC24-55
JB	RAYMOND S. CROSS, DENNIS P. CROSS, & KATHRYN R. BUTLER	04-CC24-13
KB	WHEELING ENERGY WORKS, LTD.	04-CC24-08
LB	MARK E. VAUGHN & LISA A. VAUGHN	04-CC24-09
MB	DAVID A. MIHLBAUER & TERI L. MIHLBAUER	04-CC24-10
NB	OTTIS T. PETTRY	04-CC24-12
OB	DON TAYLOR	04-CC24-06
PB	WILLIAM C. BAIRD & CYNTHIA L. BAIRD	04-CC24-05
QB	ALBERT D. JOHNS JR., GARY JOHNS, GREGORY JOHNS & TAMMY MOORE	04-CC23-326
RB	WILLIAM H. THOMPSON & DEBRA THOMPSON	04-CC23-320
SB	SAMUEL HUBBARD	04-CC23-318
TB	DAVID W. HAUGHT, JOSEPH HAUGHT, YOUNG HAUGHT, CRYSTAL HOIT & BONNIE HOIT	04-CC23-78
UB	SUSAN A. MALSON, CHARLES A. COOK, CATHERINE L. WOLFE, JOHN T. COOK & BONNIE A. MCKEE, TRUSTEES OF THE COOK FAMILY TRUST REVOCABLE TRUST AGREEMENT DATED APRIL 20, 2017	04-CC23-322
VB	BOBBIE JO MENEELY & RANDALL MINCH	04-CC23-324
WB	MICHAEL W. MOORE	04-CC23-323
XB	JUDITH ANN MOORE	04-CC19-185
YB	CHARLES D. MOORE & CECELIA P. MOORE	04-CC19-180
ZB	ROSE MARIE EDGELL	04-CC19-178
AB	CONSTANTINE EVANGELINOS & TOULA EVANGELINOS	04-CC19-171
BB	LINDY L. GALIANO	04-CC19-170
CB	STATE OF WEST VIRGINIA, BUREAU OF COMMERCE, DIVISION OF NATURAL RESOURCES, PUBLIC LAND CORPORATION	04-CC19-169
DB	DANNY NICKOLES & GRACE NICKOLES (LIFE), GREGORY DANIEL NICKOLES, RANDY LEE NICKOLES & JEFFREY OWN NICKOLES	04-CC19-160
EB	DAVID BAKER	04-CC19-164
FB	DOUGLAS P. EMMERTH & PAMELA L. EMMERTH	04-CC19-165
GB	STATE OF WEST VIRGINIA, BUREAU OF COMMERCE, DIVISION OF NATURAL RESOURCES, PUBLIC LAND CORPORATION	04-CC19-168
HB	GRETCHEN MOORE LANCEVIN, TRUSTEE & WESTBANCO BANK INC, TRUSTEE	04-CC20-05
IB	JOHN ERNEST MILLER & JESSE ANDREW MILLER	04-CC20-04
JB	SUSAN D. BREEN & DENNIS M. BREEN	04-CC20-22
KB	COLLIER'S SPORTSMAN CLUB	04-CC20-21

REVISIONS:	COMPANY:		
REVISOR: REVISED REFERENCES 06-05-2020 REVISOR: REVISED DHP 12-16-2020			
OPERATOR'S	STATE OF WV DNR C BRK	API:	DATE: 03-12-2020
WELL #:	8H	47-009-00310	DRAWN BY: N. MANO
DISTRICT:	CROSS CREEK	COUNTY:	SCALE: N/A
		STATE:	DRAWING NO:
		WV	WELL LOCATION PLAT 5

**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
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

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: SWN Production Company, LLC.  
 By: *Bailey Bronger*  
 Its: Landman - SW Appalachia

**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  
 State of WV DNR C BRK 8H  
 Brooke County, West Virginia

#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG
1)	04-CC20-0006-0000	Starvaggi Industries, Incorporated	Fortune Energy, Inc. Range Resources - Appalachia, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	9/532 10/226 10/541 30/480
2)	04-CC20-0008-0000	John Pronchik and Susan Kay Pronchik, husband and wife	SWN Production Company, L.L.C.	17.00%	37/347
3)	04-CC20-0010-0000	Charles T. McConnell and Barbara McConnell, husband and wife	SWN Production Company, L.L.C.	16.00%	34/82
4)	04-CC19-0169-0000	Ridgetop Appalachia LLC, a Delaware Limited Liability Company	SWN Production Company, L.L.C.	18.00%	45/169
5)	04-CC20-0033-0000	Nickoles 3, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	18/471 30/480
6)	04-C19K-0018-0000	Wheeling & Lake Erie Railway Company, a Delaware corporation, sublessee of the Pittsburgh & West Virginia Railway Company	SWN Production Company, LLC	18.00%	53/702
7)	04-CC23-0325-0000	Golden Eagle Resources II, LLC	SWN Production Company, L.L.C.	18.00%	40/591
8)	04-CC24-0003-0000	Starvaggi Industries, Incorporated	Fortune Energy, Inc. Range Resources - Appalachia, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	9/532 10/226 10/541 30/480
9)	04-CC24-0007-0000	Michael Ober, a single man	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	11/385 30/480
10)	04-CC24-0098-0000	Sharon K. Riggs, a single woman  Clayton W. Seiple and Lisa L. Seiple, husband and wife  Kevin W. Seiple and Jill Kuhlman, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	15.00%  18.00%  18.00%	18/791 30/480 24/298 30/480 24/649 30/480
11)	04-CC24-0099-0000	Sharon K. Riggs, a single woman  Clayton W. Seiple and Lisa L. Seiple, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	15.00%  18.00%	18/791 30/480 24/298 30/480

		Kevin W. Seiple and Jill Kuhlman, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	24/649 30/480
12)	04-CC24-0097-0000	Sharon K. Riggs, a single woman	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	15.00%	18/791 30/480
		Clayton W. Seiple and Lisa L. Seiple, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	24/298 30/480
		Kevin W. Seiple and Jill Kuhlman, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	24/649 30/480
13)	04-CC24-0099-0004	Sharon K. Riggs, a single woman	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	15.00%	18/791 30/480
		Clayton W. Seiple and Lisa L. Seiple, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	24/298 30/480
		Kevin W. Seiple and Jill Kuhlman, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	24/649 30/480
14)	04-CC24-0100-0000	Sharon K. Riggs, a single woman	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	15.00%	18/791 30/480
		Clayton W. Seiple and Lisa L. Seiple, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	24/298 30/480
		Kevin W. Seiple and Jill Kuhlman, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	24/649 30/480
15)	04-CC24-0099-0005	Sharon K. Riggs, a single woman	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	15.00%	18/791 30/480
		Clayton W. Seiple and Lisa L. Seiple, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	24/298 30/480
		Kevin W. Seiple and Jill Kuhlman, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	24/649 30/480
16)	04-CC24-0133-0000	Sharon K. Riggs, a single woman	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	15.00%	18/791 30/480
		Clayton W. Seiple and Lisa L. Seiple, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	24/298 30/480
		Kevin W. Seiple and Jill Kuhlman, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	24/649 30/480
17)	04-CC24-0134-0000	Sharon K. Riggs, a single woman	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	15.00%	18/791 30/480
		Clayton W. Seiple and Lisa L. Seiple, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	24/298 30/480
		Kevin W. Seiple and Jill Kuhlman, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	24/649 30/480

18)	04-CC24-0137-0000	Sharon K. Riggs, a single woman	Chesapeake Appalachia, L.L.C.	15.00%	18/791
			SWN Production Company, LLC		30/480
		Clayton W. Seiple and Lisa L. Seiple, husband and wife	Chesapeake Appalachia, L.L.C.	18.00%	24/298
			SWN Production Company, LLC		30/480
19)	04-CC24-0136-0000	Kevin W. Seiple and Jill Kuhlman, husband and wife	Chesapeake Appalachia, L.L.C.	18.00%	24/649
			SWN Production Company, LLC		30/480
		Sharon K. Riggs, a single woman	Chesapeake Appalachia, L.L.C.	15.00%	18/791
			SWN Production Company, LLC		30/480
20)	04-CC24-0145-0000	Clayton W. Seiple and Lisa L. Seiple, husband and wife	Chesapeake Appalachia, L.L.C.	18.00%	24/298
			SWN Production Company, LLC		30/480
		Kevin W. Seiple and Jill Kuhlman, husband and wife	Chesapeake Appalachia, L.L.C.	18.00%	24/649
			SWN Production Company, LLC		30/480
21)	04-CC24-0128-0000	Sharon K. Riggs, a single woman	Chesapeake Appalachia, L.L.C.	15.00%	18/791
			SWN Production Company, LLC		30/480
		Clayton W. Seiple and Lisa L. Seiple, husband and wife	Chesapeake Appalachia, L.L.C.	18.00%	24/298
			SWN Production Company, LLC		30/480
22)	04-CC29-0039-0019	Ray C. Beagle and Lillian J. Beagle, his wife	Fossil Creek Ohio, LLC	16.00%	29/164
			Gulfport Energy Corporation		31/102
			American Petroleum Partners Operating, LLC		32/363
			SWN Production Company, LLC		576/22
		Phil Beagle, a married man dealing in his sole and separate property	Fossil Creek Ohio, LLC	16.00%	29/169
			Gulfport Energy Corporation		31/102
			American Petroleum Partners Operating, LLC		32/363
			SWN Production Company, LLC		576/22
22)	04-CC29-0039-0018	Golden Eagle Resources II, LLC	SWN Production Company, LLC	18.00%	40/595
23)	04-CC29-0039-0018	Golden Eagle Resources II, LLC	SWN Production Company, LLC	18.00%	40/595
24)	04-CC29-0039-0000	Golden Eagle Resources II, LLC	SWN Production Company, LLC	18.00%	40/595
25)	04-CC29-0039-0017	Joseph E. Cross, Jr. and Jennifer L. Cross, husband and wife	SWN Production Company, LLC	18.00%	49/786
26)	04-CC29-0039-0021	Golden Eagle Resources II, LLC	SWN Production Company, LLC	18.00%	40/595
27)	04-CC29-0039-0007	David H. McClain and Karen McClain, husband and wife	SWN Production Company, L.L.C.	16.00%	36/515
28)	04-CC29-0057-0000	Matthew H. Fair and Robin C. Fair, husband and wife	SWN Production Company, L.L.C.	18.00%	40/411

Susan S. Fair, formerly known as Susan Fair Bruffy, a divorced woman	SWN Production Company, L.L.C.	18.00%	40/389
Debra R. Cyphert and Robert Cyphert, wife and husband	SWN Production Company, L.L.C.	18.00%	40/400

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

March 20, 2020

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

**RE:** SWN's proposed New Well: State of WV DNR C BRK 8H in Brooke County, West Virginia, Drilling under Norfolk Creek Ridge Road, Putney Ridge Road, Hill Road, Washington Pike, Spruce Road, and Camp Ground Run Road.

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 Norfolk Creek Ridge Road, Putney Ridge Road, Hill Road, Washington Pike, Spruce Road, and Camp Ground Run Road. Please be advised that SWN has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Thank you.

Sincerely,

A handwritten signature in blue ink that reads "Bailey Brougher".

Bailey Brougher  
Landman  
SWN Production Company, LLC