



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, November 2, 2020
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

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

Re: Permit Modification Approval for OV ROYALTY TRUST LLC BRK 5H
47-009-00318-00-00

**Shorten Total Measured Depth 29904' to 29613' and Lateral Length 23654.31' to 23357.53'.
Updated Landing Point Coordinates**

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', is positioned above the printed name and title.

James A. Martin
Chief

Operator's Well Number: OV ROYALTY TRUST LLC BRK 5H
Farm Name: THE GENE CHARLES VALENTINE TRUST DATE 5H
U.S. WELL NUMBER: 47-009-00318-00-00
Horizontal 6A New Drill
Date Modification Issued: 11/02/2020

Promoting a healthy environment.

WW-6B
(04/15)

API NO. 47-009 -
OPERATOR WELL NO. OV Royalty Trust LLC BRK 5H
Well Pad Name: OV Royalty Trust LLC BRK

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 02-Cross 620-Steubenville
Operator ID County District Quadrangle

2) Operator's Well Number: OV Royalty Trust LLC BRK 5H Well Pad Name: OV Royalty Trust LLC BRK

3) Farm Name/Surface Owner: The Gene Charles Vale Trust dated 11/28/88 Public Road Access: Rabbit Hill Road

4) Elevation, current ground: 1181' Elevation, proposed post-construction: 1181'

5) Well Type (a) Gas Oil Underground Storage

Other _____

(b) If Gas Shallow Deep

Horizontal

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s): 12-15-20
Target Formation- Marcellus, Up-Dip well to the North, Target Top TVD- 5727', Target Base TVD- 5793', Anticipated Thickness- 66', Associated Pressure- 3765

8) Proposed Total Vertical Depth: 5778'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 29,613'

11) Proposed Horizontal Leg Length: 23,357.53'

12) Approximate Fresh Water Strata Depths: 396'

13) Method to Determine Fresh Water Depths: Salinity calculations from OV Royalty 3H logs (API 47-009-00094)

14) Approximate Saltwater Depths: 512' Salinity Profile

15) Approximate Coal Seam Depths: 236'

16) Approximate Depth to Possible Void (coal mine, karst, other): Possible Void 236'

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: Gilchrist and/or Labelle No. 3
Depth: 236'
Seam: Pittsburgh
Owner: OV Royalty Trust LLC

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Office of Oil and Gas

OCT 23 2020

WV Department of
Environmental Protection

WW-6B
(04/15)

API NO. 47- 009
 OPERATOR WELL NO. OV Royalty Trust LLC BRK 5H
 Well Pad Name: OV Royalty Trust LLC 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	H-40	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	H-40	48#	450'	450'	436 sx/CTS
Coal	See	Surface	Casing				
Intermediate	9 5/8"	New	J-55	36#	1557'	1557'	601 sx/CTS
Production	6"	New	HCP-110	24#	0'	5000'	
	5 1/2"	New	J-55	20#	5000'	29,613'	Insd 644x/Tail 51063x/100' Inside Intra
Liners							

Cr. shd
10.15.20

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	Surface	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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Environmental Protection

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

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

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

Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This will be performed in stages with the plug and perf method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. In some instances, additional toe prep may be performed by pumping additional water in the toe of the well prior to perforating and pumping Stage 1 to ensure that the toe guns/toe sleeves are fully open prior to pumping stage 1. The well is produced through surface facilities consisting of high pressure production units, horizontal separation units, water and oil storage tanks. Max press and anticipated max rate- 9000 lbs @ 100 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 26.76

22) Area to be disturbed for well pad only, less access road (acres): 9.81

23) Describe centralizer placement for each casing string:

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

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

See Attachment ***

25) Proposed borehole conditioning procedures:

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

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*Note: Attach additional sheets as needed.

Southwestern Energy Company

Proposed Drilling Program

Well: OV ROYALTY TRUST LLC BRK 5 Re-entry Rig: TBD
 Field: PANHANDLE FIELD WET Prospect: PANHANDLE
 County: BROOKE State: WV
 SHL: 40.2857 Latitude -80.5842 Longitude
 BHL: 40.3470 Latitude -80.6121 Longitude
 KB Elev: 1,203 ft MSL KB: 26 ft AGL GL Elev: 1,181 ft MSL



C-ALL
10-15-20

Coal Void at 236' TVD

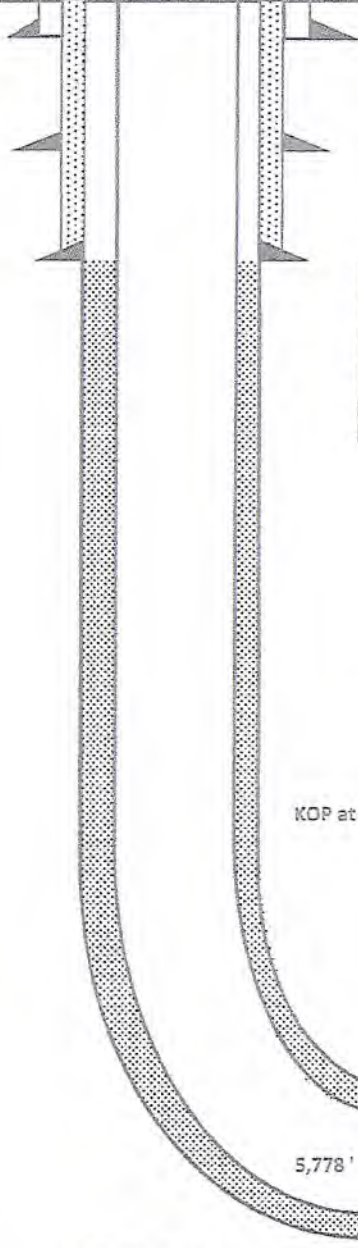
PROD TOC Lead @ 1,577' MD
 PROD TOC Tail @ 5,100' MD

TUBULAR DETAIL

	Size (in)	Weight	Grade	From	To
Conductor:	20	94.0 #	H-40	0'	100'
Surf./Coal:	13.375	48.0 #	H-40	0'	450'
Intermediate:	9.625	36.0 #	J-55	0'	1,557'
	6	24#	HCP-110	0'	5,000'
Production:	5.5	20#	J-55	5,000'	29,613'

CEMENT DETAIL

	Sacks	Class	Density
Conductor	151	A	19.3
Surface	436	A	15.6
Intermediate	601	A	15.6
Production Lead	644	A	15.6
Production Tail	5196	A	15.6



KOP at 5,001' MD

Freshwater Depth - 396' TVD
 Coal Void Depth - 236' TVD
 Saltwater Depth - 512' TVD
 TVD - 5,778'
 TMD - 29,613'

5,778' Target Center

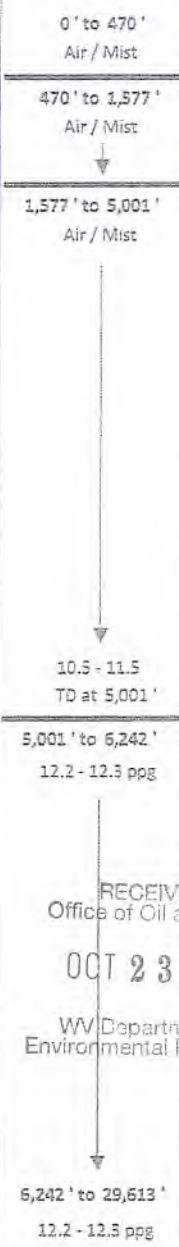
TD at 29,613' MD
 5,434' TVD

EOB at 5,778' TVD

SHL Onondaga 5,785' TVD

Onondaga 5,441' TVD

Created by: Matt Weems on 10/07/2020



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JACKSON SURVEYING INC.

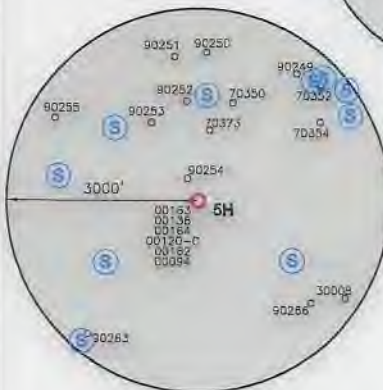
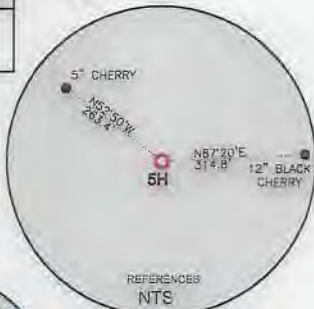
2413 EAST PIKE ST. # 112
Clarksburg, WV 26302
304-623-5851

Latitude: 40°22'30" N

BOTTOM HOLE 8,026'

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,459,551.027 EASTING: 535,340.687
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,459,719.959 EASTING: 535,538.356
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,466,348.010 EASTING: 532,939.382

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



3,000' 0 3,000'

GRAPHIC SCALE IN FEET

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	S 57°03'25" W	1484.72'	SHL TO LANDMARK	FD, 1" IRON PIN
L2	N 12°01'42" E	1234.78'	SHL TO LANDMARK	FOUND STONE
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L3	N 49°28'55" E	853.09'	1523.21'	SHL TO LPL

WELL RESTRICTIONS

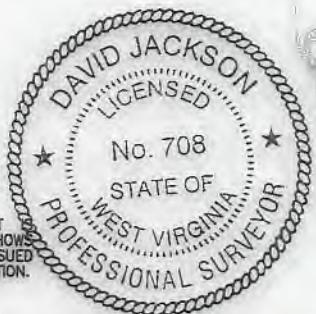
- NO OCCUPIED DWELLINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
- NO AGRICULTURE BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
- NO WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF PROPOSED WELL.
- NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
- NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
- NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

NOTES ON SURVEY

- 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.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.
- THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT 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

SWN

Production Company, LLC Production Company™



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25034

MINIMUM DEGREE OF ACCURACY: 1/200
 PROVEN SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)

OV ROYALTY TRUST LLC BRK
 OPERATOR'S WELL #: 5H
 API WELL #: 47 009 00318
 STATE COUNTY PERMIT

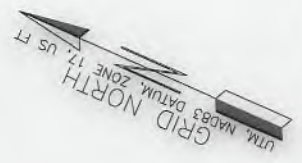
WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW
 WATERSHED: PAINTERS RUN OF BUFFALO CREEK (HUC-10) ELEVATION: 1180.6'
 DISTRICT: CROSS CREEK COUNTY: BROOKE QUADRANGLE: STUEBENVILLE EAST, WV
 SURFACE OWNER: THE GENE CHARLES VALENTINE TRUST DATED 11/26/86 ACREAGE: ±494.38
 OIL & GAS ROYALTY OWNER: THE GENE CHARLES VALENTINE TRUST DATED 11/26/86 ACREAGE: ±464.38
 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: 5,778' TVD 29,613' TMD



WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY
 ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200 ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200
 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND:	REVISIONS:	DATE: 10-07-2020
○ PROPOSED SURFACE HOLE / BOTTOM HOLE	— SURVEYED BOUNDARY	
★ EXISTING / PRODUCING WELLHEAD	— DRILLING UNIT	
LPL★ LANDING POINT LOCATION	— LEASE BOUNDARY	DRAWN BY: N. MANO
⊙ EXISTING WATER WELL	— PROPOSED PATH	SCALE: 1" = 3000'
⊙ EXISTING SPRING		DRAWING NO:
		WELL LOCATION PLAT

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

DETAIL "A"



REVISIONS: △	COMPANY:		 		
	OPERATOR'S			DATE: 10-07-2020	
	WELL #:			DRAWN BY: N. MANO	
	DISTRICT:		COUNTY:	STATE:	SCALE: N/A
	CROSS CREEK		BROOKE	WV	DRAWING NO: WELL LOCATION PLAT 2
OPERATOR'S OV ROYALTY TRUST LLC BRK WELL #: 47-001-00318 5H MID					

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

DETAIL "B"



DETAIL "C"



REVISIONS:

COMPANY:			
OPERATOR'S		OV ROYALTY TRUST LLC BRK	
WELL #:		47-001-00318 5H Mod	
DISTRICT:	COUNTY:	STATE:	DATE:
CROSS CREEK	BROOKE	WV	10-07-2020
DRAWING NO:		SCALE:	
WELL LOCATION PLAT 3		N/A	

**JACKSON SURVEYING
INC.**

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

WELL BORE TRACTS

TRACT	SURFACE OWNER (S) /ROYALTY OWNER (R)	TAX PARCEL
1	VALENTINE GENE CHARLES THE TRUST OF 11/26/86 (S/R)	04-CC22-41
TRACT	SURFACE OWNER (S)	TAX PARCEL
2	KIRCHNER CHARLES; ALLEMAN JUDITH KIRCHNER ET AL (S)	04-CC23-230
3	FREEMAN LAWRENCE M SR (S)	04-CC22-25
4	MICHAUX RON ETAL (LC-JASON & DEANNA GALLOWAY) (S)	04-CC22-22
5	SNODGRASS ERIN N (S)	04-CC22-21
6	TAYLOR DONALD C JR; WILLIAMS JOAN ET AL (S)	04-CC22-20
7	GEORGE EVA (S)	04-CC18-49
8	BOYD THOMAS M;RICHARD A; DAVIDS TRUSTESS IN TRUST THOMAS J (S)	04-CC18-57
9	BOARD OF EDUCATION (S)	04-CC18-33
10	BOARD OF EDUCATION (S)	04-CC18-34
11	BOARD OF EDUCATION (S)	04-CC18-35
12	BOARD OF EDUCATION (S)	04-CC18-37
13	PITTSBURGH & WVW RAILWAY CO (S)	04-CC18-30
14	NORFOLK & WESTERN RAILWAY CO (S)	04-C19K-18
15	BOARD OF EDUCATION (S)	04-CC18-31
16	BOFFO FAMILY LIMITED PARTNERSHIP (S)	04-CC18-7
17	BOFFO FAMILY LIMITED PARTNERSHIP (S)	04-CC18-5
18	BISHOP CATHOLIC DIOCESE WHG/CHARLESTON (S)	04-CC18-2
19	GRANTONIC MARY JO & FLOYD J POGGI HRS (S)	04-CC18-14
20	STATE OF WV (S)	ROUTE 2
21	NORFOLK SOUTHERN RAILWAY COMPANY (S)	RAILROAD
22	BELLAIRE HARBOR SERVICE LLC (LC-REBECCA JOHNSON) (S)	05-F18C-04
23	STATE OF WV (S)	OHIO RIVER
24	BUSINESS DEVELOPMENT CORP. OF THE NORTHERN PANHANDLE (S)	05-F14L-181

ADJOINING OWNERS TABLE

TRACT	Surface owners	TAX PARCEL
A	LUNSFORD JAMES	04-CC23-203
B	SCHIAPPA AND COMPANY INC	04-CC28-2
C	TRAUBERT JOHN W & NANCY	04-CC23-234
D	LISH PAUL & PATRICIA ANN(SURV)	04-CC22-50
E	OV ROYALTY TRUST LLC	04-CC22-49
F	CONAWAY RONALD,DONALD;PATRICIA	04-CC22-47
G	DONINI SAMUEL J & MELANIE A(SURV)	04-CC22-45
H	MCGOWAN LOUIS M & TINA L(SURV)	04-CC22-44
I	MCGOWAN LOUIS M	04-CC22-43
J	TENNANT RODNEY LEE	04-CC22-42
K	BOBER JOHN C III & JENNIFER R (SURV)	07-W22L-18
L	UNKNOWN OWNER	07-W22L-17
M	FRYER RICHARD L	07-W22L-11
N	ICE CHRISTINE L	07-W22L-8
O	ICE CHRISTINE L	07-W22L-9
P	ICE CHRISTINE L	07-W22L-10
Q	CLEMONS LARRY N & SANDRA K	07-W22L-4
R	UNKNOWN OWNER	07-W22L-5
S	RIGGS WILLIAM	04-C22G-82
T	ZAMPINI ROBERT J	04-C22G-81
U	ZAMPINI ROBERT J	04-C22G-80
V	MILLER FRANK & CONNIE	04-C22G-79
W	COLLEY JACKIE RAY & ROBERTA G	04-C22G-64
X	COLLEY JACKIE & ROBERTA	04-C22G-63
Y	FRAGALE FRANKLIN	07-W22G-7
Z	WHITE JOHN; ROBERT; FREY SHARON; LE-KATHRYN, JEFFREY & RALPH WHITE	07-W22G-5
A2	WHITE JOHN; ROBERT; FREY SHARON; LE-KATHRYN, JEFFREY & RALPH WHITE	04-C22G-8
B2	ROTHWELL DAVID R & WYNONNA	04-C22G-19
C2	BASSETT JOHN KELLY SR & MARSHA L	04-C22G-20
D2	FOWLER JUDITH L	04-C22G-31
E2	PRICE VIRGINIA	04-C22G-33
F2	ENNIS GEORGE; (LC JOSEPH A HARBIN & CROSS CHANNING M)	04-C22G-44
G2	ENNIS GEORGE F; (LC JOSEPH A HARBIN & CROSS CHANNING M)	04-C22G-45
H2	MILLER EARL W JR	04-C22G-46
I2	KOSCEVIC MARK	04-C22G-32
J2	SMITH TERRY L & LORA J	04-C22C-122
K2	CARUSO FRANK & LISA C (SURV)	04-C22G-60
L2	BOGGS CHARLES R	04-C22G-57
M2	ISINGHOOD CHARLES SR	04-CC22-32
N2	GEORGE JIMMIE D & ROBIN J	04-CC22-31
O2	ADAMS DALE E & MARY K (SURV)	04-CC22-30
P2	DIPASQUALE STEVEN P & MARCY (SURVIVOR)	04-CC22-26
Q2	MITCHELL SCOTT E	04-CC22-27
R2	BEATTY JAY M & BARBRA	04-CC22-28

ADJOINING OWNERS TABLE

TRACT	Surface owners	TAX PARCEL
S2	CLEM DONALD E SR & LINDA A (SURV)	04-CC22-19
T2	TAYLOR DUANE & DANA (SURVIVORSHIP)	04-CC22-20.2
U2	TAYLOR DUANE EDWARD & DANA ANN (SURV)	04-CC22-20.1
V2	LOUDIN ROBERT E	04-CC22-13
W2	TAYLOR DUANE R	04-CC22-02
X2	CARBASHO DAVE & STEPHANIE (SURV)	04-CC18-56
Y2	BARTZ MARTIN J JR	04-CC18-55
Z2	REED CAROL	04-CC22-01
A3	PRICE EARL D ; ROSSER LINDA L (SURV)	04-C22C-163
B3	NURMI MYRTLE COX (1/4 INT) & OTHERS (3/4 INT)	04-CC18-39
C3	BOYD THOMAS M; RICHARD A ;	04-CC18-58
D3	UNITED STATES OF AMERICA	04-CC18-38
E3	PITTSBURGH & WVA RAILWAY CO	04-CC18-29
F3	NORFOLK & WESTERN RAILWAY CO	04-CC18-28
G3	PITTSBURGH & WVA RAILWAY CO	04-CC18-27
H3	PITTSBURGH & WVA RAILWAY CO	04-CC18-21
I3	BELLAIRE HARBOR SERVICES LLC (LE-REBECCA JOHNSON)	04-CC18-20
J3	BELLAIRE HARBOR SERVICES LLC (LE-REBECCA JOHNSON)	04-CC18-19
K3	BELLAIRE HARBOR SERVICES LLC (LE-REBECCA JOHNSON)	04-CC18-18
L3	MOUNTAIN STATE CARBON LLC	05-0F10-14.3
M3	KOPPERS INDUSTRIES INC	05-0F14-01
N3	TRIMODAL TERMINAL LP	05-F14G-01
O3	TRIMODAL TERMINAL LP	05-F14G-133
P3	TRIMODAL TERMINAL LP	05-F14L-01
Q3	WHEELING NISSHIN INC	05-F14L-03
R3	FOLLANSBEE CITY OF	05-F14L-03.1
S3	FOLLANSBEE CITY OF	05-F14L-04
T3	FOLLANSBEE CITY OF	05-F14R-01
U3	FOLLANSBEE CITY OF	05-F14R-02
V3	WHEELING NISSHIN INC	05-F14R-03.1
W3	BUSINESS DEVELOPMENT CORP. OF THE NORTHERN PANHANDLE	05-F14R-03
X3	BUSINESS DEVELOPMENT CORP. OF THE NORTHERN PANHANDLE	05-F14R-58
Y3	BUSINESS DEVELOPMENT CORP. OF THE NORTHERN PANHANDLE	05-F14R-59
Z3	FOLLANSBEE CITY OF	05-F14R-60
A4	BUSINESS DEVELOPMENT CORP. OF THE NORTHERN PANHANDLE	05-F14R-61
B4	BUSINESS DEVELOPMENT CORP. OF THE NORTHERN PANHANDLE	05-F14R-62
C4	BUSINESS DEVELOPMENT CORP. OF THE NORTHERN PANHANDLE	05-F14R-63
D4	BAIRD WILLIAM C III & CYNTHIA (SURV)	05-F14R-64
E4	BAIRD WILLIAM C III & CYNTHIA (SURV)	05-F14R-65
F4	LODGE RONALD G	05-F14C-01
G4	SHUTE CHARLES L & CATHERINE (SURV)	05-F14C-02
H4	SHUTE BRIAN P	05-F14C-03
I4	YEATER BROOKS	05-F18C-10
J4	BENZO SYLVIA J	05-F18C-09
K4	BENZO SYLVIA J	05-F18C-08
L4	ALLMAN RENEE M	05-F18C-07
M4	ALLMAN RENEE M	05-F18C-06
N4	DESTEFANO DOLORES J	05-F18C-05
O4	BELLAIRE HARBOR SERVICES LLC (LE-REBECCA JOHNSON)	04-CC18-17

REVISIONS:

- △ REVISED MINGO ISLAND 03-02-2020
- △ ADDED INSET OF BHL 08-17-2020
- △ REVISED DHP 10-02-2020

COMPANY:

SWN
Production Company, LLC

SWN *R²-V⁺*
Production Company™

OPERATOR'S OV ROYALTY TRUST LLC BRK

WELL #: 47-009-00318 5H MOD

DISTRICT:
CROSS CREEK

COUNTY:
BROOKE

STATE:
WV

DATE: 10-07-2020

DRAWN BY: N. MANO



SCALE: N/A

DRAWING NO:
WELL LOCATION PLAT 4

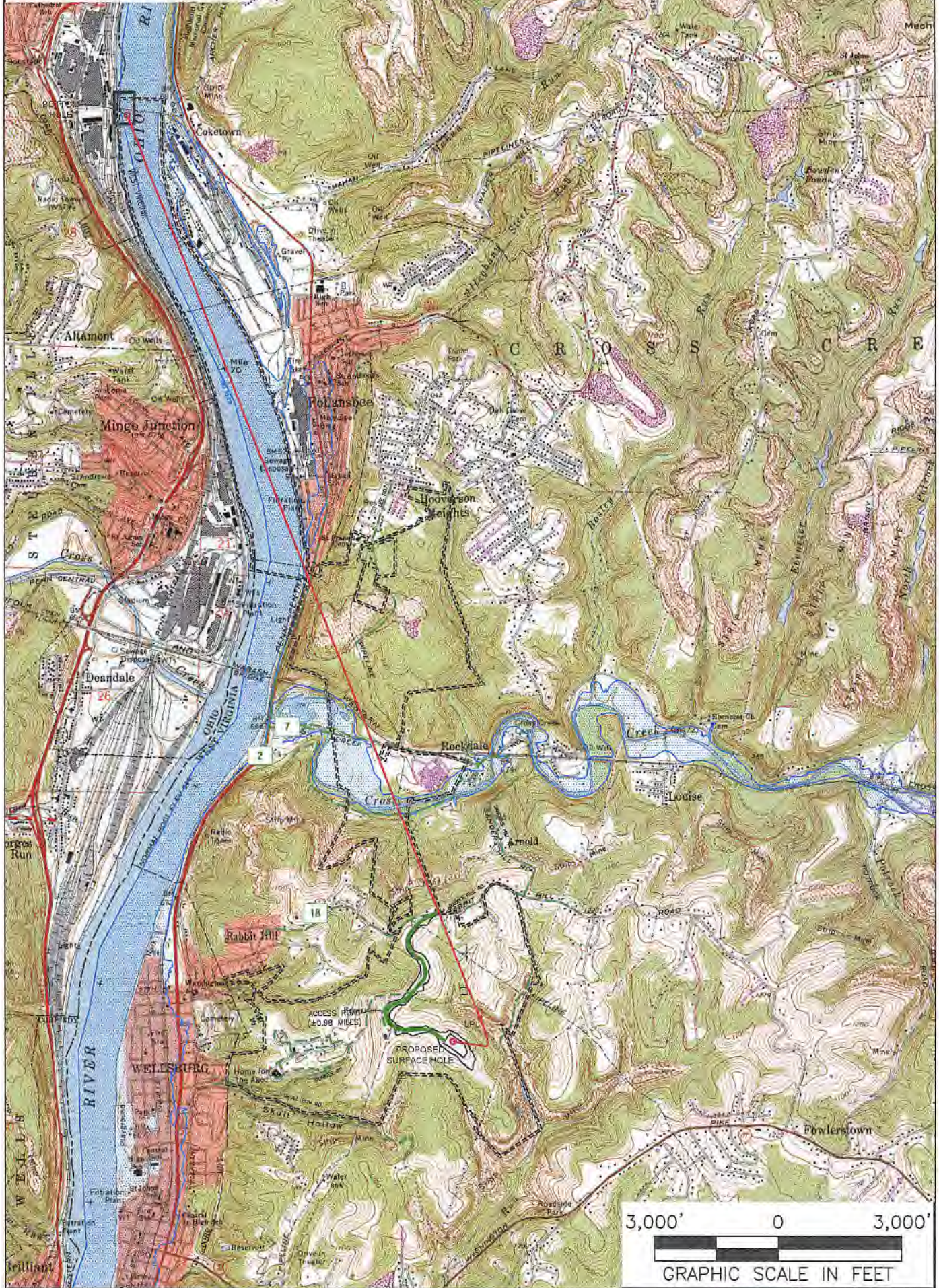
JACKSON SURVEYING
 INC.
 2413 EAST PIKE ST. # 112
 Clarksburg, WV 26302
 304-623-5851

ADJOINING OWNERS TABLE		
TRACT	Surface owners	TAX PARCEL
P4	LOMBARDI DANIEL PATRICK	04-CC18-16
Q4	LOMBARDI DANIEL P	04-CC18-15
R4	KLINE DANIEL A	05-F18C-39
S4	MCCALLISTER RANDY M JR	05-F18C-38
T4	SECRIST MATT C & KYLEE D	05-F18C-37
U4	MOSSER DENISE A	05-F18C-36
V4	POGGI ILONA	04-CC18-01
W4	DESIMONE MARK D & PENNY J	04-C14S-34
X4	KOKOS GEORGE	04-C14S-35
Y4	BINE MICHAEL J	04-C14S-48
Z4	TENNANT MARK ; CHARITY C (JTWS)	04-C14S-49
A5	COLUMBIA GAS	04-CC18-03
B5	FOLLANSBEE CITY OF	04-CC18-04
C5	JAC FRED A WV LLA A NORTH CAROLINA LLC	04-CC18-06
D5	LG OHI FOLLANSBEE LLC ; OHI LG ASSET MANAGEMENT LLC	04-CC18-08
E5	LG OHI FOLLANSBEE LLC ; OHI LG ASSET MANAGEMENT LLC	04-CC18-09
F5	LG OHI FOLLANSBEE LLC ; OHI LG ASSET MANAGEMENT LLC	04-CC18-10
G5	JAC FRED A WV LLA A NORTH CAROLINA LLC	04-CC18-11
H5	ORBAN KENT	04-CC18-12
I5	WILLIAMS BURL R JR	04-C14S-218
J5	EICHNER MICHAEL & LINDA S	04-C14S-74
K5	EICHNER MICHAEL A & LINDA S (SURV)	04-C14S-75
L5	BOFFO CARL & TAMMY SUE (SURV)	04-C14S-76
M5	FRANKENFELD TERRY L & CHERYL L (SURV)	04-C14S-77
N5	PRITCHARD STEPHEN & BARBARA	04-C14S-78
O5	BARNHART DAVID W & PAMELA A	04-C14S-79
P5	MCCOY RAYMOND H JR & CYNTHIA S (SURV)	04-C14S-80
Q5	DEARTH RICHARD C & STACEY A (SURV)	04-C14S-81.1
R5	BEATTY BRIAN	04-C14S-81.2
S5	BEATTY BRIAN L	04-C14S-219
T5	BEATTY BRIAN L	04-C14S-226
U5	RAY CHRISTOPHER O & KAREN L (SURV)	04-C14S-225
V5	BARBETTA MARK & DAWN	04-C14S-222
W5	BARBETTA MARK & DAWN	04-C14S-81.4
X5	ROKSANDICH MICHAEL P & KELLY J	04-C14S-81.3
Y5	WILLIAMS GARY L & SHARON J	04-C14S-84
Z5	BURCH AARON	04-C14S-97
A6	SHAWN BONNIE S	04-C14S-98
B6	BOFFO CARL & TAMMY SUE	04-C14S-128
C6	JAC FRED A WV LLA A NORTH CAROLINA LLC	04-C14S-129
D6	JAC FRED A WV LLA A NORTH CAROLINA LLC	04-C14S-130
E6	JAC FRED A WV LLA A NORTH CAROLINA LLC	04-C14S-131
F6	FRIEND LAURA M	04-C14S-132
G6	FRIEND ERNEST C JR & ROSALIND	04-C14S-153
H6	BINGIEL JAMES R SR	04-C14S-152
I6	ADAMS RAY L & LISA M (SURV)	04-C14S-133
J6	PENROD RONALD C & JUDITH A	04-C14S-134
K6	LOPEZ CHAS & AURORA	04-C14S-135
L6	KIRTLEY SHIRLEY M	04-C14S-136
M6	PINTUS MEGAN E	04-C14S-137
N6	WILLIAMS TIFFANY	04-C14S-138
O6	SMITH BRIAN L & DAWN E (SURV)	04-C14S-139
P6	KUZMA JOHN M & PATRICIA A	04-C14S-140
Q6	SANDRETH ELMER JR & REBECCA	04-C14S-141
R6	BOREMAN THOMAS E & SHARON	04-C14S-142
S6	BOREMAN THOMAS & SHARON (SURV)	04-C14S-223
T6	POWELL GARY W	04-C14S-143
U6	WAUGH HAROLD & SHIRLEY	04-C14S-174
V6	WAUGH HAROLD & SHIRLEY	04-C14S-175
W6	WAUGH HAROLD & SHIRLEY	04-C14S-176
X6	FOLLANSBEE CITY OF	04-C14S-177
Y6	CIONNI TERESA	04-C15N-58
Z6	TRAUBERT NORMA B., ET AL	04-C15N-77

ADJOINING OWNERS TABLE		
TRACT	Surface owners	TAX PARCEL
A7	STIFT SHERI A	04-C15N-87
B7	RICHARDSON DEAN & SHARON	04-C19A-10
C7	FORD ANGELA	04-C19A-106
D7	SECRIST WILLIAM D JR	04-C19A-116
E7	SNYDER RICK & ESTHER	04-C19A-117
F7	BOFFO VERA HUNT	04-C19A-137
G7	WEEKS JADE M & CHRISTOPHER D (JTWS)	04-C19E-138
H7	GEARY BARBARA	04-C19E-146
I7	JONES JAMES H JR; KEVIN ;CORDER DIANA L	04-C19E-04
J7	ROSONOVICH GEORGE F & ANNE	04-C19E-05
K7	HENLINE DARRELL & DONNA (SURV)	04-C19E-06
L7	BELL REBECCA S ; THOMAS C. (SURV)	04-C19E-07
M7	BELL REBECCA S ; THOMAS C. (SURV)	04-C19E-09
N7	MCABEE DONALD P & DENA D	04-C19E-10
O7	FODOR JEFFERY LOUIS & DREMA DAWN	04-C19E-12
P7	HOOKER BETH, JOSHUA A, JOSEPH C.	04-C19E-14
Q7	ROWLAND RALPH W & WILDA K	04-C19E-17
R7	MCGOWAN VIRGINIA L JOHNSON	04-C19E-19
S7	NORCROSS DONALD K; BARNES LURA R NORCROSS	04-C19E-24
T7	FRITZ JACKIE L & KEVIN M (SURV)	04-C19E-27
U7	BOARD OF EDUCATION	04-CC19-38
V7	BOFFO FAMILY LIMITED PARTNERSHIP	04-CC18-32
W7	NORFOLK & WESTERN RAILWAY CO	04-C19K-18
X7	BOARD OF EDUCATION	04-CC18-36
Y7	BROOKE COUNTY COMMISSION	04-CC19-193
Z7	BOARD OF EDUCATION, BROOKE COUNTY	04-CC19-38.1
A8	BURNS JAMES; COLLINS RANDY	04-CC19-14
B8	BLACK CLARENCE T JR; TAMMY L BLACK	04-CC19-36
C8	BLACK CLARENCE T JR; TAMMY L BLACK	04-CC19-35
D8	KOWALCZYK RANDY & LINDA LOUISE (SURV)	04-CC19-34
E8	KOWALCZYK RANDY & LINDA LOUISE (SURV)	04-CC18-33
F8	KOWALCZYK RANDY & LINDA LOUISE (SURV)	04-CC18-32
G8	JOHNSON TERRY R & BETH ANN	04-CC19-28
H8	RYAN RICHARD E & CAROLYN G	04-CC19-27
I8	MCALEER TRAVIS JAMES ; PIEHS KAREN A	04-CC19-26
J8	MARKER PHYLLIS	04-CC18-41
K8	HOSLER JOHN P & GERALDINE SURV	04-CC18-42
L8	BUCHWACH JAMES D	04-CC18-43
M8	DOUBLES JEAN SHIRLEY	04-CC18-44
N8	HIMMELRICK ROBIN L	04-CC18-45
O8	HENTHORN GARY	04-CC18-46
P8	HIMMELRICK ROBIN L	04-CC18-47
Q8	GEORGE EVA	04-CC18-48
R8	GEORGE EVA	04-CC18-52
S8	GEORGE EVA	04-CC18-53
T8	MCGOWAN DANIEL & MARJORIE G	04-CC19-06
U8	PRICE DONNA MARIE	04-CC22-23
V8	DODD JAMES HARWELL & LYNN I (SURVIVORSHIP)	04-CC22-24
W8	KIRCHNER CAROLYN F	04-CC23-233
X8	FREEMAN CAROLYN F & LAWRENCE	04-CC23-232
Y8	KIRCHNER DORIS J	04-CC23-231
Z8	TAYLOR FLOYD E SR & RHONDA C (SURV)	04-CC23-04
A9	CALDWELL SHAWN	04-CC23-03
B9	TAYLOR FLOYD EUGENE & RHONDA C (SURV)	04-CC23-05
C9	TATE RICHARD A.	04-CC23-07
D9	TATE RICHARD A.	04-CC23-08
E9	HALL DONALD R & BEVERLY J (SURV)	04-CC23-09
F9	MOZINGO ROBERT EVAN ; HERBERT JEFFERY ; STEIN CHRISTINE	04-CC23-11
G9	CUNNINGHAM HENRY	04-CC23-225
H9	CUNNINGHAM HENRY	04-CC23-226.1
I9	PATTISON ROD E & CYNTHIA A	04-CC23-227
J9	DOLL RANDALL P & KIMBERLY JO	04-CC23-204
K9	HALL DONNA KATHRYN	04-CC23-229

REVISIONS:	COMPANY:	 	
	OPERATOR'S	OV ROYALTY TRUST LLC BRK	DATE: 10-07-2020
	WELL #:	47-009-00318 5H MOD	DRAWN BY: N. MANO
	DISTRICT:	CROSS CREEK	SCALE: N/A
	COUNTY:	BROOKE	DRAWING NO:
	STATE:	WV	WELL LOCATION PLAT 5

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.
4. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

LEGEND:

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

WELL OPERATOR:
 SWN PRODUCTION COMPANY, LLC
 ADDRESS:
 1300 FORT PIERPONT ROAD, SUITE 200 MORGANTOWN, WV 26508
 SURFACE OWNER:
 THE GENE CHARLES VALENTINE TRUST DATED 11/26/86

WELL (FARM) NAME: OV ROYALTY TRUST LLC BRK	WELL # 5H	SERIAL #
COUNTY - CODE BROOKE - 009-00318 MGD	DISTRICT; CROSS CREEK	
USGS 7 1/2 QUADRANGLE MAP NAME STUEBENVILLE EAST, WV		

**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.

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Office of Oil and Gas
OCT 23 2020
WV Department of
Environmental Protection

Well Operator: SWN Production Company, LLC.
 By: *Bailey Brougher*
 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
 OV Royalty Trust LLC BRK 5H
 Brooke County, West Virginia



#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG
1) ✓	04-CC22-0041-0000	Gene Charles Valentine Trust dated November 26, 1986 and all amendments thereto	Great Lakes Energy Partners, L.L.C. Range Resources -- Appalachia LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	14.00%	10/121 20/733 10/552 30/480
2) ✓	04-CC23-0230-0000	H3 LLC, a West Virginia Limited Liability Company, by Michael E. Hoeft, its Manager SWN Production Company, LLC (Company Owned Minerals)	SWN Production Company, LLC	18.00%	53/245
3) ✓	04-CC22-0025-0000	H3 LLC, a West Virginia Limited Liability Company, by Michael E. Hoeft, its Manager SWN Production Company, LLC (Company Owned Minerals)	SWN Production Company, LLC	18.00%	54/265
4) ✓	04-CC22-0022-0000	Donald R. Michaux AKA Donald Ray Michaux and Shirley R. Michaux AKA Shirley Rae Michaux, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	396/555 (Mineral Deed) 54/265
5) ✓	04-CC22-0021-0000	Donald R. Michaux AKA Donald Ray Michaux and Shirley R. Michaux AKA Shirley Rae Michaux, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	396/555 (Mineral Deed) 14/126 30/480
6) ✓	04-CC22-0020-0000	Donald C. Taylor and Christina M. Taylor, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	14.00%	10/690 30/480
7) ✓	04-CC18-0049-0000	Eunice Jeanne Dodd, widow	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	14.00%	11/448 30/480
8) ✓	04-CC18-0057-0000	The Thomas J. Boyd Trust, Heather E. Boyd, Successor Co-Trustee and Marjorie P. Boyd, Successor Co-Trustee	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	21/68 30/480
9) ✓	04-CC18-0033-0000	Brooke County Board of Education, a West Virginia Public Corporation	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	26/181 30/480
10) ✓	04-CC18-0034-0000	Brooke County Board of Education, a West Virginia Public Corporation	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	26/181 30/480
11) ✓	04-CC18-0035-0000	Brooke County Board of Education, a West Virginia Public Corporation	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	26/181 30/480
12) ✓	04-CC18-0037-0000	Brooke County Board of Education, a West Virginia Public Corporation	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	26/181 30/480

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13) ✓	04-CC18-0030-0000	Wheeling & Lake Erie Railway Company, a Delaware corporation, sublessee of the Pittsburgh & West Virginia Railway Company	SWN Production Company, LLC	18.00%	53/702
14) ✓	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
15) ✓	04-CC18-0031-0000	Brooke County Board of Education, a West Virginia Public Corporation	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	26/181 30/480
16) ✓	04-CC18-0007-0000	The Boffo Family Limited Partnership, a West Virginia Limited Partnership	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	17.00%	13/469 30/480
17) ✓	04-CC18-0005-0000	The Boffo Family Limited Partnership, a West Virginia Limited Partnership	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	17.00%	13/470 30/480
18) ✓	04-CC18-0002-0000	BOFFO FAMILY, L.P., whose mailing address is 420 Lynn St., Follansbee, West Virginia 26037, represented herein by Carl Frederick Boffo, Managing General Partner	SWN Production Company, LLC	18.00%	53/696
19) ✓	04-CC18-0014-0000	Vespy Poggi and Ilona Poggi, husband and wife	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	14.00%	11/612 30/480
20) ✓	State Route 2	West Virginia Department of Transportation, Division of Highways	SWN Production Company, LLC	20.00%	56/202
21) ✓	Railroad	Norfolk Southern Railway Company, a Virginia corporation	SWN Production Company, LLC	18.00%	56/706
22) ✓	05-F18C-0004-0000	Bellair Harbor Services, LLC, an Ohio Limited Liability Company, represented herein by Robert Harrison, Sole Member	SWN Production Company, LLC	18.00%	55/788
23) ✓	Ohio River	State of West Virginia, Department of Commerce, Division of Natural Resources	SWN Production Company, LLC	20.00%	56/710
24)	05-F14L-0181-0000	Business Development Corporation of the Northern Panhandle	SWN Production Company, LLC	18.00%	58/633

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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

January 2, 2020

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

RE: SWN's proposed New Well: State of WV DNR A BRK 5H in Brooke County, West Virginia, Drilling under Putney Ridge Road, Tent Church Road, St. Johns Road, and WV-27

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 Putney Ridge Road, Tent Church Road, St. Johns Road, and WV-27. 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,

Bailey Brougher
Landman – SW Appalachia
SWN Production Company, LLC

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

October 22, 2020

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

RE: Proposed Expedited Modification: OV Royalty Trust LLC BRK 5H & OV Royalty Trust LLC BRK 205H

Dear Ms. ~~Adkins~~

Enclosed please find the required documents to modify this well. We are wanting to extend the laterals on both of these wells. These wells are situated on the OV Royalty's property, in Cross Creek District, Brooke County, West Virginia.

Enclosed you will find:

- Updated 6B
- Updated Casing Program
- AOR
- Mylar
- 6A1 & Road letter

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

Thank you.

Sincerely,

Brittany Woody

Brittany Woody
Senior Regulatory Analyst
Southwestern Energy Production Company, LLC

OK# 1053063
Amt \$5000
Date 10/13/20
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Office of Oil and Gas

OCT 23 2020

WV Department of
Environmental Protection

$\frac{R^+}{A} \rightarrow V^+$