



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

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Tuesday, March 9, 2021
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

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

Re: Permit Modification Approval for WILLIAM RITCHEA WTZ 205H
47-103-03368-00-00

Sidetrack for Well Bore. Total Measured Depth 22913' to 22925'. Horizontal Length 14456.12' to 14456.27. Coal Waiver included.

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 blue ink signature of James A. Martin.

James A. Martin
Chief

Operator's Well Number: WILLIAM RITCHEA WTZ 205H
Farm Name: WILLIAM D RITCHEA & SHIRLEY E RITCHEA
U.S. WELL NUMBER: 47-103-03368-00-00
Horizontal 6A New Drill
Date Modification Issued: 03/09/2021

Promoting a healthy environment.

03/12/2021

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 103- Wetzell 007-Proc 681-Wileyville
Operator ID County District Quadrangle

2) Operator's Well Number: Ritchea WTZ 205H Well Pad Name: William Ritchea WTZ pad

3) Farm Name/Surface Owner: William D. Ritchea & Shirley E. Ritchea Public Road Access: Harlan Ridge

4) Elevation, current ground: 1563' Elevation, proposed post-construction: 1563'

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

(b) If Gas Shallow Deep _____
Horizontal

6) Existing Pad: Yes or No Yes

DMA 2/26/21

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Target Formation- Marcellus, Up-Dip well to the North, Target Top TVD- 7548', Target Base TVD- 7597', Anticipated Thickness- 49', Associated Pressure- 4938

8) Proposed Total Vertical Depth: 7570' ✓

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 22,925' ✓

11) Proposed Horizontal Leg Length: 14,456.27' ✓

12) Approximate Fresh Water Strata Depths: 541' ✓

13) Method to Determine Fresh Water Depths: BOFW determined from salinity calculations from William Ritchea WTZ 3H logs (API 47-103-03129) ✓

14) Approximate Saltwater Depths: 1556' Salinity Profile Analysis ✓

15) Approximate Coal Seam Depths: 1492' ✓

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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WV Department of
Environmental Protection

03/12/2021

WW-6B
(04/15)

API NO. 47-¹⁰³ **4710303368**

OPERATOR WELL NO. Ritchea WTZ 205H

Well Pad Name: William Ritchea WTZ pad

18) CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	J-55	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	J-55	54.4#	591'	591'	433 sx/CTS
Coal	See	Interm	Casing				
Intermediate	9 5/8"	New	J-55	36#	2957'	2957'	846 sx/CTS
Production	5 1/2"	New	P-110	20#	22925'	22925' ✓	Tail 3910sx/ 100' inside Intermediate
Tubing							
Liners							

DMAH 2/26/21

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	Interm	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							

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Kind:				WV Department of Environmental Protection
Sizes:				
Depths Set:				

03/12/2021

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.)

17.0ppg cement plug set 800'-1600' for well sidetrack (25% excess – TOC anticipated between 580' and 780'). If, upon reentering well, TOC is found to be too deep or unable to kickoff sidetrack within existing plug, will set another plug and WOC before second attempt.

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, 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): 13.6

22) Area to be disturbed for well pad only, less access road (acres): 9.7

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 ***

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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.

*Note: Attach additional sheets as needed.

Southwestern Energy Company

Proposed Drilling Program

Well: WILLIAM RITCHEA WTZ 205 Re-entry Rig: SDC 41
 Field: VICTORY FIELD WET Prospect: Marcellus Shale
 County: WETZEL State: WV
 SHL: 39.6696 Latitude -80.6591 Longitude
 BHL: 39.6990 Latitude -80.6948 Longitude
 KB Elev: 1,589 ft MSL KB: 26 ft AGL GL Elev: 1,563 ft MSL



PROD TOC Lead @ 2,957' MD

TUBULAR DETAIL

Casing String	Casing Size (in)	Weight (Min)	Grade (Min)	Planned Interval	
				From	To
Conductor	20	94.0#	J-55	0'	100'
Surface	13.375	54.4 #	J-55	0'	591'
Intm/Coal	9.625	36.0 #	J-55	0'	2,957'
Production	5.5	20.0 #	P-110	0'	22,925'

CEMENT DETAIL

	Sacks	Class	Density
Conductor	151	A	19.3
Surface	433	A	15.6
Intermediate Coal:	846	A	15.6
Production:	3910	A	15.0

100' to 601'
Air/Mist

601' to 2,977'
Air/Mist

2,977' to 6,877'
Air/Mist

TD at 6,877'

6,877' to 8,174'
12.0-12.5 ppg

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8,174' to 22,925'
12.2-13.5 ppg

KOP at 6,877' MD

Freshwater Depth - 541' TVD
 Coal Depth - 1,492' TVD
 Saltwater Depth - 1,556' TVD
 TVD - 7,570'
 TMD - 22,925'

DMH 2/26/21

TD at 22,925' MD
7,184' TVD at TD

7,570' Target Center
TVD @ LP

EOB at 8,174' MD
SHL Onondaga 7,597' TVD

Onondaga 7,206' TVD

4710303368

Ritchea WTZ 205H or

API	Operator	Status	Latitude	Longitude	Vertical TD	Producing Formation	Producing Zones Not Perforated
01234	Perkins Oil and Gas Inc.	Active	39.7083	80.6611	4285'	Gordon Stray, Gordon	Berea, Slst
01291	Perkins Oil and Gas Inc.	Active	39.7083	80.625	3428'	Gordon Stray, Gordon, Fourth	Berea , Slst
70520	Unknown	Dry Hole			Unknown	Unknown	
02447	SWN Production Company, LLC	Active	39.7055	80.6971	7158'	Marcellus	Hamilton, Tully, & Geneseo
02448	SWN Production Company, LLC	Active	39.6947	80.6816	7249'	Marcellus	Hamilton, Tully, & Geneseo
00168	Columbia Gas Transmission, LLC	Active	39.75	80.685	2097'	Maxon	Slate, Lime
02453	SWN Production Company, LLC	Active	39.7083	80.6666	7293'	Marcellus	Hamilton, Tully, & Geneseo
02454	SWN Production Company, LLC	Active	39.6973	80.6942	7418'	Marcellus	Hamilton, Tully, & Geneseo
02461	SWN Production Company, LLC	Active	39.6957	80.698	7554'	Marcellus	Hamilton, Tully , & Geneseo

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4710303368

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

November 30, 2020

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

RE: SWN's proposed New Well: William Ritchea WTZ 205H in Wetzel County, West Virginia, Drilling under Blake Ridge Road, Middle Fork Road, Proctor Creek Road, Hollman Ridge Road, and Harland Ridge 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 Blake Ridge Road, Middle Fork Road, Proctor Creek Road, Hollman Ridge Road, and Harland Ridge 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,

Jane Swanson
Landman
SWN Production Company, LLC

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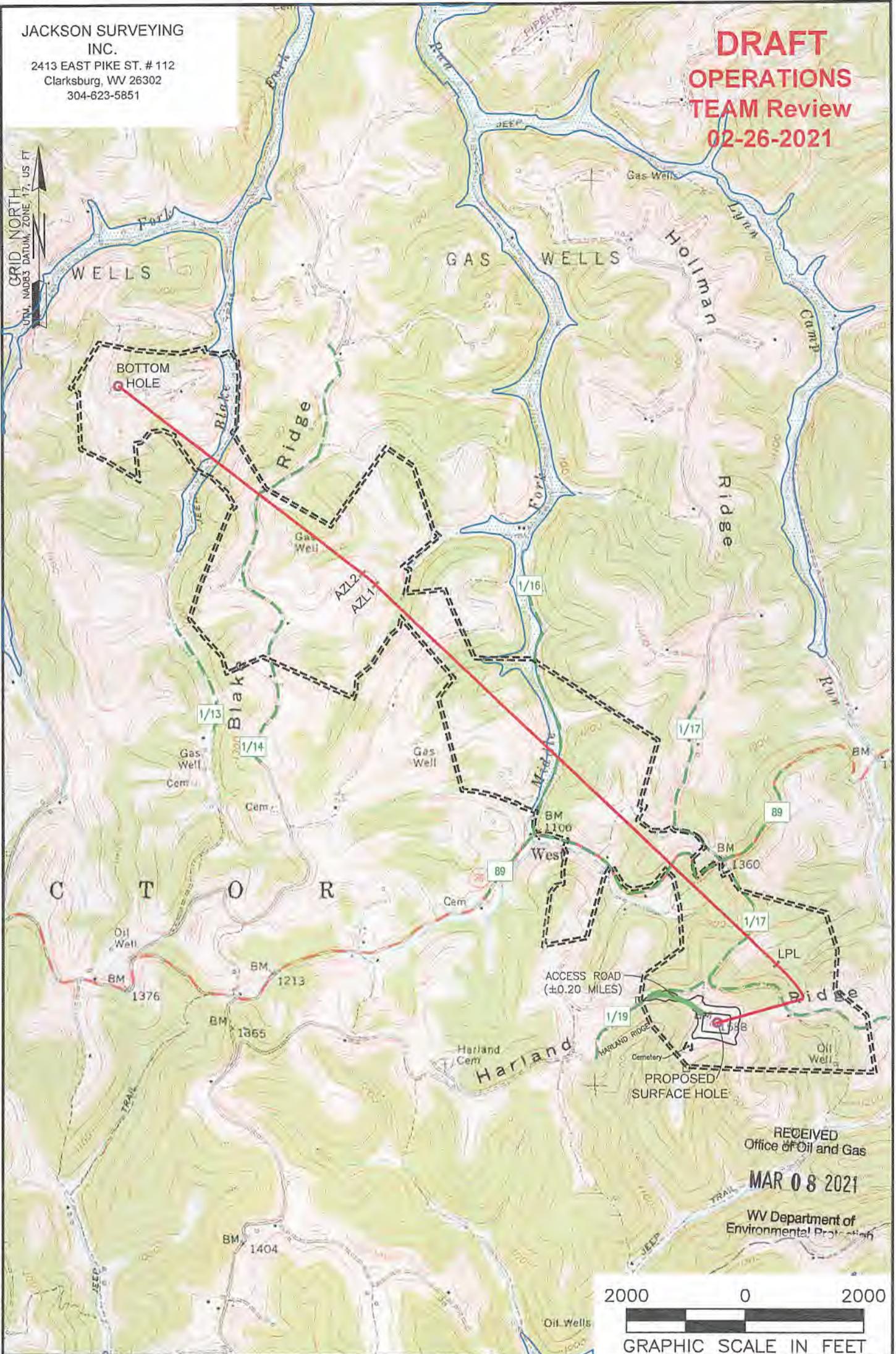
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The Right People doing the Right Things,
wisely investing the cash flow from our
underlying assets. **Value+**
03/12/2021

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

DRAFT
OPERATIONS
TEAM Review
02-26-2021



NOTES ON SURVEY

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

LEGEND:

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

03/12/2021

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: WILLIAM RITCHEA WTZ	WELL # 205H	SERIAL #
ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200 MORGANTOWN, WV 26508	COUNTY - CODE WETZEL - 103	DISTRICT; PROCTOR	
SURFACE OWNER: WILLIAM D. RITCHEA & SHIRLEY E. RITCHEA	USGS 7 1/2 QUADRANGLE MAP NAME WILEYVILLE, WV		

Latitude: 39°42'30"

SURFACE HOLE 9608'

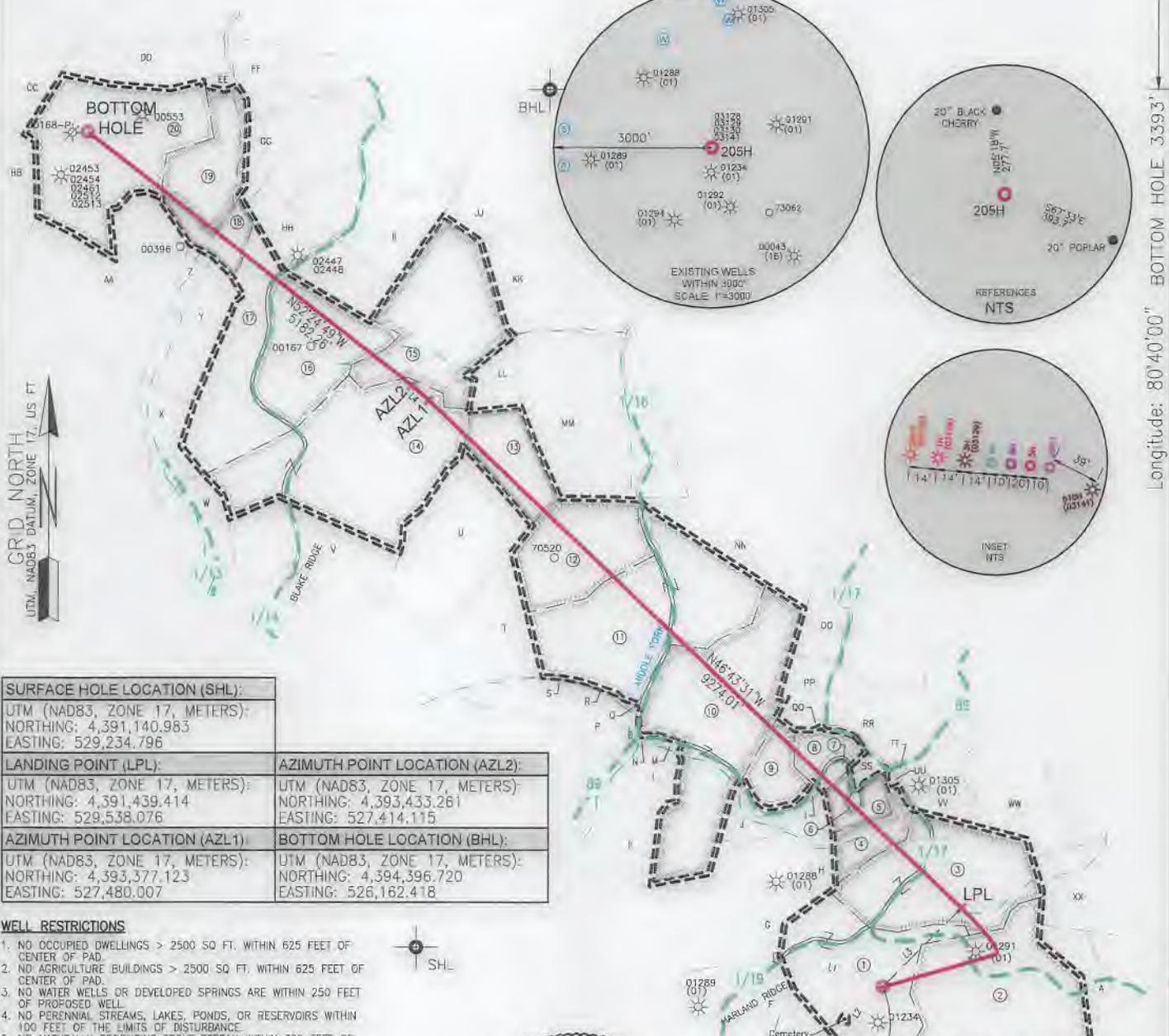
Latitude: 39°42'30"

BOTTOM HOLE 7927'

JACKSON SURVEYING INC.

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

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 74°04'26" W	1373.87'	SHL TO LANDMARK	FD. 5/8" REBAR
L2	S 34°19'41" W	924.31'	SHL TO LANDMARK	FD. 5/8" REBAR
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L3	N 45°27'42" E	1,395.95'	2245.10'	SHL TO LPL
L4	N 49°34'11" W	284.00'	284.10'	AZL1 TO AZL2



SURFACE HOLE LOCATION (SHL):	
UTM (NAD83, ZONE 17, METERS):	
NORTHING:	4,391,140.983
EASTING:	529,234.796
LANDING POINT (LPL):	
UTM (NAD83, ZONE 17, METERS):	
NORTHING:	4,391,439.414
EASTING:	529,538.076
AZIMUTH POINT LOCATION (AZL1):	
UTM (NAD83, ZONE 17, METERS):	
NORTHING:	4,393,377.123
EASTING:	527,480.007
AZIMUTH POINT LOCATION (AZL2):	
UTM (NAD83, ZONE 17, METERS):	
NORTHING:	4,393,433.261
EASTING:	527,414.115
AZIMUTH POINT LOCATION (AZL1):	
UTM (NAD83, ZONE 17, METERS):	
NORTHING:	4,394,396.720
EASTING:	526,162.418

WELL RESTRICTIONS

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

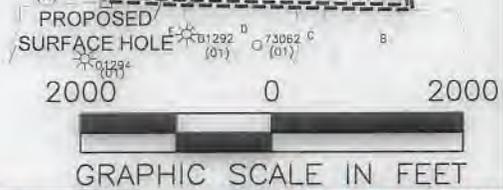
NOTES ON SURVEY

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2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
3. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

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

P.S. 708

David L Jackson



COMPANY: **SWN** Production Company, LLC

	(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS	MINIMUM DEGREE OF ACCURACY: 1/200	WILLIAM RITCHEA WTZ
	WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	PROVEN SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)	OPERATOR'S WELL #: 205H
			API WELL #: 47 STATE 103 COUNTY PERMIT 03368

WELL TYPE: OIL	WASTE DISPOSAL	PRODUCTION	DEEP	GAS <input checked="" type="checkbox"/>	LIQUID INJECTION	STORAGE	SHALLOW <input checked="" type="checkbox"/>
WATERSHED: FISH CREEK (HUC-10)				ELEVATION: 1562.9'			
DISTRICT: PROCTOR		COUNTY: WETZEL		QUADRANGLE: WILEYVILLE, WV			
SURFACE OWNER: WILLIAM D. RITCHEA & SHIRLEY E. RITCHEA				ACREAGE: ±62.00			
OIL & GAS ROYALTY OWNER: WILLIAM D. RITCHEA & SHIRLEY E. RITCHEA				ACREAGE: ±62.00			
DRILL <input checked="" type="checkbox"/>	DRILL DEEPER	REDRILL	FRACTURE OR STIMULATE <input checked="" type="checkbox"/>	PLUG OFF OLD FORMATION	PERFORATE NEW FORMATION		
CONVERT	PLUG & ABANDON	CLEAN OUT & REPLUG	OTHER CHANGE (SPECIFY)				
TARGET FORMATION: MARCELLUS				ESTIMATED DEPTH: 7,570' TVD 22,925' 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: 03-03-2021
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 AZL* AZMUTH POINT LOCATION	DRAWN BY: N. MANO SCALE: 1" = 2000' DRAWING NO: WELL LOCATION PLAT

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	RITCHEA WILLIAM D & SHIRLEY E (S/R)	12-0015-21
TRACT	SURFACE OWNER (S)	TAX PARCEL
2	DUELLEY BERNARD LEE ET AL & HALL SUSAN (S)	12-0015-22
3	LEMASTERS H C HRS & MANKER ; CHARLES V REVOCABLE LIVING TRUST (S)	12-0015-18
4	RITCHEA GARY A & ALICIA L (S)	12-0015-15
5	URBANEK SCOTT J & CHRYSYAL A (S)	12-0015-14
6	COX JAMES WILLIAM JR (S)	12-0015-14.1
7	URBANEK SCOTT J & CHRYSYAL A (S)	12-0015-03
8	RITCHEA WILLIAM D ; RITCHEA SHIRLEY (S)	12-0015-02
9	RITCHEA WILLIAM D ; RITCHEA SHIRLEY E (S)	12-0015-13.2
10	RITCHEA WILLIAM D & SHIRLEY E (S)	12-0014-09
11	GODDARD WAYNE (S)	12-0009-46
12	WOODSTUFF JOYCE K (S)	12-0009-44
13	BLAKE VERIL JEROME (S)	12-0009-42
14	TEEL GAY & DEWEY (S)	12-0009-41
15	BLAKE VERIL JEROME (S)	12-0009-21
16	LOWE MICHAEL S (S)	12-0009-31.1
17	GREATHOUSE JOHNNY K II ; GREATHOUSE CHELSEA P (S)	12-0009-31
18	HOHMAN ALBERT L & MARY L REVOCABLE LIVING TRUST (S)	12-0009-18
19	HOHMAN ALBERT L & MARY L REVOCABLE LIVING TRUST (S)	12-0009-10
20	BERISFORD BRENT ; BERISFORD CHRIS (S)	12-0009-02

ADJOINING OWNERS TABLE			ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL	TRACT	SURFACE OWNER	TAX PARCEL
A	HEETER HAROLD JR ETAL	12-0015-23	AA	KELLEY MARGARET SUE	12-0009-17
B	BROWN SANDY K	12-0015-28	BB	SCHEIBELHOOD EDWARD & SANDRA	12-0009-1
C	BROWN SANDY K	12-0015-27	CC	SCHEIBELHOOD KEITH MICHAEL ; SCHEIBELHOOD SALLY L	12-0004-31
D	DUELLEY BERNARD LEE ET AL & HALL SUSAN	12-0015-26	DD	HAYHURST COMPANY; HUGGINS MICHAEL A & PATRICK W HUGGINS PATRICK DEAN HUGGINS	12-0009-3
E	DUELLEY BERNARD LEE ET AL & HALL SUSAN	12-0015-25	EE	HOHMAN ALBERT L & MARY L REVOCABLE LIVING TRUST	12-0009-4
F	PITOSCIA WILLIAM R	12-0014-27	FF	HOHMAN ALBERT L & MARY L REVOCABLE LIVING TRUST	12-0009-5
G	PITOSCIA WILLIAM R	12-0014-16	GG	HOHMAN ALBERT L & MARY L REVOCABLE LIVING TRUST	12-0009-11
H	URBANEK SCOTT J & CHRYSYAL A	12-0015-13	HH	STARKEY JOHN S; JOHN W STARKEY	12-0009-19
I	URBANEK SCOTT & CHRYSYAL	12-0015-13.1	II	BLAKE LONNIE E	12-0009-20
J	RITCHEA WILLIAM D & SHIRLEY E	12-0015-34	JJ	SHULUGA ANDREW D & ANDREA M REVOCABLE TRUST	12-0009-13
K	LASURE MICHAEL E. & VELVA C.	12-0014-06	KK	GODDARD WAYNE L	12-0009-22
L	HUGGINS WAYNE & SANDRA	12-0014-09.1	LL	BLAKE VERIL JEROME	12-0009-32
M	LEMASTERS TONY R & ROBIN M	12-0014-09.2	MM	GODDARD WAYNE L	12-0009-33
N	HUGGINS WAYNE & SANDRA	12-0014-08	NN	HAESSLY HARDWOOD LUMBER CO	12-0010-23
O	HUGGINS WAYNE & SANDRA M	12-0014-07	OO	HUGGINS JOSEPH DEAN ; HUGGINS BOBBIE SUE	12-0010-31
P	HUGGINS WAYNE & SANDRA M	12-0009-46.1	PP	HUGGINS JOSEPH DEAN ; HUGGINS BOBBIE SUE	12-0015-1
Q	GODDARD WAYNE	12-0009-46.4	QQ	RITCHEA WILLIAM D ; RITCHEA SHIRLEY	12-0015-1.1
R	HUGGINS WAYNE & SANDRA M	12-0009-46.2	RR	HAESSLY LAND AND TIMBER LLC	12-0015-4
S	GODDARD WAYNE	12-0009-46.3	SS	STILES MARILYN DIANE ; STILES JESSIE GLENN	12-0015-14.2
T	KEENEY NORMAN E JR & NANCY M	12-0009-45	TT	STILES MARILYN DIANE ; STILES JESSIE GLENN	12-0015-16
U	BLAKE VERIL JEROME	12-0009-40	UU	RITCHEA GARY	12-0015-15.1
V	TAYLOR JAMES S	12-0009-39	VV	HAESSLY LAND AND TIMBER LLC	12-0015-17
W	PENDLEBURY ROBERT C & DENISE M	12-0009-38	WW	HAESSLY LAND AND TIMBER LLC	12-0015-5
X	HOHMAN ALBERT & MARY RLT ; HOHMAN JOE	12-0009-29.2	XX	LEMASTERS DOLLY G EST	12-0015-19
Y	HOHMAN ALBERT & MARY RLT ; HOHMAN JOE	12-0009-17.1	YY	LEMASTERS CEMETERY	12-15-20
Z	HOHMAN ALBERT & MARY RLT ; HOHMAN JOE	12-0009-17.2			

03/12/2021

REVISIONS:	COMPANY:		
	OPERATOR'S	WILLIAM RITCHEA WTZ	
	WELL #:	47-103-03348 MOD 205H	
	DISTRICT:	COUNTY:	STATE:
	PROCTOR	WETZEL	WV
			DATE: 03-03-2021
			DRAWN BY: N. MANO
			SCALE: N/A
			DRAWING NO:
			WELL LOCATION PLAT 2

**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"

*Co-tenancy utilization - At least 7 mineral owners in tract and at least 75% of the royalty owners have consented to the lawful use or development of the oil or natural gas mineral property on the tract. The interests of the remaining co-tenants will be secured pursuant to the Co-tenancy Modernization and Majority Protection Act.

**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.

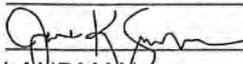
Well Operator: SWN PRODUCTION COMPANY, LLC
 By: 
 Its: LAWDMAN

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, L.L.C., Operator
 William Ritchea North 205H
 Wetzel County, West Virginia

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#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG	Interest Not Leased by SWN Production Company, LLC
1)	12-15-21	William D. Ritchea and Shirley E. Ritchea, husband and wife Bayer Corporation, successor in interest to Mobay Chemical Corporation Bayer Material Science LLC Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Bayer Material Science LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	60A/59 396/1 140A/883 157A/540	0.0000%
2)	12-15-22	Esther Peters, Paul J. Shiben, Katherine Mensore and Edward Shiben, as Executors under the wills of Joseph Shiben and Minnie Shiben, and Shiben Estates Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. Haddad and Brooks, Inc.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. Haddad and Brooks, Inc. SWN Production Company, LLC	15.00%	62A/309 65A/67 102A/302 113A/927 250A/215	0.0000%
		Garnet Snider and Hugh Snider, husband and wife Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	66A/645 65A/67 102A/302 157A/540	
		Harold E. Lemasters and Betty L. Lemasters, husband and wife Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	65A/54 65A/67 102A/302 157A/540	
		Arthur Liston, Donald J. Kisner, Lonzo Dolin, Herbert Heeter, Amos McPeak, Jr., George Dent Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	62A/294 65A/67 102A/302 157A/540	
		Chalmer T. Smith and Myrtle Smith, husband and wife Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	64A/639 65A/67 102A/302 157A/540	
		Albert G. Smith and Lillian Smith, husband and wife Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	64A/641 65A/67 102A/302 157A/540	
		Fred C. Smith and Imogene Smith, husband and wife Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	64A/643 65A/67 102A/302 157A/540	

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#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG	Interest Not Produced Company, LLC	MAA Department of Environmental Protection
		Fred A. Heeter and Janet K. Heeter; Frank E. Heeter and Kathleen J. Heeter; Thomas R. Heeter and Robin D. Heeter Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	65A/293 102A/302 157A/540		
		William G. Shepherd and Virginia S. Shepherd, husband and wife Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	65A/305 102A/302 157A/540		
3)	12-15-18	Isleta M. Horner (single) Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	60A/185 65A/67 102A/302 157A/540	0.0000%	
		Alta O. Horner (widow) Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	60A/187 65A/67 102A/302 157A/540		
		Jessie O. Freeland (widow) Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	60A/169 65A/67 102A/302 157A/540		
		Alfred O. Horner and Delores Horner, husband and wife Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	60A/479 65A/67 102A/302 157A/540		
		Judith Ann Keane and Michael Keane, husband and wife Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	60A/481 65A/67 102A/302 157A/540		
		Shirley Gerber (widow) Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	60A/469 65A/67 102A/302 157A/540		
		Joseph Lemasters and Greta Lemasters, husband and wife Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	60A/483 65A/67 102A/302 157A/540		
		Christina Davis (widow) Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	60A/443 65A/67 102A/302 157A/540		
		Catherine Mae Thorburn and Arthur Thorburn, wife and husband	Mobay Chemical Corporation	12.50%	60A/653		

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Wetzel County, West Virginia

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Environmental Protection
Interest Not Leased by SWN
Production Company, LLC

#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG	Interest Not Leased by SWN Production Company, LLC
		Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC		65A/67 102A/302 157A/540	
		Delia Lemasters, widow Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	60A/639 65A/67 102A/302 157A/540	
		Marlene Dunn and Alfred Dunn, husband and wife Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Mobay Chemical Corporation Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	60A/445 65A/67 106A/970 157A/540	
4)	12-15-15	Timothy G. Hill and Suzanne N. Hill; G. W. Grimm and Priscilla Grimm; James W. Haddix and Patricia M. Haddix Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	66A/425 103A/350 157A/540	0.0000%
5)	12-15-14	BRC Appalachian Minerals I, LLC BRC Working Interest Company, LLC Chesapeake Appalachia, L.L.C.	BRC Working Interest Company, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.875%	103A/320 103A/470 157A/540	0.0000%
		Carolyn Taylor and Lewis S. Taylor; Lewis S. Taylor, Attorney-in-Fact for Freda Taylor, Calvin Taylor and Diane Taylor, James and Charlotte Mars, Nila Taylor, Isabella and Bill Taylor, George and Ophia Gunter Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	66A/427 102A/302 157A/540	0.0000%
6)	12-15-14.1	BRC Appalachian Minerals I, LLC BRC Working Interest Company, LLC Chesapeake Appalachia, L.L.C.	BRC Working Interest Company, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.875%	103A/320 103A/470 157A/540	0.0000%
		Carolyn Taylor and Lewis S. Taylor; Lewis S. Taylor, Attorney-in-Fact for Freda Taylor, Calvin Taylor and Diane Taylor, James and Charlotte Mars, Nila Taylor, Isabella and Bill Taylor, George and Ophia Gunter Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	66A/427 102A/302 157A/540	0.0000%
7)	12-15-3	Scott J. Urbanek and Chrystal A. Urbanek, his wife Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	17.00%	144A/560 157A/540	0.0000%
8)	12-15-2	Thelma Taylor Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	66A/350 102A/302 157A/540	0.0000%
		George Gorby and Margaret Gorby Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	66A/449 102A/302 157A/540	

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Wetzel County, West Virginia

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Production Company, LLC

#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG	Interest
		Raymond W. & Mary E. Postlethwait, H/W Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	66A/461 102A/302 157A/540	
		Docia P. Whitman Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	66A/342 102A/302 157A/540	
9)	12-15-13.2	Gerald A. Ebert Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	73A/25 102A/302 157A/540	0.0000%
		Shirley K. Ebert Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	73A/19 102A/302 157A/540	
		Raymond L. Ebert Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	73A/13 102A/302 157A/540	
		Patricia B. Heslep and Jerry W. Heslep Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	73A/555 102A/302 157A/540	
		Barbara Jean Yoho Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	74A/55 102A/302 157A/540	
		Gary A. Ebert and Dorothy Ebert Haddad and Brooks, Inc.	Haddad and Brooks, Inc. SWN Production Company, LLC	12.50%	107A/822 250A/215	
10)	12-14-9	Lewis F. Blake and Opal M. Blake, his wife Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	66A/93 103A/350 157A/540	0.0000%
		William D. Ritchea and Shirley E. Ritchea Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	63A/48 102A/302 157A/540	
		Albert Woodstuff Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	71A/250 102A/302 157A/540	
11)	12-9-46	F. A. Buchner, Willard Herman, Dale A. Herman, Ray C. Herman, Dora Hall Palmer, Frankie E. Woodstuff and Albert Woodstuff	The Manufacturers Light and Heat Company	12.50%	47A/275	0.0000%
		The Manufacturers Light and Heat Company	Columbia Gas Transmission Corporation		263/164	
		Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. Albert Woodstuff Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C.	Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC Haddad and Brooks, Inc. Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	84A/129 402/446 176A/747 71A/250 102A/302 157A/540	0.0000%
		Blake Realty	SWN Production Company, LLC	18.00%	233A/938	

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#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG	Interest Not Leased by SWN Production Company, LLC
		Darlene Hall Waggoner, a married woman dealing in her sole and separate property	SWN Production Company, LLC	18.00%	225A/792	
		Gerald L. Hall, a married man dealing in his sole and separate property	SWN Production Company, LLC	18.00%	226A/327	
		Julie L. Price. A married woman dealing in her sole and separate property	SWN Production Company, LLC	18.00%	226A/332	
12)	12-9-44	F. A. Buchner, Willard Herman, Dale A. Herman, Ray C. Herman, Dora Hall Palmer, Frankie E. Woodstuff and Albert Woodstuff The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	47A/275 263/164 84A/129 402/446 176A/747	0.0000%
13)	12-9-42	The Mary E. Tracy Trust dated April 6, 1910, by Terri Coleman Hufnagel, acting as Substitute Trustee Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	113A/71 157A/540	0.0000%
		Edward A. Neuman & Isabelle Neuman, his wife; Frances Alma Emmert; & Mary A. Barnes, widow; Ola Vandergrift, widow; Loretta M. Sappington, widow; John A. Noon & Alison Noon, his wife The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	47A/67 263/164 84A/129 402/446 167A/9	
14)	12-9-41	Russell Gilbert and Christina Gilbert, his wife The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	47A/373 263/164 84A/129 402/446 157A/540	0.0000%
15)	12-9-21	Joseph S. Dopler and Veronica Dopler, his wife The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	The Manufacturers Light and Heat Company Columbia Gas Transmission Corporation Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	45A/300 263/164 84A/129 402/446 157A/540	0.0000%
16)	12-9-31.1	Rose Mary Herman, widow Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	84A/387 402/446 157A/540	0.0000%

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17)	12-9-31	Rose Mary Herman, widow Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	84A/387 402/446 157A/540	0.0000%
18)	12-9-18	Bertha M. Kelley, widow; Joseph V. Blake and Hilda L. Blake, his wife; Geraldine M. Drake and John Drake, her husband; Gladys V. Crow and Hoy W. Crow, husband; Gerald H. Blake and Bessie Blake, wife; Paul W. Blake and Carol R. Blake, wife; Mary Jean Frohnapfel and Gerald A. Frohnapfel, wife Columbia Gas Transmission Corporation Chesapeake Appalachia, L.L.C.	Columbia Gas Transmission Corporation Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	75A/73 90A/242 157A/540	0.0000%
19)	12-9-10	Bertha M. Kelley, widow; Joseph V. Blake and Hilda L. Blake, his wife; Geraldine M. Drake and John Drake, her husband; Gladys V. Crow and Hoy W. Crow, husband; Gerald H. Blake and Bessie Blake, wife; Paul W. Blake and Carol R. Blake, wife; Mary Jean Frohnapfel and Gerald A. Frohnapfel, wife Columbia Gas Transmission Corporation Chesapeake Appalachia, L.L.C.	Columbia Gas Transmission Corporation Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	75A/73 90A/242 157A/540	0.0000%
20)	12-9-2	* Royalty Owner Lillian L. Ramsey Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C.	N/a Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	N/a 12.50%	N/a 84A/494 402/446 157A/540	6.2500%
		Nancy Fout, a married woman dealing in her sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/78 173A/302	
		Agatha A. Lyons, a/k/a Agatha L. Hurlbert, a/k/a Agatha Anne Lyons, a single woman Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/232 173A/302	
		Patricia A. Masteller, a married woman dealing in her sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/229 173A/302	
		Charles B. Schafer, a married man dealing in his sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/244 173A/302	
		James A. Schafer, a married man dealing in his sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/235 173A/302	
		Robert T. Schafer, a married man dealing in his sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/241 173A/302	

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Wetzel County, West Virginia

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#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG	Interest Not Leased by SWN Production Company, LLC
		Howard J. Wells Estate, by Roger A. Wells, acting as Administrator Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/347 173A/302	
		Roger A. Wells, a married man dealing in his sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	100A/350 173A/302	

March 5, 2021

Mr. Taylor Brewer
Office of Oil & Gas
601 57th Street
Charleston, WV 25304

CK#
0001055788
\$5000.00
03/2/21

RE: Expedited Modification: William Ritchea WTZ 205H

Dear Mr. Brewer:

Enclosed please find the required documents to modify this well. Drilling got stuck downhole while drilling this well. We plan on setting a cement plug, skidding over to drill the William Ritchea WTZ 5H, and then coming back to the 205H and shift the lateral to finish drilling. This well is situated on the Ritchea's property, in Wetzel County, West Virginia.

Enclosed you will find:

- Updated 6B
- Updated WBD
- Signed Coal Waiver
- New Plat
- Leases

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Environmental Protection

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

Thank you.

Sincerely,



Brittany Woody
Senior Regulatory Analyst
Southwestern Energy Production Company, LLC

$\frac{R^2}{A} \rightarrow V^+$

WW-6B
(04/15)

API NO. 47-103
OPERATOR WELL NO. Ritchea Wtz 205H & 5H
Well Pad Name: William Ritchea Wtz pad

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 103- Wetzel 007-Proc 681-Wileyville
Operator ID County District Quadrangle

2) Operator's Well Number: Ritchea Wtz 205H & 5H Well Pad Name: William Ritchea Wtz pad

3) Farm Name/Surface Owner: William D. Ritchea & Shirley E. Ritchea Public Road Access: Harlan Ridge

4) Elevation, current ground: 1563' Elevation, proposed post-construction: 1563'

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

VOID

(b) If Gas Shallow Deep
Horizontal

DMH/2/26/21

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Target Formation- Marcellus, Up-Dip well to the North, Target Top TVD- 7548', Target Base TVD- 7597', Anticipated Thickness- 49', Associated Pressure- 4938

8) Proposed Total Vertical Depth: 7570'

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9) Formation at Total Vertical Depth: Marcellus

MAR 08 2021

10) Proposed Total Measured Depth: 22,925'

WV Department of
Environmental Protection

11) Proposed Horizontal Leg Length: 14,456.27'

12) Approximate Fresh Water Strata Depths: 541'

13) Method to Determine Fresh Water Depths: BOFW determined from salinity calculations from William Ritchea Wtz 3H logs (API 47-103-03129)

14) Approximate Saltwater Depths: 1556' Salinity Profile Analysis

15) Approximate Coal Seam Depths: 1492'

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: _____