



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

Wednesday, November 17, 2021
WELL WORK PERMIT
Horizontal 6A / New Drill

TUG HILL OPERATING, LLC
380 SOUTHPOINTE BOULEVARD, PLAZA II
SUITE 200
CANONSBURG, PA 15317

Re: Permit approval for BRECKENRIDGE S-20HU
47-051-02399-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless 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, Chief, is written over a white background.

James A. Martin
Chief

Operator's Well Number: BRECKENRIDGE S-20HU
Farm Name: CNX LAND LLC
U.S. WELL NUMBER: 47-051-02399-00-00
Horizontal 6A: New Drill
Date Issued: 11/17/2021

Promoting a healthy environment.

11/19/2021



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

November 5, 2021

Department of Environmental Protection
Office of Oil and Gas
Charleston, WV 25304

RE: Application for Deep Well Permit – API #47-051-02399

COMPANY: Tug Hill Operating, LLC

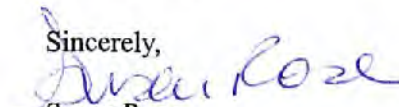
FARM: CNX Land, LLC Breckenridge S-20HU

COUNTY: Marshall DISTRICT: Cameron QUAD: Glen Easton

The deep well review of the application for the above company is Approved to drill to Trenton for Point Pleasant completion. Pooling Docket No. 302-306.

The applicant has complied with the provision of Chapter 22C-9, of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

1. Comments to Notice of Deviation filed? Yes. Docket No. 302-306.
2. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners? Yes
3. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells: **yes
4. Provided a plat showing that the productive interval of the well meets the requirements of the Rules of the Commission W. Va. C.S.R. § 39-1-4.2.

Sincerely,

Susan Rose
Administrator

**Hudson S-15HU 47-051-02328; Hudson S-16HU 47-051-02329; Breckenridge S-17HU 47-051-02396; Breckenridge S-18HU 47-051-02397; Breckenridge S-19HU 47-051-02398; Breckenridge S-21HU 47-051-02400; Breckenridge S-22HU 47-051-02401; Breckenridge S-23HU 47-051-02402

11/19/2021

PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
8. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
9. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
10. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

API Number: _____

PERMIT CONDITIONS

11. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov.

11/19/2021

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	30"	NEW	BW	BW	120'	120' ✓	259ft ³ (CTS)
Fresh Water/Coal	20"	NEW	J55	106.5#	1,150'	1,150' ✓	1839ft ³ (CTS)
Intermediate 1	13 3/8"	NEW	J55	54.5#	3,000'	3,000' ✓	2113ft ³ (CTS)
Intermediate 2	9 5/8"	NEW	HPP110	47#	10,834'	10,834' ✓	3542ft ³ (CTS)
Production	5 1/2"	NEW	P110	23#	24,319'	24,319' /	5755ft ³ (CTS)
Tubing	2 7/8"	NEW	P110	6.5#	11,401'		
Liners							

B.S. 6-17-21

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	30#	36#	1.0	2,333	1,866	CLASS A	1.2
Fresh Water/Coal	20"	26#	.5	2,410	1,928	SEE #24	1.2
Intermediate 1	13 3/8"	17 1/2"	.38	2,740	2,192	SEE #24	1.2
Intermediate 2	9 5/8"	12 1/4"	.472	10,730	6,968	SEE #24	1.33
Production	5 1/2"	8 1/2"	.415	16,510	13,208	SEE #24	1.17/1.19
Tubing	2 7/8"			14,530	11,624		
Liners							

PACKERS

Kind:	N/A			
Sizes:	N/A			
Depths Set:	N/A			

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WW-6B
(10/14)

API NO. 47- 051
OPERATOR WELL NO. Breckenridge S-201U
Well Pad Name: Breckenridge

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

Drill through the Point Pleasant and TD Pilot Hole 150' into the Trenton. Log vertical section and run a solid cement plug back to proposed KOP (10,901'). Drill curve and lateral per proposed well plan, run and cement production casing. Perform CBL from 60 deg to surface, make cleanout run, and stimulate.

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

Well to be completed with approximately 29,750,000 lb. proppant and 22,680,000 gallons of water. Max rate = 80bpm; max psi = 9,000#.

B.S 6-17-21

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 45.40

22) Area to be disturbed for well pad only, less access road (acres): 8.21

23) Describe centralizer placement for each casing string:

Will run 3 centralizers on surface casing at equal distance. Intermediate strings will have 1 centralizer every other joint. Production casing will have one centralizer every other joint in lateral, one centralizer every joint through curve, one centralizer every other joint to surface.

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

Sfc - Premium NE-1 + 2% CaCl; Int1 - Premium NE-1 + 1.5% CaCL + Flake; Int2 - Lead: Premium NE-1 + 5% BA-90 + .85% R-3 + 3% KCl + .75 gals/100sk FP-13L + 1% MPA-170 Tail: Premium NE-1 +.1% R-3 + 5% KCl + 1% CD-32 + .4% FL-52 +.2% ASA-301 + .6% Sodium Metasilicate; Kick Plug - Class H Cement + 1% CD-32 + .7% Sodium Metasilicate + .1% R-3 + .75 gal/100sk FP-13L; Prod - Lead: 50:50 (Poz:Class H) + .3% R-3 + .3% MPA-250 + .75 gal/100sk FP-13L Tail: 25:75 (Poz:Class H) + .3% R-3 + .3% MPA-250 + .375 gal/100sk FP-13L

25) Proposed borehole conditioning procedures:

Will circulate a minimum of 3 hours at TD, short trip to curve, circulate bottoms up, check for flow, POOH

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*Note: Attach additional sheets as needed.

4705102399



Well: Breckenridge S-20 HU (slot T)
 Site: Breckenridge (1 row)
 Project: Marshall County, West Virginia
 Design: rev4
 Rig:

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 2"/100' build
3	3750.00	3.00	0.00	3749.93	3.03	0.00	2.00	0.000	-3.39	Begin 3.00' tangent
4	4750.00	3.00	0.00	4748.55	58.25	0.00	0.00	0.000	-48.59	Begin 2"/100' drop
5	4900.00	0.00	0.00	4898.49	60.19	0.00	2.00	160.000	-51.98	Begin vertical hold
6	7001.51	0.00	0.00	7000.00	60.19	0.00	0.00	0.000	-51.98	Begin 2"/100' build
7	7593.26	11.84	334.50	7587.55	115.15	-26.22	2.00	334.496	-112.66	Begin 11.84' tangent
8	10901.20	11.84	334.50	10825.17	727.48	-318.34	0.00	0.000	-788.74	Begin 6"/100' build/turn
9	11931.15	50.00	149.57	11751.65	455.79	-147.08	6.00	175.720	-457.77	Begin 8"/100' build/turn
10	12418.71	89.00	150.20	11919.32	68.18	77.37	8.00	1.001	-16.86	Begin 89.00' lateral
11	24318.71	89.00	150.20	12127.00	-10256.66	5960.45	0.00	0.000	1877.91	PBHL/TD 24318.71 MD 12127.00 TVD

Geocetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD83 West Virginia - HARN
 Ellipsoid: GRS 1980
 Zone: Zone 17N (84 W to 78 W)

System Datum: Mean Sea Level
 Depth Reference: GL @ 1370.00ft

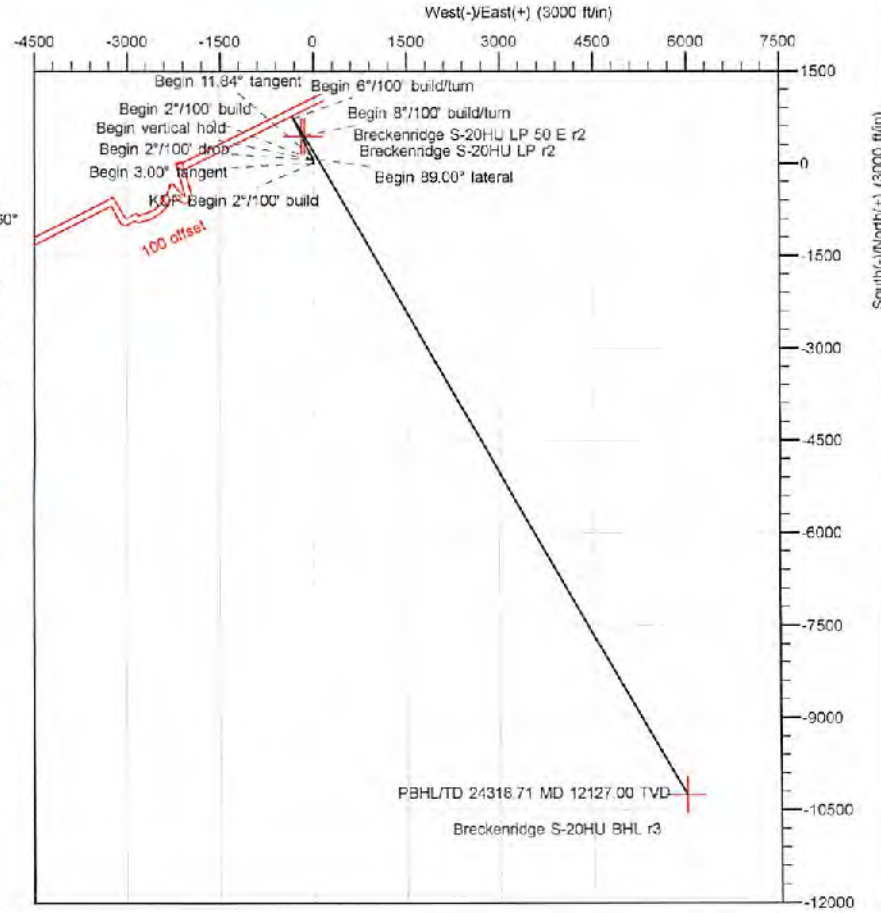
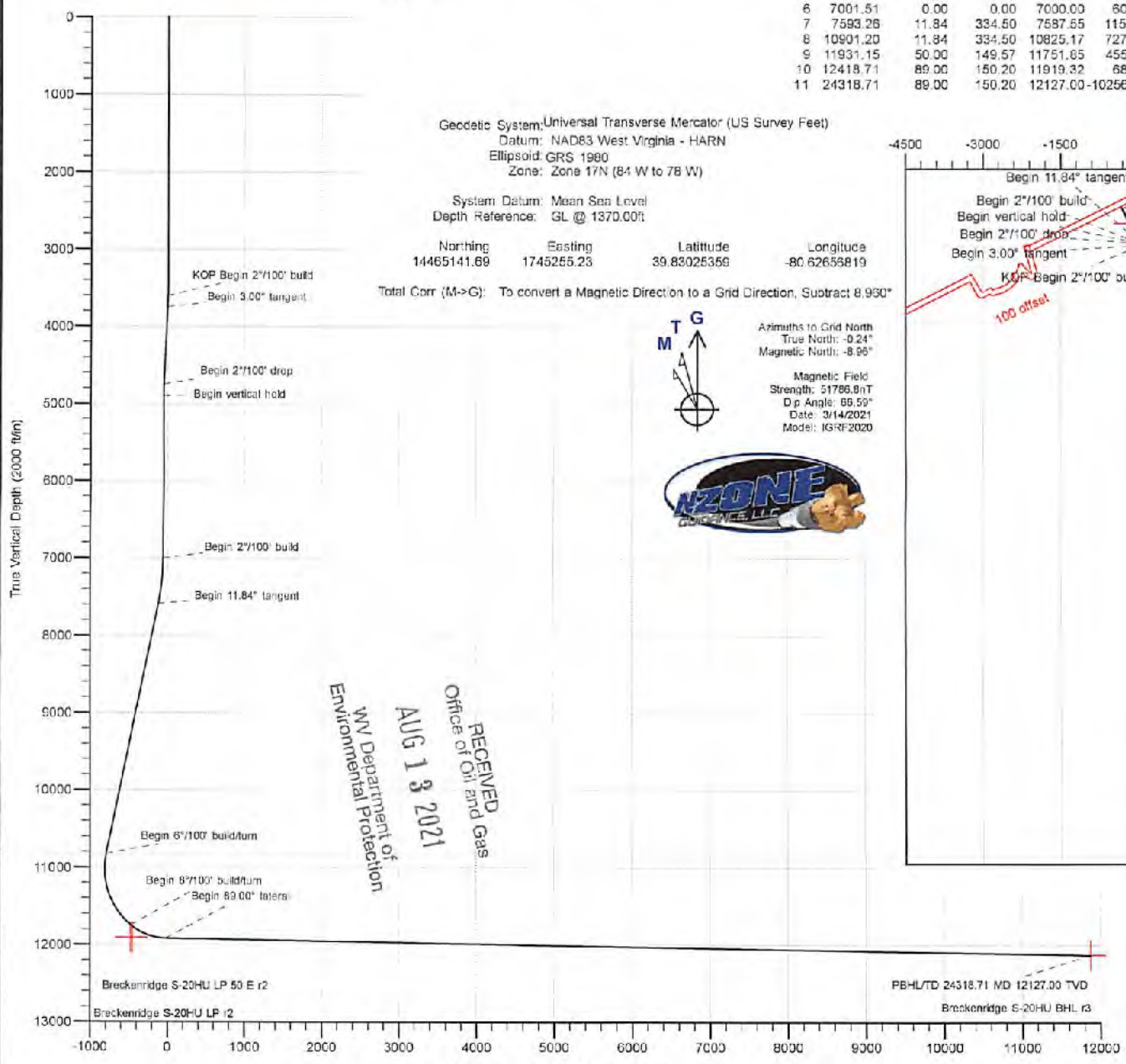
Northing: 14465141.69 Easting: 1745255.23 Latitude: 39.83025356 Longitude: -80.62655819

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.950°

T G
M A

Azimuths to Grid North
 True North: -0.24°
 Magnetic North: -8.95°

Magnetic Field
 Strength: 51786.8nT
 Dip Angle: 69.59°
 Date: 3/14/2021
 Model: IGRF2020



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Tug Hill Operating, LLC Casing and Cement Program

Breckenridge S-20HU

Casing

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	20"	J55	28"	1,150'	CTS
Intermediate 1	13 3/8"	J55	17 1/2"	3,000'	CTS
Intermediate 2	9 5/8"	HPP110	12 1/4"	10,834'	CTS
Production	5 1/2"	HCP110	8 1/2"	24,319'	CTS

Cement

Surface: Premium NE-1 + 2% bwoc CaC12 + 46.5% Fresh Water – Surface Cement mixed at 15.6 ppg, Y=1.2

Intermediate 1: Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 15.6 ppg, Y=1.2

Intermediate 2: Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 15.6 ppg, Y=1.99

Production: 50:50 Poz: Premium NE-1 + .1% bwoc ASA-301 + 60lb/sk ASCA-1 + .35% bwoc BA-10A + .25% bwoc MPA-170, 44 lb sack + .5% bwoc R-3 + .75 gals/100sk FP-13L – Production Cement mixed at 15.2ppg, Y = 1.18



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Breckenridge S-20 HU (slot T)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1370.00ft
Project:	Marshall County, West Virginia	MD Reference:	GL @ 1370.00ft
Site:	Breckenridge (1 row)	North Reference:	Grid
Well:	Breckenridge S-20 HU (slot T)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev4		

Project	Marshall County, West Virginia		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD83 West Virginia - HARN		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	Breckenridge (1 row)				
Site Position:		Northing:	14,465,184.76 usft	Latitude:	39.83037401
From:	Lat/Long	Easting:	1,745,068.18 usft	Longitude:	-80.62723379
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Breckenridge S-20 HU (slot T)					
Well Position	+N/-S	0.00 ft	Northing:	14,465,141.69 usft	Latitude:	39.83025359
	+E/-W	0.00 ft	Easting:	1,745,255.23 usft	Longitude:	-80.62658819
Position Uncertainty	0.00 ft		Wellhead Elevation:	ft	Ground Level:	1,370.00 ft
Grid Convergence:						

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	3/14/2021	-8.721	66.586	51,766.79563587

Design	rev4			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	149.72

Plan Survey Tool Program	Date			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	24,318.71 rev4 (Original Hole)		

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Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Breckenridge S-20 HU (slot T)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1370.00ft
Project:	Marshall County, West Virginia	MD Reference:	GL @ 1370.00ft
Site:	Breckenridge (1 row)	North Reference:	Grid
Well:	Breckenridge S-20 HU (slot T)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev4		

Plan Sections											
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000		
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.000		
3,750.00	3.00	0.00	3,749.93	3.93	0.00	2.00	2.00	0.00	0.000		
4,750.00	3.00	0.00	4,748.56	56.26	0.00	0.00	0.00	0.00	0.000		
4,900.00	0.00	0.00	4,898.49	60.19	0.00	2.00	-2.00	0.00	180.000		
7,001.51	0.00	0.00	7,000.00	60.19	0.00	0.00	0.00	0.00	0.000		
7,593.26	11.84	334.50	7,587.55	115.15	-26.22	2.00	2.00	-4.31	334.496		
10,901.20	11.84	334.50	10,825.17	727.48	-318.34	0.00	0.00	0.00	0.000		
11,931.15	50.00	149.57	11,751.85	455.79	-147.08	6.00	3.71	17.00	175.720		
12,418.71	89.00	150.20	11,919.32	68.18	77.37	8.00	8.00	0.13	1.001		
24,318.71	89.00	150.20	12,127.00	-10,256.66	5,990.45	0.00	0.00	0.00	0.000	Breckenridge S-20HU	

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4705102399



Planning Report - Geographic

Database: DB_Dec2220_v18
 Company: Tug Hill Operating LLC
 Project: Marshall County, West Virginia
 Site: Breckenridge (1 row)
 Well: Breckenridge S-20 HU (slot T)
 Wellbore: Original Hole
 Design: rev4

Local Co-ordinate Reference: Well Breckenridge S-20 HU (slot T)
 TVD Reference: GL @ 1370.00ft
 MD Reference: GL @ 1370.00ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
100.00	0.00	0.00	100.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
200.00	0.00	0.00	200.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
300.00	0.00	0.00	300.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
400.00	0.00	0.00	400.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
500.00	0.00	0.00	500.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
600.00	0.00	0.00	600.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
700.00	0.00	0.00	700.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
800.00	0.00	0.00	800.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
900.00	0.00	0.00	900.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
3,100.00	0.00	0.00	3,100.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
3,200.00	0.00	0.00	3,200.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
3,300.00	0.00	0.00	3,300.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
3,400.00	0.00	0.00	3,400.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
3,500.00	0.00	0.00	3,500.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
3,600.00	0.00	0.00	3,600.00	0.00	0.00	14,465,141.69	1,745,255.23	39.83025359	-80.62656819
KOP Begin 2°/100' build									
3,700.00	2.00	0.00	3,699.93	1.75	0.00	14,465,143.44	1,745,255.23	39.83025838	-80.62656816
3,750.00	3.00	0.00	3,749.93	3.93	0.00	14,465,145.62	1,745,255.23	39.83026437	-80.62656813
Begin 3.00° tangent									
3,800.00	3.00	0.00	3,799.86	6.54	0.00	14,465,148.23	1,745,255.23	39.83027156	-80.62656809
3,900.00	3.00	0.00	3,899.73	11.78	0.00	14,465,153.47	1,745,255.23	39.83028593	-80.62656901
4,000.00	3.00	0.00	3,999.59	17.01	0.00	14,465,158.70	1,745,255.23	39.83030031	-80.62656794
4,100.00	3.00	0.00	4,099.45	22.24	0.00	14,465,163.94	1,745,255.23	39.83031468	-80.62656786
4,200.00	3.00	0.00	4,199.31	27.48	0.00	14,465,169.17	1,745,255.23	39.83032905	-80.62656778
4,300.00	3.00	0.00	4,299.18	32.71	0.00	14,465,174.40	1,745,255.23	39.83034342	-80.62656770
4,400.00	3.00	0.00	4,399.04	37.94	0.00	14,465,179.64	1,745,255.23	39.83035780	-80.62656763
4,500.00	3.00	0.00	4,498.90	43.18	0.00	14,465,184.87	1,745,255.23	39.83037217	-80.62656755
4,600.00	3.00	0.00	4,598.77	48.41	0.00	14,465,190.10	1,745,255.23	39.83038654	-80.62656747
4,700.00	3.00	0.00	4,698.63	53.65	0.00	14,465,195.34	1,745,255.23	39.83040091	-80.62656739
4,750.00	3.00	0.00	4,748.56	56.26	0.00	14,465,197.95	1,745,255.23	39.83040810	-80.62656735
Begin 2°/100' drop									
4,800.00	2.00	0.00	4,798.51	58.44	0.00	14,465,200.13	1,745,255.23	39.83041409	-80.62656732



Planning Report - Geographic

Database: DB_Dec2220_v16
 Company: Tug Hill Operating LLC
 Project: Marshall County, West Virginia
 Site: Breckenridge (1 row)
 Well: Breckenridge S-20 HU (slot T)
 Wellbore: Original Hole
 Design: rev4

Local Co-ordinate Reference: Well Breckenridge S-20 HU (slot T)
 TVD Reference: GL @ 1370.00ft
 MD Reference: GL @ 1370.00ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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 Environmental Protection

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,900.00	0.00	0.00	4,898.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
Begin vertical hold									
5,000.00	0.00	0.00	4,998.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
5,100.00	0.00	0.00	5,098.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
5,200.00	0.00	0.00	5,198.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
5,300.00	0.00	0.00	5,298.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
5,400.00	0.00	0.00	5,398.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
5,500.00	0.00	0.00	5,498.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
5,600.00	0.00	0.00	5,598.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
5,700.00	0.00	0.00	5,698.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
5,800.00	0.00	0.00	5,798.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
5,900.00	0.00	0.00	5,898.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
6,000.00	0.00	0.00	5,998.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
6,100.00	0.00	0.00	6,098.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
6,200.00	0.00	0.00	6,198.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
6,300.00	0.00	0.00	6,298.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
6,400.00	0.00	0.00	6,398.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
6,500.00	0.00	0.00	6,498.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
6,600.00	0.00	0.00	6,598.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
6,700.00	0.00	0.00	6,698.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
6,800.00	0.00	0.00	6,798.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
6,900.00	0.00	0.00	6,898.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
7,000.00	0.00	0.00	6,998.49	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
7,001.51	0.00	0.00	7,000.00	60.19	0.00	14,465,201.88	1,745,255.23	39.83041888	-80.62656730
Begin 2°/100' build									
7,100.00	1.97	334.50	7,098.47	61.72	-0.73	14,465,203.41	1,745,254.50	39.83042309	-80.62656997
7,200.00	3.97	334.50	7,198.33	66.39	-2.96	14,465,208.08	1,745,252.27	39.83043595	-80.62657774
7,300.00	5.97	334.50	7,297.95	74.21	-6.89	14,465,215.90	1,745,248.54	39.83045747	-80.62659011
7,400.00	7.97	334.50	7,397.21	85.16	-11.91	14,465,226.85	1,745,243.31	39.83048760	-80.62660936
7,500.00	9.97	334.50	7,495.98	99.23	-18.63	14,465,240.92	1,745,236.60	39.83052632	-80.62663306
7,593.26	11.84	334.50	7,587.55	115.15	-26.22	14,465,256.84	1,745,229.01	39.83057013	-80.62665986
Begin 11.84° tangent									
7,600.00	11.84	334.50	7,594.15	116.40	-26.82	14,465,258.09	1,745,228.41	39.83057356	-80.62666196
7,700.00	11.84	334.50	7,692.02	134.91	-35.65	14,465,276.50	1,745,219.58	39.83062450	-80.62669316
7,800.00	11.84	334.50	7,789.80	153.42	-44.48	14,465,295.11	1,745,210.75	39.83067543	-80.62672434
7,900.00	11.84	334.50	7,887.77	171.93	-53.31	14,465,313.92	1,745,201.92	39.83072637	-80.62675552
8,000.00	11.84	334.50	7,985.65	190.44	-62.14	14,465,332.14	1,745,193.09	39.83077730	-80.62678670
8,100.00	11.84	334.50	8,083.52	208.95	-70.97	14,465,350.85	1,745,184.26	39.83082824	-80.62681788
8,200.00	11.84	334.50	8,181.40	227.47	-79.80	14,465,369.16	1,745,175.42	39.83087918	-80.62684906
8,300.00	11.84	334.50	8,279.27	245.98	-88.63	14,465,387.67	1,745,166.59	39.83093011	-80.62688024
8,400.00	11.84	334.50	8,377.14	264.49	-97.46	14,465,406.18	1,745,157.76	39.83098105	-80.62691142
8,500.00	11.84	334.50	8,475.02	283.00	-106.30	14,465,424.69	1,745,148.93	39.83103198	-80.62694260
8,600.00	11.84	334.50	8,572.89	301.51	-115.13	14,465,443.20	1,745,140.10	39.83108292	-80.62697378
8,700.00	11.84	334.50	8,670.77	320.02	-123.96	14,465,461.71	1,745,131.27	39.83113385	-80.62700496
8,800.00	11.84	334.50	8,768.64	338.53	-132.79	14,465,480.22	1,745,122.44	39.83118479	-80.62703614
8,900.00	11.84	334.50	8,866.52	357.04	-141.62	14,465,498.73	1,745,113.61	39.83123573	-80.62706732
9,000.00	11.84	334.50	8,964.39	375.55	-150.45	14,465,517.24	1,745,104.78	39.83128666	-80.62709850
9,100.00	11.84	334.50	9,062.26	394.06	-159.28	14,465,535.75	1,745,095.95	39.83133760	-80.62712968
9,200.00	11.84	334.50	9,160.14	412.57	-168.11	14,465,554.26	1,745,087.12	39.83138853	-80.62716086
9,300.00	11.84	334.50	9,258.01	431.08	-176.94	14,465,572.78	1,745,078.29	39.83143947	-80.62719204
9,400.00	11.84	334.50	9,355.89	449.60	-185.77	14,465,591.29	1,745,069.45	39.83149040	-80.62722322
9,500.00	11.84	334.50	9,453.76	468.11	-194.60	14,465,609.80	1,745,060.62	39.83154134	-80.62725440
9,600.00	11.84	334.50	9,551.63	486.62	-203.44	14,465,628.31	1,745,051.79	39.83159228	-80.62728558
9,700.00	11.84	334.50	9,649.51	505.13	-212.27	14,465,646.82	1,745,042.96	39.83164321	-80.62731676



Planning Report - Geographic

Database: DB_Dec2220_v18
 Company: Tug Hill Operating LLC
 Project: Marshall County, West Virginia
 Site: Breckenridge (1 row)
 Well: Breckenridge S-20 HU (slot T)
 Wellbore: Original Hole
 Design: rev4

Local Co-ordinate Reference: Well Breckenridge S-20 HU (slot T)
 TVD Reference: GL @ 1370.00ft
 MD Reference: GL @ 1370.00ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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Planned Survey

WV Department of
 Environmental Protection

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,800.00	11.84	334.50	9,747.38	523.54	-221.10	14,465,655.33	1,745,034.13	39.83169415	-80.62734794
9,900.00	11.84	334.50	9,845.26	542.15	-229.93	14,465,683.84	1,745,025.30	39.83174508	-80.62737912
10,000.00	11.84	334.50	9,943.13	560.66	-238.76	14,465,702.35	1,745,016.47	39.83179602	-80.62741030
10,100.00	11.84	334.50	10,041.01	579.17	-247.59	14,465,720.86	1,745,007.64	39.83184695	-80.62744149
10,200.00	11.84	334.50	10,138.88	597.68	-256.42	14,465,739.37	1,744,998.81	39.83189789	-80.62747267
10,300.00	11.84	334.50	10,236.75	616.19	-265.25	14,465,757.88	1,744,989.98	39.83194882	-80.62750385
10,400.00	11.84	334.50	10,334.63	634.70	-274.08	14,465,776.39	1,744,981.15	39.83199976	-80.62753503
10,500.00	11.84	334.50	10,432.50	653.21	-282.91	14,465,794.90	1,744,972.31	39.83205070	-80.62756621
10,600.00	11.84	334.50	10,530.38	671.73	-291.74	14,465,813.42	1,744,963.48	39.83210163	-80.62759739
10,700.00	11.84	334.50	10,628.25	690.24	-300.58	14,465,831.93	1,744,954.65	39.83215257	-80.62762857
10,800.00	11.84	334.50	10,726.13	708.75	-309.41	14,465,850.44	1,744,945.82	39.83220350	-80.62765975
10,900.00	11.84	334.50	10,824.00	727.26	-318.24	14,465,868.95	1,744,936.99	39.83225444	-80.62769093
10,901.20	11.84	334.50	10,825.17	727.48	-318.34	14,465,869.17	1,744,936.89	39.83225505	-80.62769131
Begin 6°/100' build/turn									
11,000.00	5.94	338.77	10,922.75	741.40	-324.56	14,465,893.09	1,744,930.67	39.83229335	-80.62771325
11,100.00	0.89	68.43	11,022.56	746.51	-325.72	14,465,888.20	1,744,929.51	39.83230740	-80.62771730
11,200.00	6.19	142.19	11,122.36	742.54	-321.69	14,465,894.23	1,744,933.54	39.83229644	-80.62770301
11,300.00	12.16	146.23	11,221.03	729.52	-312.53	14,465,871.21	1,744,942.70	39.83226057	-80.62767056
11,400.00	18.15	147.63	11,317.52	707.59	-298.32	14,465,849.28	1,744,956.90	39.83220020	-80.62762030
11,500.00	24.14	148.35	11,410.74	677.00	-279.24	14,465,818.69	1,744,975.99	39.83215599	-80.62755277
11,600.00	30.14	148.79	11,499.69	638.09	-255.48	14,465,779.76	1,744,999.75	39.83200885	-80.62746872
11,700.00	36.13	149.10	11,583.39	591.28	-227.31	14,465,732.97	1,745,027.92	39.83187996	-80.62736907
11,800.00	42.13	149.34	11,660.92	537.07	-195.03	14,465,678.76	1,745,060.19	39.83173074	-80.62725491
11,900.00	48.13	149.52	11,731.44	476.08	-159.01	14,465,617.77	1,745,096.22	39.83156282	-80.62712749
11,931.15	50.00	149.57	11,751.85	455.79	-147.08	14,465,597.48	1,745,108.15	39.83150697	-80.62708530
Begin 8°/100' build/turn									
12,000.00	55.51	149.69	11,793.50	403.52	-119.38	14,465,550.21	1,745,135.84	39.83137685	-80.62698735
12,100.00	63.51	149.83	11,844.21	334.14	-76.02	14,465,475.83	1,745,179.20	39.83117208	-80.62683402
12,200.00	71.51	149.96	11,882.43	254.28	-29.72	14,465,395.97	1,745,225.51	39.83095223	-80.62667027
12,300.00	79.50	150.07	11,907.44	170.49	18.63	14,465,312.18	1,745,273.85	39.83072157	-80.62649931
12,400.00	87.50	150.18	11,918.75	84.40	68.08	14,465,226.08	1,745,323.30	39.83048459	-80.62632446
12,418.71	89.00	150.20	11,919.32	68.16	77.37	14,465,209.67	1,745,332.60	39.83043993	-80.62629159
Begin 89.00° lateral									
12,500.00	89.00	150.20	11,920.74	-2.36	117.76	14,465,139.33	1,745,372.99	39.83024577	-80.62614876
12,600.00	89.00	150.20	11,922.48	-89.12	167.45	14,465,052.57	1,745,422.68	39.83000693	-80.62597305
12,700.00	89.00	150.20	11,924.23	-175.88	217.14	14,464,965.81	1,745,472.37	39.82976809	-80.62579737
12,800.00	89.00	150.20	11,925.97	-262.65	266.83	14,464,879.05	1,745,522.06	39.82952925	-80.62562167
12,900.00	89.00	150.20	11,927.72	-349.41	316.52	14,464,792.28	1,745,571.75	39.82929040	-80.62544593
13,000.00	89.00	150.20	11,929.46	-436.17	366.21	14,464,705.52	1,745,621.44	39.82905156	-80.62527028
13,100.00	89.00	150.20	11,931.21	-522.94	415.90	14,464,618.76	1,745,671.13	39.82881272	-80.62509459
13,200.00	89.00	150.20	11,932.95	-609.70	465.59	14,464,531.99	1,745,720.82	39.82857388	-80.62491890
13,300.00	89.00	150.20	11,934.70	-696.46	515.28	14,464,445.23	1,745,770.51	39.82833503	-80.62474321
13,400.00	89.00	150.20	11,936.44	-783.23	564.97	14,464,358.47	1,745,820.20	39.82809619	-80.62456753
13,500.00	89.00	150.20	11,938.18	-869.99	614.66	14,464,271.70	1,745,869.89	39.82785735	-80.62439184
13,600.00	89.00	150.20	11,939.94	-956.75	664.35	14,464,184.94	1,745,919.58	39.82761851	-80.62421616
13,700.00	89.00	150.20	11,941.68	-1,043.52	714.04	14,464,098.18	1,745,969.27	39.82737966	-80.62404047
13,800.00	89.00	150.20	11,943.43	-1,130.28	763.73	14,464,011.41	1,746,018.96	39.82714082	-80.62386479
13,900.00	89.00	150.20	11,945.17	-1,217.04	813.42	14,463,924.65	1,746,068.65	39.82690197	-80.62368911
14,000.00	89.00	150.20	11,946.92	-1,303.81	863.11	14,463,837.89	1,746,118.34	39.82666313	-80.62351343
14,100.00	89.00	150.20	11,948.66	-1,390.57	912.80	14,463,751.12	1,746,168.03	39.82642428	-80.62333775
14,200.00	89.00	150.20	11,950.41	-1,477.33	962.49	14,463,664.36	1,746,217.72	39.82618544	-80.62316207
14,300.00	89.00	150.20	11,952.15	-1,564.10	1,012.18	14,463,577.60	1,746,267.41	39.82594659	-80.62298639
14,400.00	89.00	150.20	11,953.89	-1,650.86	1,061.87	14,463,490.83	1,746,317.10	39.82570775	-80.62281072
14,500.00	89.00	150.20	11,955.64	-1,737.62	1,111.56	14,463,404.07	1,746,366.79	39.82546890	-80.62263504



Planning Report - Geographic

Database: DB_Dec2220_v16
 Company: Tug Hill Operating LLC
 Project: Marshall County, West Virginia
 Site: Breckenridge (1 row)
 Well: Breckenridge S-20 HU (slot T)
 Wellbore: Original Hole
 Design: rev4

Local Co-ordinate Reference: Well Breckenridge S-20 HU (slot T)
 TVD Reference: GL @ 1370.00ft
 MD Reference: GL @ 1370.00ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,600.00	89.00	150.20	11,957.39	-1,624.39	1,161.25	14,463,317.31	1,746,416.47	39.82523005	-80.62245937
14,700.00	89.00	150.20	11,959.13	-1,911.15	1,210.94	14,463,230.54	1,746,488.16	39.82499121	-80.62228370
14,800.00	89.00	150.20	11,960.88	-1,997.91	1,260.63	14,463,143.78	1,746,515.85	39.82475236	-80.62210803
14,900.00	89.00	150.20	11,962.62	-2,084.68	1,310.32	14,463,057.02	1,746,585.54	39.82451351	-80.62193236
15,000.00	89.00	150.20	11,964.37	-2,171.44	1,360.01	14,462,970.26	1,746,615.23	39.82427467	-80.62175669
15,100.00	89.00	150.20	11,966.11	-2,258.20	1,409.70	14,462,883.49	1,746,684.92	39.82403582	-80.62158102
15,200.00	89.00	150.20	11,967.86	-2,344.97	1,459.39	14,462,796.73	1,746,714.61	39.82379697	-80.62140536
15,300.00	89.00	150.20	11,969.60	-2,431.73	1,509.08	14,462,709.97	1,746,784.30	39.82355812	-80.62122969
15,400.00	89.00	150.20	11,971.35	-2,518.49	1,558.77	14,462,623.20	1,746,813.99	39.82331927	-80.62105403
15,500.00	89.00	150.20	11,973.09	-2,605.26	1,608.46	14,462,536.44	1,746,883.68	39.82308043	-80.62087837
15,600.00	89.00	150.20	11,974.84	-2,692.02	1,658.15	14,462,449.68	1,746,913.37	39.82284158	-80.62070271
15,700.00	89.00	150.20	11,976.58	-2,778.78	1,707.84	14,462,362.91	1,746,983.06	39.82260273	-80.62052705
15,800.00	89.00	150.20	11,978.33	-2,865.55	1,757.53	14,462,276.15	1,747,012.75	39.82236388	-80.62035139
15,900.00	89.00	150.20	11,980.08	-2,952.31	1,807.22	14,462,189.39	1,747,082.44	39.82212503	-80.62017573
16,000.00	89.00	150.20	11,981.82	-3,039.07	1,856.91	14,462,102.62	1,747,112.13	39.82188618	-80.62000007
16,100.00	89.00	150.20	11,983.57	-3,125.84	1,906.60	14,462,015.86	1,747,181.82	39.82164733	-80.61982442
16,200.00	89.00	150.20	11,985.31	-3,212.60	1,956.29	14,461,929.10	1,747,211.51	39.82140848	-80.61964877
16,300.00	89.00	150.20	11,987.06	-3,299.36	2,005.98	14,461,842.33	1,747,281.20	39.82116963	-80.61947311
16,400.00	89.00	150.20	11,988.80	-3,386.13	2,055.67	14,461,755.57	1,747,310.89	39.82093078	-80.61929746
16,500.00	89.00	150.20	11,990.55	-3,472.89	2,105.36	14,461,668.81	1,747,380.58	39.82069192	-80.61912181
16,600.00	89.00	150.20	11,992.29	-3,559.65	2,155.05	14,461,582.04	1,747,410.27	39.82045307	-80.61894616
16,700.00	89.00	150.20	11,994.04	-3,646.42	2,204.74	14,461,495.28	1,747,459.96	39.82021422	-80.61877052
16,800.00	89.00	150.20	11,995.78	-3,733.18	2,254.42	14,461,408.52	1,747,509.65	39.81997537	-80.61859487
16,900.00	89.00	150.20	11,997.53	-3,819.94	2,304.11	14,461,321.75	1,747,559.34	39.81973652	-80.61841922
17,000.00	89.00	150.20	11,999.27	-3,906.71	2,353.80	14,461,234.99	1,747,609.03	39.81949766	-80.61824358
17,100.00	89.00	150.20	12,001.02	-3,993.47	2,403.49	14,461,148.23	1,747,658.72	39.81925881	-80.61806794
17,200.00	89.00	150.20	12,002.76	-4,080.23	2,453.18	14,461,061.46	1,747,708.41	39.81901996	-80.61789230
17,300.00	89.00	150.20	12,004.51	-4,167.00	2,502.87	14,460,974.70	1,747,758.10	39.81878110	-80.61771665
17,400.00	89.00	150.20	12,006.25	-4,253.76	2,552.56	14,460,887.94	1,747,807.79	39.81854225	-80.61754102
17,500.00	89.00	150.20	12,008.00	-4,340.52	2,602.25	14,460,801.18	1,747,857.48	39.81830340	-80.61736538
17,600.00	89.00	150.20	12,009.74	-4,427.29	2,651.94	14,460,714.41	1,747,907.16	39.81806454	-80.61718974
17,700.00	89.00	150.20	12,011.49	-4,514.05	2,701.63	14,460,627.65	1,747,956.85	39.81782569	-80.61701411
17,800.00	89.00	150.20	12,013.23	-4,600.81	2,751.32	14,460,540.89	1,748,006.54	39.81758683	-80.61683847
17,900.00	89.00	150.20	12,014.98	-4,687.58	2,801.01	14,460,454.12	1,748,056.23	39.81734798	-80.61666284
18,000.00	89.00	150.20	12,016.72	-4,774.34	2,850.70	14,460,367.36	1,748,105.92	39.81710912	-80.61648721
18,100.00	89.00	150.20	12,018.47	-4,861.10	2,900.39	14,460,280.60	1,748,155.61	39.81687027	-80.61631158
18,200.00	89.00	150.20	12,020.22	-4,947.87	2,950.08	14,460,193.83	1,748,205.30	39.81663141	-80.61613595
18,300.00	89.00	150.20	12,021.96	-5,034.63	2,999.77	14,460,107.07	1,748,254.99	39.81639255	-80.61596032
18,400.00	89.00	150.20	12,023.71	-5,121.40	3,049.46	14,460,020.31	1,748,304.68	39.81615370	-80.61578469
18,500.00	89.00	150.20	12,025.45	-5,208.16	3,099.15	14,459,933.54	1,748,354.37	39.81591484	-80.61560906
18,600.00	89.00	150.20	12,027.20	-5,294.92	3,148.84	14,459,846.78	1,748,404.06	39.81567598	-80.61543344
18,700.00	89.00	150.20	12,028.94	-5,381.69	3,198.53	14,459,760.02	1,748,453.75	39.81543713	-80.61525782
18,800.00	89.00	150.20	12,030.69	-5,468.45	3,248.22	14,459,673.25	1,748,503.44	39.81519827	-80.61508219
18,900.00	89.00	150.20	12,032.43	-5,555.21	3,297.91	14,459,586.49	1,748,553.13	39.81495941	-80.61490657
19,000.00	89.00	150.20	12,034.18	-5,641.98	3,347.60	14,459,499.73	1,748,602.82	39.81472055	-80.61473095
19,100.00	89.00	150.20	12,035.92	-5,728.74	3,397.29	14,459,412.96	1,748,652.51	39.81448169	-80.61455534
19,200.00	89.00	150.20	12,037.67	-5,815.50	3,446.98	14,459,326.20	1,748,702.20	39.81424283	-80.61437972
19,300.00	89.00	150.20	12,039.41	-5,902.27	3,496.67	14,459,239.44	1,748,751.89	39.81400398	-80.61420410
19,400.00	89.00	150.20	12,041.16	-5,989.03	3,546.36	14,459,152.67	1,748,801.58	39.81376512	-80.61402849
19,500.00	89.00	150.20	12,042.90	-6,075.79	3,596.05	14,459,065.91	1,748,851.27	39.81352626	-80.61385287
19,600.00	89.00	150.20	12,044.65	-6,162.56	3,645.74	14,458,979.15	1,748,900.96	39.81328740	-80.61367726
19,700.00	89.00	150.20	12,046.39	-6,249.32	3,695.43	14,458,892.39	1,748,950.65	39.81304854	-80.61350165
19,800.00	89.00	150.20	12,048.14	-6,336.08	3,745.12	14,458,805.62	1,749,000.34	39.81280968	-80.61332604
19,900.00	89.00	150.20	12,049.88	-6,422.85	3,794.81	14,458,718.86	1,749,050.03	39.81257082	-80.61315043
20,000.00	89.00	150.20	12,051.63	-6,509.61	3,844.50	14,458,632.10	1,749,099.72	39.81233196	-80.61297482



Planning Report - Geographic

Database: DB_Dec2220_v16
 Company: Tug Hill Operating LLC
 Project: Marshall County, West Virginia
 Site: Breckenridge (1 row)
 Well: Breckenridge S-20 HU (slot T)
 Wellbore: Original Hole
 Design: rev4

Local Co-ordinate Reference: Well Breckenridge S-20 HU (slot T)
 TVD Reference: GL @ 1370.00ft
 MD Reference: GL @ 1370.00ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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WV Department of
 Environmental Protection

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
20,100.00	89.00	150.20	12,053.37	-6,596.37	3,894.19	14,458,545.33	1,749,149.41	39.81209309	-80.61279922
20,200.00	89.00	150.20	12,055.12	-6,683.14	3,943.88	14,458,458.57	1,749,199.10	39.81185423	-80.61282361
20,300.00	89.00	150.20	12,056.87	-6,769.90	3,993.57	14,458,371.81	1,749,248.79	39.81161537	-80.61244801
20,400.00	89.00	150.20	12,058.61	-6,856.66	4,043.26	14,458,285.04	1,749,298.48	39.81137651	-80.61227240
20,500.00	89.00	150.20	12,060.36	-6,943.43	4,092.95	14,458,198.28	1,749,348.17	39.81113785	-80.61209680
20,600.00	89.00	150.20	12,062.10	-7,030.19	4,142.64	14,458,111.52	1,749,397.86	39.81089878	-80.61192120
20,700.00	89.00	150.20	12,063.85	-7,116.95	4,192.33	14,458,024.75	1,749,447.54	39.81065992	-80.61174560
20,800.00	89.00	150.20	12,065.59	-7,203.72	4,242.02	14,457,937.99	1,749,497.23	39.81042106	-80.61157000
20,900.00	89.00	150.20	12,067.34	-7,290.48	4,291.71	14,457,851.23	1,749,546.92	39.81018220	-80.61139441
21,000.00	89.00	150.20	12,069.08	-7,377.24	4,341.40	14,457,764.46	1,749,596.61	39.80994333	-80.61121881
21,100.00	89.00	150.20	12,070.83	-7,464.01	4,391.09	14,457,677.70	1,749,646.30	39.80970417	-80.61104322
21,200.00	89.00	150.20	12,072.57	-7,550.77	4,440.77	14,457,590.94	1,749,695.99	39.80946560	-80.61086783
21,300.00	89.00	150.20	12,074.32	-7,637.53	4,490.46	14,457,504.17	1,749,745.68	39.80922674	-80.61069203
21,400.00	89.00	150.20	12,076.06	-7,724.30	4,540.15	14,457,417.41	1,749,795.37	39.80898788	-80.61051644
21,500.00	89.00	150.20	12,077.81	-7,811.06	4,589.84	14,457,330.65	1,749,845.06	39.80874901	-80.61034085
21,600.00	89.00	150.20	12,079.55	-7,897.82	4,639.53	14,457,243.88	1,749,894.75	39.80851015	-80.61016526
21,700.00	89.00	150.20	12,081.30	-7,984.59	4,689.22	14,457,157.12	1,749,944.44	39.80827128	-80.60998968
21,800.00	89.00	150.20	12,083.04	-8,071.35	4,738.91	14,457,070.38	1,749,994.13	39.80803241	-80.60981409
21,900.00	89.00	150.20	12,084.79	-8,158.11	4,788.60	14,456,983.59	1,750,043.82	39.80779355	-80.60963851
22,000.00	89.00	150.20	12,086.53	-8,244.88	4,838.29	14,456,896.83	1,750,093.51	39.80755468	-80.60946292
22,100.00	89.00	150.20	12,088.28	-8,331.64	4,887.98	14,456,810.07	1,750,143.20	39.80731582	-80.60928734
22,200.00	89.00	150.20	12,090.02	-8,418.40	4,937.67	14,456,723.31	1,750,192.89	39.80707695	-80.60911176
22,300.00	89.00	150.20	12,091.77	-8,505.17	4,987.36	14,456,636.54	1,750,242.58	39.80683808	-80.60893618
22,400.00	89.00	150.20	12,093.51	-8,591.93	5,037.05	14,456,549.78	1,750,292.27	39.80659921	-80.60876060
22,500.00	89.00	150.20	12,095.26	-8,678.69	5,086.74	14,456,463.02	1,750,341.96	39.80636035	-80.60858502
22,600.00	89.00	150.20	12,097.01	-8,765.46	5,136.43	14,456,376.25	1,750,391.65	39.80612148	-80.60840945
22,700.00	89.00	150.20	12,098.75	-8,852.22	5,186.12	14,456,289.49	1,750,441.34	39.80588261	-80.60823387
22,800.00	89.00	150.20	12,100.50	-8,938.98	5,235.81	14,456,202.73	1,750,491.03	39.80564374	-80.60805830
22,900.00	89.00	150.20	12,102.24	-9,025.75	5,285.50	14,456,115.96	1,750,540.72	39.80540487	-80.60788273
23,000.00	89.00	150.20	12,103.99	-9,112.51	5,335.19	14,456,029.20	1,750,590.41	39.80516600	-80.60770716
23,100.00	89.00	150.20	12,105.73	-9,199.27	5,384.89	14,455,942.44	1,750,640.10	39.80492714	-80.60753159
23,200.00	89.00	150.20	12,107.48	-9,286.04	5,434.57	14,455,855.67	1,750,689.79	39.80468827	-80.60735602
23,300.00	89.00	150.20	12,109.22	-9,372.80	5,484.26	14,455,768.91	1,750,739.48	39.80444940	-80.60718045
23,400.00	89.00	150.20	12,110.97	-9,459.56	5,533.95	14,455,682.15	1,750,789.17	39.80421053	-80.60700488
23,500.00	89.00	150.20	12,112.71	-9,546.33	5,583.64	14,455,595.38	1,750,838.86	39.80397166	-80.60682932
23,600.00	89.00	150.20	12,114.46	-9,633.09	5,633.33	14,455,508.62	1,750,888.55	39.80373279	-80.60665375
23,700.00	89.00	150.20	12,116.20	-9,719.85	5,683.02	14,455,421.86	1,750,938.23	39.80349391	-80.60647819
23,800.00	89.00	150.20	12,117.95	-9,806.62	5,732.71	14,455,335.09	1,750,987.92	39.80325504	-80.60630263
23,900.00	89.00	150.20	12,119.69	-9,893.38	5,782.40	14,455,248.33	1,751,037.61	39.80301617	-80.60612707
24,000.00	89.00	150.20	12,121.44	-9,980.14	5,832.09	14,455,161.57	1,751,087.30	39.80277730	-80.60595151
24,100.00	89.00	150.20	12,123.18	-10,066.91	5,881.78	14,455,074.80	1,751,136.99	39.80253843	-80.60577595
24,200.00	89.00	150.20	12,124.93	-10,153.67	5,931.47	14,454,988.04	1,751,186.68	39.80229956	-80.60560039
24,300.00	89.00	150.20	12,126.67	-10,240.43	5,981.16	14,454,901.28	1,751,236.37	39.80206068	-80.60542484
24,318.71	89.00	150.20	12,127.00	-10,256.66	5,990.45	14,454,865.05	1,751,245.67	39.80201600	-80.60539200

PBHL/TD 24318.71 MD 12127.00 TVD



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Breckenridge S-20 HU (slot T)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1370.00ft
Project:	Marshall County, West Virginia	MD Reference:	GL @ 1370.00ft
Site:	Breckenridge (1 row)	North Reference:	Grid
Well:	Breckenridge S-20 HU (slot T)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev4		

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Environmental Protection

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Breckenridge S-20HU LF	0.00	0.00	11,911.00	437.55	-134.32	14,465,579.24	1,745,120.91	39.83145674	-80.62704012
- plan misses target center by 116.29ft at 12031.56ft MD (11810.80 TVD, 385.73 N, -106.07 E)									
- Point									
Breckenridge S-20HU LF	0.00	0.00	11,911.00	437.55	-184.31	14,465,579.24	1,745,070.91	39.83145731	-80.62721820
- plan misses target center by 136.41ft at 12009.85ft MD (11799.02 TVD, 401.49 N, -115.27 E)									
- Point									
Breckenridge S-20HU B	0.00	0.00	12,127.00	-10,256.66	5,990.45	14,454,885.05	1,751,245.67	39.60201600	-80.60539200
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter	
(ft)	(ft)		(")	(")	
24,318.71	12,127.00	20" Casing	20	24	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)		
3,600.00	3,600.00	0.00	0.00	KOP Begin 2"/100' build	
3,750.00	3,749.93	3.93	0.00	Begin 3.00° tangent	
4,750.00	4,748.56	56.26	0.00	Begin 2"/100' drop	
4,900.00	4,898.49	60.19	0.00	Begin vertical hold	
7,001.51	7,000.00	60.19	0.00	Begin 2"/100' build	
7,593.26	7,587.55	115.15	-26.22	Begin 11.84° tangent	
10,901.20	10,825.17	727.48	-318.34	Begin 6"/100' build/turn	
11,931.15	11,751.85	455.79	-147.08	Begin 8"/100' build/turn	
12,418.71	11,919.32	68.18	77.37	Begin 89.00° lateral	
24,318.71	12,127.00	-10,256.66	5,990.45	PBHL/TD 24318.71 MD 12127.00 TVD	

Area of Review

Sources of information to Support 35CSR8 - 5.11: 9.3 et seq.

Description of process to identify potential pathways for well communication during hydraulic fracturing activities.

Data Sources Reviewed:

1. Enverus and RS Energy Group Well Data service: Public nationwide data service that pulls directly from State agency Oil and Gas databases
2. Farm Maps
3. Topo Maps: Recent and older (contact WVGES)
4. Check with DPS

Contacted Adam Picard 724-485-9331, apicard@dpslandservices.com, DPS GIS (04/7/2021) to have him make maps of the wellbores with his information. DPS utilizes WVGES maps for their mapping seems it is the best publicly available. See attached map he provided.

Request maps for:

1. Wellbore with IHS All Wells Layer
2. Map with Farm lines overlain and any well spots identified on Farm Maps
3. More recent (1970s vintage) topos and older topos

Discussion with Phil Dinterman WVGES GIS Department (7/15/2016)

- WVGES has plotted every well spot they have access to and are aware of with that contains a coordinate. 30000, 70000, and 90000 series wells are available via the WVGES online map. Some locations aren't great due to vintage and manipulation of maps through time
- 30000 series – any well drilled prior to 1929 – APIs were not assigned to original wells
- 70000 series – Well spots pulled from old Farm line maps that the WVGES has access to
- 90000 series – Any sources that the WVGES has access that shows a well spot but has no additional supporting information. DEP does not have 90000 series on their maps.
- There can be duplication between wells in the 3 series
- Phil indicated that other Operators are providing a screenshot of the WVGES map with their planned well and using that for permits

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Wells within 500' Buffer

Note: Well spots depicted on Area of Review map are derived from State held coordinates. The spots may differ from those depicted on the Well Plat because the Plat locations represent actual field surveyed locations. Please refer to the Plat for surveyed well spots.

API Number	Operator Name	Total Depth	Perforated Fms	Producing zones not perforated	Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation	Comments
4705101082	Consolidation Coal Co.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. Well is plugged.	Well was plugged 7/3/2008.
4705170164	Hope Natural Gas Company	2374' TVD	Big Injun	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation.	
4705102346	Tug Hill Operating, LLC	7115' TVD (proposed)	none	none	No, this is a proposed well in the Marcellus. Once completed the well will not be deep enough to be within the expected fracture propagation from a Point Pleasant stimulation.	A permitted well on the pad that is not drilled or perforated.
4705100753	Leatherwood, Inc.	2045' TVD	Gordon Gordon Stray	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation.	

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API Number	Operator Name	Total Depth	Perforated Fms	Producing zones not perforated	Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation	Comments
4705101076	Consolidation Coal Co.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. Well is plugged.	Well was plugged 6/17/2008.
4705101173	McElroy Coal Company	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. Well is plugged.	Well was plugged 10/2/2008.
4705130250	Manufacturers Light & Heat Co.	3143' TVD	Fourth Sand	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Well is plugged.	Well was plugged 8/2/1946.
4705170513	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4705170514	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.

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API Number	Operator Name	Total Depth	Perforated Fms	Producing zones not perforated	Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation	Comments
4705170515	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4705101409	Tug Hill Operating, LLC	6962' TVD / 11672' MD	Marcellus	unknown	No, this is a producing Marcellus well. The well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation.	Recently acquired by Tug Hill Operating, LLC.
4705101475	Tug Hill Operating, LLC	7068' TVD / 11820' MD	Marcellus	unknown	No, this is a producing Marcellus well. The well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation.	Recently acquired by Tug Hill Operating, LLC.
4705101476	Tug Hill Operating, LLC	7200' TVD (proposed) / 12977' MD	Marcellus	unknown	No, this is a producing Marcellus well. The well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation.	Recently acquired by Tug Hill Operating, LLC.
4705101605	Tug Hill Operating, LLC	7041' TVD / 12653' MD	Marcellus	unknown	No, this is a producing Marcellus well. The well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation.	Recently acquired by Tug Hill Operating, LLC.

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API Number	Operator Name	Total Depth	Perforated Fms	Producing zones not perforated	Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation	Comments
4705100624	CNX Gas Co. LLC (North)	3009' TVD	Gordon	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Well is plugged.	Well was plugged 10/31/2019.
4705100976	Consolidation Coal Co.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. Well is plugged.	Well was plugged 12/31/2004.
4705100997	Consolidation Coal Co.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4705170205	South Penn Oil (S. Penn Nat. Gas)	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4705170467	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.

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API Number	Operator Name	Total Depth	Perforated Fms	Producing zones not perforated	Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation	Comments
4705170469	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4705100626	CNX Gas Co. LLC (North)	3088' TVD	Gordon	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Well is plugged.	Well was plugged 10/26/2007.
4705101016	Consolidation Coal Co.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. Well is plugged.	Well was plugged 6/29/2006.
4705101048	Consolidation Coal Co.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. Well is plugged.	Well was plugged 12/15/2006.
4705101078	Consolidation Coal Co.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. Well is plugged.	Well was plugged 6/17/2008.

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API Number	Operator Name	Total Depth	Perforated Fms	Producing zones not perforated	Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation	Comments
4705101156	Leatherwood, Inc.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. Well is plugged.	Well was plugged 10/14/2008.
4705130156	Interstate Pipe & Supply	3175' TVD	Gordon	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Well is plugged.	Well was plugged 4/16/1942.
4705130184	South Penn Oil (S. Penn Nat. Gas)	3144' TVD	Gordon	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Well is plugged.	Well was plugged in 1942.
4705170462	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4705170463	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.

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WV Geological & Economic Survey:

Well: County = 51 Permit = 01082

Report Time: Tuesday, April 13, 2021 10:03:30 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_76	QUAD_16	LAT_DD	LONG_DD	UTME	UTMN
4705101082	Marshall	1082	Cameron	Glen Easton	Cameron	39.829496	-80.627436	531880.9	4408899.7

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705101082	7/3/2008	Plugging	Completed	J Richard Wayt		M-1334				Consolidation Coal Co.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_U
4705101082	7/3/2008	6/18/2008	1262	Ground Level				unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4705101082	Plugging	Pittsburgh coal	Well Record	946	Reasonable	5	Reasonable	1262	Ground Level

There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705101082	7/3/2008	0

There is no Sample data for this well

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WV Geological & Economic Survey

Well: County = 51 Permit = 70164

Report Time: Tuesday, April 13, 2021 10:04:50 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170164	Marshall	70164	Liberty	Glen Easton	Cameron	39.829496	-80.626308	531977.5	4408900.1

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_P
4705170164	--		Original Loc Completed	Elijah Williams	1	547				Hope Natural Gas Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AI
4705170164	--	--	1420	Barometer	Big Injun (undiff)	Big Injun (undiff)		unclassified	unclassified	not available	unknown	unknown	2374		2374			

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

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WV Geological & Economic Survey

Well: County = 51 Permit = 02346

Report Time: Tuesday, April 13, 2021 10:05:07 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102346	Marshall	2346	Cameron	Glen Easton	Cameron	39.630284	-80.626735	531940.6	4408987.3

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102346	1 As Proposed	532233.1	4408596.4	-80.623336	39.826751

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM
4705102346	-/-	Dvtd Wrkd Ovr	Permitted	CNX Land LLC			S-10HM Breckenridge		Hasans Ventures et al	Tug Hill Operating, LLC	7115	Marcellus Fm

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEf	G_AFT	O_BEI
4705102346	-/-	-/-	1380	Ground Level															

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

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WV Geological & Economic Survey

Well: County = 51 Permit = 00753

Report Time: Tuesday, April 13, 2021 3:00:12 PM

Well Reassignment Information: Reassigned From

OLD_COUNTY	OLD_PERMIT	NEW_COUNTY	NEW_PERMIT
51	70162	51	753

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_16	LAT_DD	LO_N_DD	UTME	UTMN
4705100753	Marshall	753	Liberty	Glen Easton	Cameron	39.827176	-80.624803	532107.3	4408643.1

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM
4705100753	12/-/1928	Original Loc	Completed	J O Williams	1					Cameron Heat & Light		
4705100753	-/-	Worked Over	Permitted	Richard Wayt	1		J O Williams		Richard Wayt	Cameron Gas Co.		

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KO
4705100753	12/-/1928	-/-	1320	Barometer	Cameron-Garner	Hampshire Grp	Gordon	Development Well	Development Well	Gas	Cable Tool	Shot	3045		3045	
4705100753	-/-	-/-	1320	Barometer			Gordon Stray			Gas	unknown	unknown	3001			

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4705100753	12/-/1928	Pay	Gas	Vertical	2227	Big Injun (Price&seq)	2227	Big Injun (Price&seq)	0	0			
4705100753	12/-/1928	Pay	Gas	Vertical	3008	Gordon Stray	3021	Gordon Stray	0	0			

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100753	Cameron Oil and Gas Co.	1993	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100753	Cameron Gas Co.	1994													
4705100753	Cameron Gas Co.	1995													
4705100753	Coleman, C. R.	1996													
4705100753	Mountaineer Gas Services, Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100753	Mountaineer Gas Services, Inc.	2001	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100753	Mountaineer Gas Services, Inc.	2002	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100753	Mountaineer Gas Services, Inc.	2003	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100753	Mountaineer Gas Services, Inc.	2004	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100753	Leatherwood, Inc.	2006	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100753	Cameron Oil and Gas Co.	1993	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100753	Cameron Gas Co.	1994													
4705100753	Cameron Gas Co.	1995													
4705100753	Coleman, C. R.	1996													
4705100753	Mountaineer Gas Services, Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100753	Mountaineer Gas Services, Inc.	2001	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100753	Mountaineer Gas Services, Inc.	2002	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100753	Mountaineer Gas Services, Inc.	2003	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100753	Mountaineer Gas Services, Inc.	2004	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100753	Leatherwood, Inc.	2006	0	0	0	0	0	0	0	0	0	0	0	0	0

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Well: County = 51 Permit = 01076

Report Time: Tuesday, April 13, 2021 3:01:05 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101076	Marshall	1076	Cameron	Cameron	Cameron	39.829206	-80.62451	532131.4	4408868.5

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705101076	6/17/2008	Plugging	Completed	J Richard Wayt		M-109				Consolidation Coal Co.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT
4705101076	6/17/2008	6/2/2008	1356	Ground Level				unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4705101076	Plugging	Pittsburgh coal	Well Record	1044	Reasonable	8	Reasonable	1356	Ground Level

There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705101076	6/17/2008	0

There is no Sample data for this well

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WV Geological & Economic Survey:

Well: County = 51 Permit = 01173

Report Time: Tuesday, April 13, 2021 3:01:21 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_76	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101173	Marshall	1173	Cameron	Cameron	Cameron	39.826886	-80.624509	532132.6	4408611

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_F
4705101173	10/2/2008	Plugging	Completed	Charles & Sonja Strope		1335				McElroy Coal Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BE	G_AFT	O_BE
4705101173	10/2/2008	9/3/2008	1171	Ground Level															

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4705101173	Plugging	Pittsburgh coal	Well Record	873	Reasonable	7	Reasonable	1171	Ground Level

There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705101173	10/2/2008	0

There is no Sample data for this well

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WV Geological & Economic Survey

Well: County = 51 Permit = 30250

Report Time: Tuesday, April 13, 2021 3:01:35 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705130250	Marshall	30250	Liberty	Cameron	Cameron	39.826161	-80.62338	532229.6	4408531

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_
4705130250	8/29/1946	Original Loc	Completed	Chas P Mead	1	3369	Goshorn Heirs		Manufacturers Light & Heat Co	Manufacturers Light & Heat Co.		

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD
4705130250	8/29/1946	6/27/1946	1205	Ground Level	Cameron	UDev undf Ber/LoHURN	Fourth	Development Well	unclassified	Gas	Cable Tool	unknown	3143		3143	

Comment: 8/29/1946 Well record stratigraphy combines the Gordon Stray and the Gordon. Entered in database as just the Gordon Stray

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4705130250	8/29/1946	Show	Oil	Vertical		Big Injun (undiff)	2065	Big Injun (undiff)	0	0			
4705130250	8/29/1946	Pay	Gas	Vertical	2647	Gordon	2651	Gordon	0	0			

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4705130250	Original Loc	unidentified coal	Well Record	515	Reasonable	5	Reasonable	1205	Ground Level
4705130250	Original Loc	Waynesburg coal	Well Record	580	Reasonable	5	Reasonable	1205	Ground Level
4705130250	Original Loc	Sewickley coal	Well Record	760	Reasonable	5	Reasonable	1205	Ground Level
4705130250	Original Loc	Pittsburgh coal	Well Record	860	Reasonable	7	Reasonable	1205	Ground Level
4705130250	Original Loc	Morgantown Ss/Murphy	Well Record	1005	Reasonable	30	Reasonable	1205	Ground Level
4705130250	Original Loc	Bufflo Ss/1st Cow Rn	Well Record	1243	Reasonable	24	Reasonable	1205	Ground Level
4705130250	Original Loc	Mahonig Ss/Big Dunk	Well Record	1330	Reasonable	30	Reasonable	1205	Ground Level
4705130250	Original Loc	unidentified coal	Well Record	1525	Reasonable	5	Reasonable	1205	Ground Level
4705130250	Original Loc	1st Salt Sand	Well Record	1654	Reasonable	46	Reasonable	1205	Ground Level
4705130250	Original Loc	2nd Salt Sand	Well Record	1760	Reasonable	50	Reasonable	1205	Ground Level
4705130250	Original Loc	Big Lime	Well Record	1925	Reasonable	55	Reasonable	1205	Ground Level
4705130250	Original Loc	Big Injun (undiff)	Well Record	1980	Reasonable	230	Reasonable	1205	Ground Level
4705130250	Original Loc	Thirty-foot	Well Record	2580	Reasonable	60	Reasonable	1205	Ground Level
4705130250	Original Loc	Gordon Stray	Well Record	2843	Reasonable	47	Reasonable	1205	Ground Level
4705130250	Original Loc	Fourth	Well Record	2963	Reasonable	7	Reasonable	1205	Ground Level

There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705130250	8/2/1946	0

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Well: County = 51 Permit = 70513

Report Time: Tuesday, April 13, 2021 3:03:38 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_16	LAT_DD	LON_DD	UTME	UTMN
4705170513	Marshall	70513	Cameron	Cameron	Cameron	39.827897	-80.623372	532229.5	4408723.6

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170513	--	unknown	Prpty Map	Susanna Williams						----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_AFTO
4705170513	--	--						unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

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WV Geological & Economic Survey:

Well: County = 51 Permit = 70514

Report Time: Tuesday, April 13, 2021 3:03:54 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX DISTRICT	QUAD_75	QUAD_16	LAT_DD	LON_DD	UTME	UTMN
4705170514	Marshall	70514	Cameron	Cameron	Cameron	39.828187	-80.624124	532165	4408755.5

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170514	--	unknown	Prpty Map	Susanna Williams	2					----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_AFTO
4705170514	--	--					unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

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WV Geological & Economic Survey

Well: County = 51 Permit = 70515

Report Time: Tuesday, April 13, 2021 3:05:12 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170515	Marshall	70515	Cameron	Cameron	Cameron	39.829347	-80.6245	532132.3	4408884.2

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170515	-/-	unknown	Prpty Map	Susanna Williams	3					----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_AFTO
4705170515	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

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WV Geological & Economic Survey

Well: County = 51 Permit = 01409

Report Time: Tuesday April 13, 2021 3:05:33 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_76	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101409	Marshall	1409	Liberty	Cameron	Cameron	39.815355	-80.615272	532928.4	4407390.1

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705101409	1	As Proposed	532921.4	4409170.9	-80.615264

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TR
4705101409	2/3/2012	Dvld Orgnl Loc	Completed	Goshorn	1H		Goshorn Ridge LLC		Goshorn Ridge LLC	Trans Energy, Inc	7300	Marcellus I

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	K
4705101409	2/3/2012	10/10/2011	1308	Ground Level	Cameron-Garner	Onondaga Ls	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	unknown	6962	11672	11672

Pay/Show/Water Information:

API	CMP_DT	ACTVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4705101409	2/3/2012	Water	Fresh Water	Vertical			60	Pennsylvanian System					
4705101409	2/3/2012	Water	Salt Water	Vertical			1500						
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	7290	Marcellus Fm	7530	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	7615	Marcellus Fm	7755	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	7820	Marcellus Fm	8040	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	8120	Marcellus Fm	8365	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	8485	Marcellus Fm	8675	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	8740	Marcellus Fm	8925	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	8965	Marcellus Fm	9162	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	9320	Marcellus Fm	9495	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	9540	Marcellus Fm	9735	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	9808	Marcellus Fm	9995	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	10060	Marcellus Fm	10245	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	10317	Marcellus Fm	10520	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	10600	Marcellus Fm	10824	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	10865	Marcellus Fm	11077	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	11150	Marcellus Fm	11336	Marcellus Fm					
4705101409	2/3/2012	Pay	Oil & Gas	Deviated	11416	Marcellus Fm	11616	Marcellus Fm					

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101409	Trans Energy, Inc.	2012	492,268	0	0	0	0	68,545	65,620	71,055	63,022	58,892	8,044	55,826	83,064
4705101409	Trans Energy, Inc.	2013	377,492	82,563	60,233	51,292	0	0	0	0	0	0	19,161	84,297	59,926
4705101409	Trans Energy, Inc.	2014	540,273	106,593	48,051	46,045	40,729	39,419	36,487	39,366	36,923	39,075	38,729	37,614	31,242
4705101409	Trans Energy, Inc.	2015	448,969	43,398	13,546	0	63,619	39,139	33,067	31,623	32,860	113,517	30,642	16,390	28,828
4705101409	EQT Production Company	2016	384,379	50,505	27,304	33,368	32,453	32,503	28,510	30,675	30,311	20,600	27,730	30,472	31,728
4705101409	EQT Production Company	2017	326,843	32,920	24,114	26,142	24,449	26,457	27,369	27,405	26,942	25,445	28,508	25,511	34,377
4705101409	EQT Production Company	2018	322,200	4,436	20,773	28,605	35,560	29,180	29,578	28,255	29,987	20,661	30,818	25,582	30,563
4705101409	EQT Production Company	2019	273,070	18,129	29,621	28,698	24,844	1,093	49,631	25,980	23,506	22,940	19,562	3,097	32,796

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101409	Trans Energy, Inc.	2012	1,975	0	0	0	252	277	255	195	278	175	150	185	177
4705101409	Trans Energy, Inc.	2013	941	92	93	98	0	0	0	0	0	109	342	207	
4705101409	Trans Energy, Inc.	2014	1,314	235	218	241	206	132	104	91	74	22	6	17	26
4705101409	Trans Energy, Inc.	2015	455	36	19	0	68	52	51	57	40	40	33	29	30
4705101409	EQT Production Company	2016	0												
4705101409	EQT Production Company	2017	0												
4705101409	EQT Production Company	2018	327	30	0	62	78	0	100	57	0	0	0	0	0
4705101409	EQT Production Company	2019	35	0	0	0	0	0	0	0	0	35	0	0	0

Production NGL Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101409	Trans Energy, Inc.	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101409	Trans Energy, Inc.	2014	22,630	3,584	1,862	1,753	1,345	1,440	1,665	1,593	1,334	1,187	2,075	2,514	2,257
4705101409	Trans Energy, Inc.	2015	24,064	1,930	543	0	2,612	2,583	2,395	2,234	2,381	2,712	2,483	1,611	2,400
4705101409	EQT Production Company	2016	0												
4705101409	EQT Production Company	2017	0												
4705101409	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101409	EQT Production Company	2019	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101409	EQT Production Company	2016	0												
4705101409	EQT Production Company	2017	0												
4705101409	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101409	EQT Production Company	2019	0	0	0	0	0	0	0	0	0	0	0	0	0

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV DATUM
4705101409	Dvld Orgnl Loc	unidentified coal	Well Record	682	Reasonable			1308 Ground Level
4705101409	Dvld Orgnl Loc	Middlesex Sh	Well Record	6788	Reasonable	85	Reasonable	1308 Ground Level
4705101409	Dvld Orgnl Loc	Bunket Sh Mbr	Well Record	6573	Reasonable	17	Reasonable	1308 Ground Level
4705101409	Dvld Orgnl Loc	Tully Ls	Well Record	6390	Reasonable	27	Reasonable	1308 Ground Level
4705101409	Dvld Orgnl Loc	Hamilton Grp	Well Record	6917	Reasonable	75	Reasonable	1308 Ground Level
4705101409	Dvld Orgnl Loc	Marcellus Fm	Well Record	6933	Reasonable	107	Reasonable	1308 Ground Level
4705101409	Dvld Orgnl Loc	Onondaga Ls	Well Record	7040	Reasonable			1308 Ground Level

Wireline (E-Log) Information:

API	LOG_TOP	LOG_BOT	DEEPEST_FML	LOGS_AVAIL	SCAN	DIGITIZED	GR_TOP	GR_BOT	D_TOP	D_BOT	N_TOP	N_BOT	I_TOP	I_BOT	T_TOP	T_BOT	S_TOP	S_BOT	O_TOP	O_B
4705101409	4840	7300		GT*	Y	N	4840	7300							4840	7300				

Comment: CCL, CBL

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WV Geological & Economic Survey:

Well: County = 51 Permit = 01475

Report Time: Tuesday, April 13, 2021 3:44:51 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101475	Marshall	1475	Liberty	Cameron	Cameron	39.815956	-80.615219	532932.9	4407390.1

Bottom Hole Location Information:

API	EP FLAG	UTME	UTMN	LON_DD	LAT_DD
4705101475	1	As Proposed	533057	4405876.2	-80.613845

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_ES
4705101475	4/6/2012	Dvld Orgnl Loc	Completed	Goshom		2H	Goshom		Goshom Ridge LLC	Trans Energy, Inc.	7200	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G
4705101475	4/6/2012	11/21/2011	1308	Ground Level	Cameron-Gamer	Onondaga Ls	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	unknown	7088	11820	11820	

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4705101475	4/6/2012	Water	Fresh Water	Vertical			60	Pennsylvanian System					
4705101475	4/6/2012	Water	Salt Water	Vertical			1500						
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	7450	Marcellus Fm	7653	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	7706	Marcellus Fm	7960	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	8035	Marcellus Fm	8212	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	8285	Marcellus Fm	8490	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	8562	Marcellus Fm	8705	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	8777	Marcellus Fm	8938	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	9011	Marcellus Fm	9145	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	9215	Marcellus Fm	9411	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	9490	Marcellus Fm	9642	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	9711	Marcellus Fm	9880	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	9967	Marcellus Fm	10120	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	10180	Marcellus Fm	10360	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	10432	Marcellus Fm	10585	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	10665	Marcellus Fm	10822	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	10890	Marcellus Fm	11017	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	11090	Marcellus Fm	11238	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	11317	Marcellus Fm	11503	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	11588	Marcellus Fm	11766	Marcellus Fm					

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101475	Trans Energy, Inc.	2012	585,849	0	0	0	0	0	38,804	136,940	98,374	77,355	88,618	79,069	66,669
4705101475	Trans Energy, Inc.	2013	279,811	74,717	53,084	30,568	0	0	0	0	0	0	19,161	50,237	52,044
4705101475	Trans Energy, Inc.	2014	752,110	92,573	93,493	59,997	63,969	61,911	57,307	57,264	54,015	53,069	57,015	52,261	49,236
4705101475	Trans Energy, Inc.	2015	532,906	49,265	20,507	0	83,048	49,822	42,147	30,571	48,446	129,601	35,718	15,101	28,680
4705101475	EQT Production Company	2016	438,246	47,438	28,525	38,556	40,282	39,950	36,926	37,712	36,649	35,199	33,825	30,472	32,732
4705101475	EQT Production Company	2017	354,548	29,286	31,408	30,059	30,460	32,269	31,669	32,043	31,090	28,967	30,306	26,216	20,755
4705101475	EQT Production Company	2018	267,918	19,950	16,945	39,660	25,578	23,911	24,854	21,543	24,493	24,436	24,506	16,759	5,283
4705101475	EQT Production Company	2019	220,897	14,683	15,388	1	0	0	0	1	5	67,762	59,473	13,238	50,346

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101475	Trans Energy, Inc.	2012	1,227	0	0	0	0	85	339	190	173	180	76	184	
4705101475	Trans Energy, Inc.	2013	710	63	85	94	0	0	0	0	0	42	247	179	
4705101475	Trans Energy, Inc.	2014	1,650	188	267	290	350	170	84	50	84	34	31	44	
4705101475	Trans Energy, Inc.	2015	306	70	31	0	45	14	21	39	19	23	13	16	
4705101475	EQT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	
4705101475	EQT Production Company	2017	0	0	0	0	0	0	0	0	0	0	0	0	
4705101475	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	
4705101475	EQT Production Company	2019	100	0	0	0	0	0	0	0	100	0	0	0	

Production NGL Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101475	Trans Energy, Inc.	2013	0	0	0	0	0	0	0	0	0	0	0	0	
4705101475	Trans Energy, Inc.	2014	31,806	2,889	3,627	2,285	2,112	2,261	2,648	2,317	1,951	1,612	3,055	3,482	
4705101475	Trans Energy, Inc.	2015	28,369	2,191	822	0	3,671	3,288	3,058	2,160	3,511	3,066	2,671	1,323	
4705101475	EQT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	
4705101475	EQT Production Company	2017	0	0	0	0	0	0	0	0	0	0	0	0	
4705101475	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	
4705101475	EQT Production Company	2019	0	0	0	0	0	0	0	0	0	0	0	0	

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101475	EQT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	
4705101475	EQT Production Company	2017	0	0	0	0	0	0	0	0	0	0	0	0	
4705101475	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	
4705101475	EQT Production Company	2019	0	0	0	0	0	0	0	0	0	0	0	0	

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV DATUM
4705101475	Dvld Orgnl Loc	unidentified coal	Well Record	862	Reasonable			1308 Ground Level
4705101475	Dvld Orgnl Loc	Middlesex Sh	Well Record	6784	Reasonable	86	Reasonable	1308 Ground Level
4705101475	Dvld Orgnl Loc	Burket Sh Mbr	Well Record	6870	Reasonable	21	Reasonable	1308 Ground Level
4705101475	Dvld Orgnl Loc	Tully Ls	Well Record	6891	Reasonable	27	Reasonable	1308 Ground Level
4705101475	Dvld Orgnl Loc	Hamilton Grp	Well Record	6918	Reasonable	78	Reasonable	1308 Ground Level
4705101475	Dvld Orgnl Loc	Marcellus Fm	Well Record	6996	Reasonable	44	Reasonable	1308 Ground Level
4705101475	Dvld Orgnl Loc	Onondaga Ls	Well Record	7040	Reasonable			1308 Ground Level

Wireline (E-Log) Information:

API	LOG_TOP	LOG_BOT	DEEPEST_FML	LOGS_AVAIL	SCAN	DIGITIZED	GR_TOP	GR_BOT	D_TOP	D_BOT	N_TOP	N_BOT	L_TOP	L_BOT	T_TOP	T_BOT	S_TOP	S_BOT	O_TOP	O_BOT	IN
4705101475	4850	7440		GT*	Y	N	4850	7340							4850	7428					

Comment: CBL, CCL

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WV Department of
Environmental Protection

WV Geological & Economic Survey

Well: County = 51 Permit = 01476

Report Time: Tuesday, April 13, 2021 3:46:55 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_16	LAT_DD	LONG_DD	UTME	UTMN
4705101476	Marshall	1476	Liberty	Cameron	Cameron	39.815537	-89.615167	532937.3	4407388.1

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LONG_DD	LAT_DD
4705101476	1 As Drilled	532183.6	4409071.8	-90.623689	39.831036
4705101476	1 As Proposed	532200.6	4409080.6	-90.623692	39.831114

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM
4705101476	6/20/2013	Drtd Orgnl Loc	Completed	Timothy James Hubbs Trust	3H		Goshorn		Goshorn Ridge LLC	Trans Energy, Inc.	7200	Marcellus Fm

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G
4705101476	6/20/2013	4/2/2013	1310 Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Fractured		12977	12977	6554	

Comment: 6/20/2013 KOD 6554

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_ONTY
4705101476	6/20/2013	Water	Fresh Water	Vertical			60	Pennsylvanian System					
4705101476	6/20/2013	Water	Fresh Water	Vertical			150	Pennsylvanian System					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	7515	Marcellus Fm	7631	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	7915	Marcellus Fm	8226	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	8310	Marcellus Fm	8551	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	8643	Marcellus Fm	8831	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	8905	Marcellus Fm	9081	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	9150	Marcellus Fm	9351	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	9420	Marcellus Fm	9615	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	9685	Marcellus Fm	9875	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	9960	Marcellus Fm	10120	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	10181	Marcellus Fm	10366	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	10437	Marcellus Fm	10605	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	10660	Marcellus Fm	10830	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	10925	Marcellus Fm	11455	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	11585	Marcellus Fm	11850	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	11920	Marcellus Fm	12175	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	12245	Marcellus Fm	12470	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	12528	Marcellus Fm	12700	Marcellus Fm					
4705101476	6/20/2013	Pay	Oil & Gas	Deviated	12770	Marcellus Fm	12925	Marcellus Fm					

Production Gas Information (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101476	Trans Energy, Inc.	2013	25,450	0	0	0	0	0	0	0	0	0	0	0	25,450
4705101476	Trans Energy, Inc.	2014	303,133	45,269	30,560	34,182	25,781	24,952	23,696	23,478	21,778	21,373	17,221	15,385	20,060
4705101476	Trans Energy, Inc.	2015	217,619	20,021	5,239	0	35,163	17,651	15,938	18,703	14,290	42,379	19,019	9,622	19,674
4705101476	Trans Energy, Inc.	2016	136,282	14,741	8,838	13,032	11,433	11,938	10,785	11,116	10,900	10,413	9,211	9,009	8,885
4705101476	EQT Production Company	2017	97,538	10,010	6,047	8,974	8,529	9,138	10,150	9,449	9,123	7,355	7,250	6,649	4,664
4705101476	EQT Production Company	2018	106,799	12,652	6,951	16,020	4,577	5,512	6,509	6,361	5,709	6,712	11,625	11,178	13,083
4705101476	EQT Production Company	2019	103,666	6,515	11,507	11,060	8,924	605	0,163	4,762	13,652	17,177	7,860	5,350	6,071

Production Oil Information (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101476	Trans Energy, Inc.	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101476	Trans Energy, Inc.	2014	593	0	99	56	37	52	69	60	40	59	31	32	38
4705101476	Trans Energy, Inc.	2015	619	62	19	0	93	52	58	82	57	49	48	38	63
4705101476	EQT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101476	EQT Production Company	2017	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101476	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101476	EQT Production Company	2019	29	0	0	0	0	0	0	0	0	29	0	0	0

Production NGL Information (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101476	Trans Energy, Inc.	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101476	Trans Energy, Inc.	2014	12,466	1,522	1,027	1,302	851	911	1,067	950	787	649	923	1,028	1,449
4705101476	Trans Energy, Inc.	2015	12,368	890	210	0	1,555	1,178	1,156	1,321	1,036	1,009	1,529	843	1,638
4705101476	EQT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101476	EQT Production Company	2017	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101476	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101476	EQT Production Company	2019	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101476	EQT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101476	EQT Production Company	2017	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101476	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101476	EQT Production Company	2019	0	0	0	0	0	0	0	0	0	0	0	0	0

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV DATUM
4705101476	Drtd Orgnl Loc	unidentified coal	Well Record	862	Reasonable			1310 Ground Level
4705101476	Drtd Orgnl Loc	Gordon	Well Record	3052	Reasonable			1310 Ground Level
4705101476	Drtd Orgnl Loc	Middlesex Sh	Well Record	6765	Reasonable	86	Reasonable	1310 Ground Level
4705101476	Drtd Orgnl Loc	Burket Sh Mbr	Well Record	6872	Reasonable	17	Reasonable	1310 Ground Level
4705101476	Drtd Orgnl Loc	Tully Ls	Well Record	6890	Reasonable	26	Reasonable	1310 Ground Level
4705101476	Drtd Orgnl Loc	Hamilton Grp	Well Record	6917	Reasonable	76	Reasonable	1310 Ground Level
4705101476	Drtd Orgnl Loc	Marcellus Fm	Well Record	6994	Reasonable			1310 Ground Level

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

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WV Department of
Environmental Protection

WV Geological & Economic Survey:

Well: County = 51 Permit = 01605

Report Time: Tuesday, April 13, 2021 3:28:50 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_76	QUAD_16	LAT_OD	LON_OD	UTME	UTMN
4705101605	Marshall	1605	Liberty	Cameron	Cameron	39.815827	-80.615124	532941	4407387

Bottom Hole Location Information:

API	EP	FLAG	UTME	UTMN	LON_OD	LAT_OD
4705101605	1	As Drilled	532830	4405923	-80.616495	39.802641
4705101605	1	As Proposed	532830	4405923	-80.616495	39.802641

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM
4705101605	6/30/2013	Dvtd Orign Loc	Completed	Timothy James Hubbs Trust	4H		Goshorn		Goshorn Ridge LLC	Trans Energy, Inc.	7200	Marcellus Fm

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD
4705101605	6/30/2013	5/4/2013	1308	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Fractured	7041	12653	12653 6560

Comment: 6/30/2013 KOP 6560'

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4705101605	6/30/2013	Water	Fresh Water	Vertical			60	Pennsylvanian System					
4705101605	6/30/2013	Water	Fresh Water	Vertical			150	Pennsylvanian System					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	7640	Marcellus Fm	7951	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	8020	Marcellus Fm	8331	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	8385	Marcellus Fm	8676	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	8760	Marcellus Fm	8956	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	9077	Marcellus Fm	9276	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	9340	Marcellus Fm	9526	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	9595	Marcellus Fm	9780	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	9840	Marcellus Fm	10025	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	10095	Marcellus Fm	10280	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	10350	Marcellus Fm	10520	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	10610	Marcellus Fm	10825	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	10900	Marcellus Fm	11070	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	11150	Marcellus Fm	11347	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	11400	Marcellus Fm	11585	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	11657	Marcellus Fm	11830	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	11900	Marcellus Fm	12085	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	12160	Marcellus Fm	12355	Marcellus Fm					
4705101605	6/30/2013	Pay	Oil & Gas	Deviated	12415	Marcellus Fm	12567	Marcellus Fm					

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101605	Trans Energy, Inc.	2013	35,828	0	0	0	0	0	0	0	0	0	0	0	35,828
4705101605	Trans Energy, Inc.	2014	962,178	63,729	93,778	97,711	99,029	95,843	88,715	82,306	76,575	74,431	65,646	63,664	60,751
4705101605	Trans Energy, Inc.	2015	535,305	58,412	16,531	0	78,664	51,532	42,226	29,412	42,240	132,370	35,537	16,920	31,461
4705101605	EQT Production Company	2016	453,031	41,613	34,332	40,244	40,369	41,850	38,637	39,179	38,531	38,630	34,460	36,657	28,529
4705101605	EQT Production Company	2017	344,966	25,854	30,794	37,566	34,785	35,056	27,367	27,435	26,372	24,904	26,479	24,149	24,205
4705101605	EQT Production Company	2018	254,817	771	28,890	29,519	23,718	29,362	25,901	27,534	35,533	17,210	10,425	11,940	14,014
4705101605	EQT Production Company	2019	194,253	5,628	16,490	12,699	17,967	759	17,640	30,627	19,818	14,389	28,133	5,605	24,498

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101605	Trans Energy, Inc.	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101605	Trans Energy, Inc.	2014	1,193	86	90	93	100	96	127	143	120	91	55	68	124
4705101605	Trans Energy, Inc.	2015	1,175	124	37	0	97	130	126	123	147	115	94	78	104
4705101605	EQT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101605	EQT Production Company	2017	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101605	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101605	EQT Production Company	2019	0	0	0	0	0	0	0	0	0	0	0	0	0

Production NGL Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101605	Trans Energy, Inc.	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101605	Trans Energy, Inc.	2014	40,250	1,989	3,153	3,721	3,270	3,500	4,100	3,330	2,786	2,261	3,517	4,254	4,389
4705101605	Trans Energy, Inc.	2015	28,452	2,598	663	0	3,477	3,401	3,064	2,078	3,061	3,152	2,857	1,482	2,619
4705101605	EQT Production Company	2016	651	140	65	91	91	99	80	65	0	0	0	0	0
4705101605	EQT Production Company	2017	356	0	0	81	13	0	0	0	0	0	80	124	58
4705101605	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4705101605	EQT Production Company	2019	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101605	EQT Production Company	2016	1,205	197	259	145	263	304	0	0	0	0	0	0	37
4705101605	EQT Production Company	2017	1,694	235	58	158	0	0	396	0	200	172	210	210	55
4705101605	EQT Production Company	2018	985	0	87	45	96	146	71	0	220	135	44	0	141
4705101605	EQT Production Company	2019	583	115	47	138	0	0	0	0	83	45	80	31	43

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4705101605	Dvtd Orign Loc	unidentified coal	Well Record	862	Reasonable			1308	Ground Level
4705101605	Dvtd Orign Loc	Gordon	Well Record	3052	Reasonable			1308	Ground Level
4705101605	Dvtd Orign Loc	Middlesex Sh	Well Record	6784	Reasonable			1308	Ground Level
4705101605	Dvtd Orign Loc	Burket Sh Mbr	Well Record	6869	Reasonable			1308	Ground Level
4705101605	Dvtd Orign Loc	Tully Ls	Well Record	6891	Reasonable			1308	Ground Level
4705101605	Dvtd Orign Loc	Hamilton Grp	Well Record	6918	Reasonable			1308	Ground Level
4705101605	Dvtd Orign Loc	Marcellus Fm	Well Record	6996	Reasonable			1308	Ground Level

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

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Environmental Protection

WV Geological & Economic Survey:

Well: County = 51 Permit = 00624

Report Time: Tuesday, April 13, 2021 3:28:23 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LONG_DD	UTME	UTMN
4705100624	Marshall	624	Liberty	Cameron	Cameron	39.809022	-80.61095	533301.6	4406633.3

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM
4705100624	6/5/1901	Original Loc	Completed	William Gray	1			32329		South Penn Oil (S. Penn Nat. Gas)			
4705100624	5/2/1903	Worked Over	Completed	William Gray	1			32329		South Penn Oil (S. Penn Nat. Gas)			
4705100624	10/31/2019	Plugging	Completed	Beverly Mae Davis	1		Gray			CNX Gas Co. LLC (North)			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	C
4705100624	6/5/1901	2/7/1901	1240	Topo Estimation	Cameron-Garner	Gordon	Gordon	unclassified	unclassified	Oil	unknown	Na/Open H	3009		3009	
4705100624	5/2/1903	-/-	1240	Topo Estimation	Cameron-Garner	Gordon	Gordon	unclassified	unclassified	Oil	unknown	Shot	3009			0
4705100624	10/31/2019	9/11/2019	1253	Ground Level												

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEFF	G_AFT	O_BEFF	O_AFT	WATER_QNTY
4705100624	6/5/1901	Pay	Oil	Vertical	2884	Gordon Stray	2988	Gordon Stray	0	0			

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100624	Pennzoil Company	1981	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	Pennzoil Company	1982	6	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	Pennzoil Company	1983	1	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	Pennzoil Company	1984	8	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	Pennzoil Products Company	1989	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	Pennzoil Products Company	1998	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	Pennzoil Products Company	1999	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	East Resources, Inc.	2000	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	East Resources, Inc.	2001	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	East Resources, Inc.	2002	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2002	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2003	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2004	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2005	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2006	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2007	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2008	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2009	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2010	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2011	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2012	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2015	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2017	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2019	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100624	Pennzoil Company	1981	54	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	Pennzoil Company	1982	63	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	Pennzoil Company	1983	33	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	Pennzoil Company	1984	19	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	Pennzoil Products Company	1989	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	Pennzoil Products Company	1998	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	Pennzoil Products Company	1999	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	East Resources, Inc.	2000	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	East Resources, Inc.	2001	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	East Resources, Inc.	2002	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2002	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2003	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2004	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2005	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2006	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2007	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2008	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2009	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2010	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2011	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2012	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2015	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2017	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2019	0	0	0	0	0	0	0	0	0	0	0	0	0

Production NGL Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100624	CNX Gas Co. LLC (North)	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2015	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2019	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100624	CNX Gas Co. LLC (North)	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100624	CNX Gas Co. LLC (North)	2019	0	0	0	0	0	0	0	0	0	0	0	0	0

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705100624	10/31/2019	0

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11/19/2021

WV Geological & Economic Survey

Well: County = 51 Permit = 00976

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Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705100976	Marshall	976	Liberly	Cameron	Cameron	39.811226	-80.612279	533186.8	4406877.4

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_ES
4705100976	12/31/2004	Plugging	Completed	Bernard G Frye		M-434			Consolidation Coal Co	Consolidation Coal Co.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G
4705100976	12/31/2004	12/9/2004	1084	Ground Level				unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705100976	12/31/2004	0

There is no Sample data for this well

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WV Geological & Economic Survey:

Well: County = 51 Permit = 00997

Report Time: Tuesday, April 13, 2021 3:27:01 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_76	QUAD_16	LAT_DD	LON_DD	UTME	UTMN
4705100997	Marshall	997	Liberty	Cameron	Cameron	39.806664	-80.610902	533306.8	4406371.6

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705100997	-/-	Plugging	Permitted	John Keith Davis et ux		M-378				Consolidation Coal Co.			
4705100997	-/-	Plugging	Cancelled	John & Beverly Davis		M-378				Consolidation Coal Co.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEI
4705100997	-/-	-/-	1195	Ground Level															
4705100997	-/-	-/-	1195	Ground Level															

Comment: -/- Did not receive cancelled plugging plat, but have received another plugging plat in 2015

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

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WV Geological & Economic Survey:

Well: County = 51 Permit = 70205

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Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170205	Marshall	70205	Liberty	Cameron	Cameron	39.808616	-80.610209	533365.2	4406588.5

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST
4705170205	--		Original Loc Completed	V P Gorby		1				South Penn Oil (S. Penn Nat. Gas)			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT
4705170205	--	--						unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

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WV Geological & Economic Survey:

Well: County = 51 Permit = 70467

Report Time: Tuesday, April 13, 2021 3:26:11 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170467	Marshall	70467	Liberty	Cameron	Cameron	39.806707	-80.609647	533414.2	4406376.8

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170467	-/-	unknown	Prpty Map	Gump & Garby	2					----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_AFTO
4705170467	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

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Well: County = 51 Permit = 70469

Report Time: Tuesday, April 13, 2021 3:25:55 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170469	Marshall	70469	Liberly	Cameron	Cameron	39.810336	-80.610588	533332.1	4406779.2

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170469	-/-		unknown	Prpty Map Aaron A Porter						----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_AFT
4705170469	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

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WV Geological & Economic Survey

Well: County = 51 Permit = 00626

Report Time: Tuesday April 13, 2021 3:27:38 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705100626	Marshall	526	Liberty	Cameron	Cameron	39 806376	-80 806517	533510 9	4406396

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM
4705100626	1/27/1902	Original Loc	Completed	William Gray	4			32329		South Penn Oil (S. Penn Nat. Gas)		
4705100626	10/26/2007	Plugging	Completed	John K & Beverly M Davis		M-376				Consolidation Coal Co.		

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FT
4705100626	1/27/1902	11/7/1901	1300	Topo Estimation	Cameron-Garner	Hampshire Grp	Gordon	Development Well	Oil	unknown	Shot	3088		30
4705100626	10/26/2007	9/19/2007	1329	Ground Level	Cameron-Garner			unclassified	not available	unknown	unknown			

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4705100626	1/27/1902	Pay	Oil	Vertical			3050	Gordon	0	10			

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100626	Pennzoil Company	1981	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Company	1982	6	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Company	1983	1	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Company	1984	2	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Products Company	1989	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Products Company	1991	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Products Company	1992	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Products Company	1993	2,064	0	0	262	507	317	248	0	0	0	306	226	255
4705100626	Pennzoil Products Company	1994	2,035	290	207	124	29	202	256	173	146	154	122	184	148
4705100626	Pennzoil Products Company	1995	1,633	127	139	135	78	133	167	117	166	136	137	143	155
4705100626	Pennzoil Products Company	1996	677	115	88	0	20	50	128	60	75	0	0	28	113
4705100626	Pennzoil Products Company	1997	253	11	0	0	61	24	65	20	63	9	0	0	0
4705100626	Pennzoil Products Company	1998	127	0	0	28	12	0	14	0	25	0	0	0	48
4705100626	Pennzoil Products Company	1999	188	66	59	16	0	0	0	0	0	0	0	47	0
4705100626	East Resources, Inc.	2000	332	3	0	46	31	64	46	45	0	0	0	0	47
4705100626	East Resources, Inc.	2001	227	87	0	0	0	0	68	0	34	6	32	0	0
4705100626	CNX Gas Co. LLC (North)	2002	590	0	0	0	0	0	0	0	155	153	163	119	0
4705100626	East Resources, Inc.	2002	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	CNX Gas Co. LLC (North)	2003	1,752	220	152	122	136	133	138	138	148	127	157	117	164
4705100626	CNX Gas Co. LLC (North)	2004	1,955	309	126	166	156	151	156	162	143	146	148	133	159
4705100626	CNX Gas Co. LLC (North)	2005	1,870	131	128	148	145	136	144	145	169	128	128	139	129
4705100626	CNX Gas Co. LLC (North)	2006	1,662	150	148	149	132	144	134	148	123	124	139	146	125
4705100626	CNX Gas Co. LLC (North)	2007	735	125	125	119	145	123	52	46	0	0	0	0	0
4705100626	CNX Gas Co. LLC (North)	2008	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	CNX Gas Co. LLC (North)	2009	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	CNX Gas Co. LLC (North)	2010	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	CNX Gas Co. LLC (North)	2011	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100626	Pennzoil Company	1981	54	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Company	1982	63	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Company	1983	33	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Company	1984	19	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Products Company	1989	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Products Company	1991	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Products Company	1992	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	Pennzoil Products Company	1993	276	23	60	25	22	0	0	0	27	24	32	24	19
4705100626	Pennzoil Products Company	1994	168	14	4	24	14	15	15	12	11	15	13	14	16
4705100626	Pennzoil Products Company	1995	170	15	7	17	14	14	18	11	16	14	16	15	13
4705100626	Pennzoil Products Company	1996	174	13	11	15	18	14	10	15	15	13	17	23	10
4705100626	Pennzoil Products Company	1997	153	6	11	18	17	16	14	1	14	14	16	13	13
4705100626	Pennzoil Products Company	1998	170	12	13	12	10	13	12	13	13	19	18	18	19
4705100626	Pennzoil Products Company	1999	125	15	10	3	0	0	0	25	31	12	8	8	13
4705100626	East Resources, Inc.	2000	101	11	10	15	9	10	19	11	15	1	0	0	0
4705100626	East Resources, Inc.	2001	131	9	23	9	10	11	9	13	9	11	9	10	8
4705100626	CNX Gas Co. LLC (North)	2002	37	0	0	0	0	0	0	0	9	10	9	9	0
4705100626	East Resources, Inc.	2002	74	10	8	11	8	7	11	9	10	0	0	0	0
4705100626	CNX Gas Co. LLC (North)	2003	112	10	9	9	10	10	9	10	9	9	7	10	10
4705100626	CNX Gas Co. LLC (North)	2004	111	11	4	10	10	10	9	11	11	2	10	16	7
4705100626	CNX Gas Co. LLC (North)	2005	100	5	17	0	6	4	12	7	6	18	3	8	16
4705100626	CNX Gas Co. LLC (North)	2006	108	10	10	4	10	2	10	11	8	9	9	13	12
4705100626	CNX Gas Co. LLC (North)	2007	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	CNX Gas Co. LLC (North)	2008	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	CNX Gas Co. LLC (North)	2009	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	CNX Gas Co. LLC (North)	2010	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100626	CNX Gas Co. LLC (North)	2011	0	0	0	0	0	0	0	0	0	0	0	0	0

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705100626	10/26/2007	0

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WV Geological & Economic Survey:

Well: County = 51 Permit = 01016

Report Time: Tuesday, April 13, 2021 3:06:32 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101016	Marshall	1016	Liberty	Cameron	Cameron	39.803251	-80.605507	533770.3	4405994.9

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705101016	6/29/2006	Plugging	Completed	Jean Jamison		M-383				Consolidation Coal Co.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_
4705101016	6/29/2006	6/9/2006	1315	Ground Level				unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4705101016	Plugging	Pittsburgh coal	Well Record	1060	Reasonable	6	Reasonable	1315	Ground Level

There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705101016	6/29/2006	0

There is no Sample data for this well

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 Environmental Protection

WV Geological & Economic Survey:

Well: County = 51 Permit = 01048

Report Time: Tuesday, April 13, 2021 3:06:52 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_16	LAT_DD	LON_DD	UTME	UTMN
4705101048	Marshall	1048	Liberty	Cameron	Cameron	39.803251	-80.608139	533545	4405993.9

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PF
4705101048	12/15/2006	Plugging	Completed	Jean Jamison		M-384			Unknown	Consolidation Coal Co.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD
4705101048	12/15/2006	11/29/2006	1374	Ground Level	Cameron-Garner			unclassified	unclassified	not available	unknown	unknown				

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705101048	12/15/2006	0

There is no Sample data for this well

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WV Geological & Economic Survey:

Well: County = 51 Permit = 01078

Report Time: Tuesday, April 13, 2021 3:07:07 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101078	Marshall	1078	Liberty	Cameron	Cameron	39.801078	-80.604567	533851.9	4405753.8

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705101078	6/17/2008	Plugging	Completed	Anthony Skrypek		M-424				Consolidation Coal Co.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_
4705101078	6/17/2008	5/30/2008	1275	Ground Level				unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4705101078	Plugging	Pittsburgh coal	Well Record	1021	Reasonable	6	Reasonable	1275	Ground Level

There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705101078	6/17/2008	0

There is no Sample data for this well

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WV Geological & Economic Survey:

Well: County = 51 Permit = 01156

Report Time: Tuesday, April 13, 2021 3:07:21 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101156	Marshall	1156	Liberty	Cameron	Cameron	39.805317	-80.608039	533552.6	4406223.2

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705101156	10/14/2008	Plugging	Completed	Jean Jamison		M-360				Leatherwood, Inc.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G
4705101156	10/14/2008	10/3/2008	1423	Ground Level				unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4705101156	Plugging	Pittsburgh coal	Well Record	1176	Reasonable	6	Reasonable	1423	Ground Level

There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705101156	10/14/2008	0

There is no Sample data for this well

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WV Geological & Economic Survey

Well: County = 51 Permit = 30156

Report Time: Tuesday, April 13, 2021 3:07:33 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705130156	Marshall	30156	Liberty	Cameron	Cameron	39.802961	-80.603815	533915.3	4405963.3

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT
4705130156	4/19/1903	Original Loc	Completed	Francis Chambers	1	118	Edward Welling Heirs		Francis Chambers	Interstate Pipe & Supply		

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG
4705130156	4/19/1903	2/2/1903	1415	Ground Level	Cameron-Garner	UDev undf Ber/LoHURN	Gordon	Development Well	unclassified	Oil	Cable Tool	unknown	3175		3175

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4705130156	4/19/1903	Pay	Oil	Vertical	3126	Gordon	3133	Gordon	0	0			

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4705130156	Original Loc	Sewickley coal	Well Record	1030	Reasonable	6	Reasonable	1415	Ground Level
4705130156	Original Loc	Pittsburgh coal	Well Record	1118	Reasonable	8	Reasonable	1415	Ground Level
4705130156	Original Loc	Bufflo Ss/1st Cow Rn	Well Record	1570	Reasonable	20	Reasonable	1415	Ground Level
4705130156	Original Loc	Mahonig Ss/Big Dunk	Well Record	1630	Reasonable	46	Reasonable	1415	Ground Level
4705130156	Original Loc	Maxton	Well Record	2190	Reasonable	50	Reasonable	1415	Ground Level
4705130156	Original Loc	Big Lime	Well Record	2220	Reasonable			1415	Ground Level
4705130156	Original Loc	Big Injun (undiff)	Well Record	2264	Reasonable	294	Reasonable	1415	Ground Level
4705130156	Original Loc	Gantz	Well Record	2680	Reasonable	20	Reasonable	1415	Ground Level
4705130156	Original Loc	Fifty-foot	Well Record	2676	Reasonable	24	Reasonable	1415	Ground Level
4705130156	Original Loc	Gordon Stray	Well Record	3066	Reasonable	11	Reasonable	1415	Ground Level
4705130156	Original Loc	Gordon	Well Record	3126	Reasonable	23	Reasonable	1415	Ground Level

There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705130156	4/16/1942	0

There is no Sample data for this well

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WV Geological & Economic Survey

Well: County = 51 Permit = 30184

Report Time: Tuesday, April 13, 2021 3:08:09 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705130184	Marshall	30184	Liberty	Cameron	Cameron	39.803106	-80.607575	533593.3	4405978

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TF
4705130184	6/18/1902	Original Loc	Completed	A H Dobbs		4	V P Gorby	32339	J E Gorby et al	South Penn Oil (S. Penn Nat. Gas)			
4705130184	7/9/1904	Worked Over	unknown							----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG
4705130184	6/18/1902	4/23/1902	1367	Ground Level	Cameron-Garner	UDev undf Ber/LoHURN	Gordon	Development Well	unclassified	Oil	Cable Tool	Shot	3144		3144
4705130184	7/9/1904	-/-	1367	Ground Level	Cameron-Garner	UDev undf Ber/LoHURN	Gordon	unclassified	unclassified	Oil	Cable Tool	Shot	3144		

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4705130184	Original Loc	unidentified coal	Well Record	650	Reasonable	2	Reasonable	1367	Ground Level
4705130184	Original Loc	Sewickley coal	Well Record	1020	Reasonable	3	Reasonable	1367	Ground Level
4705130184	Original Loc	Pittsburgh coal	Well Record	1104	Reasonable	4	Reasonable	1367	Ground Level
4705130184	Original Loc	Bufflo Ss/1st Cow Rn	Well Record	1450	Reasonable	25	Reasonable	1367	Ground Level
4705130184	Original Loc	Mahonig Ss/Big Dunk	Well Record	1600	Reasonable	30	Reasonable	1367	Ground Level
4705130184	Original Loc	Salt Sands (undiff)	Well Record	1650	Reasonable	360	Reasonable	1367	Ground Level
4705130184	Original Loc	Big Lime	Well Record	2195	Reasonable	45	Reasonable	1367	Ground Level
4705130184	Original Loc	Big Injun (undiff)	Well Record	2240	Reasonable	260	Reasonable	1367	Ground Level
4705130184	Original Loc	Gordon Stray	Well Record	3072	Reasonable	4	Reasonable	1367	Ground Level
4705130184	Original Loc	Gordon	Well Record	3112	Reasonable	28	Reasonable	1367	Ground Level

There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705130184	-/-1942	0

There is no Sample data for this well

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WV Geological & Economic Survey

Well: County = 51 Permit = 70462

Report Time: Tuesday, April 13, 2021 3:08:37 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_16	LAT_DD	LON_DD	UTME	UTMN
4705170462	Marshall	70462	Liberty	Cameron	Cameron	39.802353	-80.60457	533850.9	4405895.5

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170462	-/-		unknown	Prpty Map Vincent Gorby		6				----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_AFTO
4705170462	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

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WV Geological & Economic Survey:

Well: County = 51 Permit = 70463

Report Time: Tuesday, April 13, 2021 3:09:01 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170463	Marshall	70463	Liberly	Cameron	Cameron	39.80453	-80.607202	533624.5	4406136.1

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170463	-/-		unknown	Prpty Map Vincent Gorby		3				----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_AFTO
4705170463	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well ** some operators may have reported NGL under Oil

There is no Production NGL data for this well ** some operators may have reported NGL under Oil

There is no Production Water data for this well

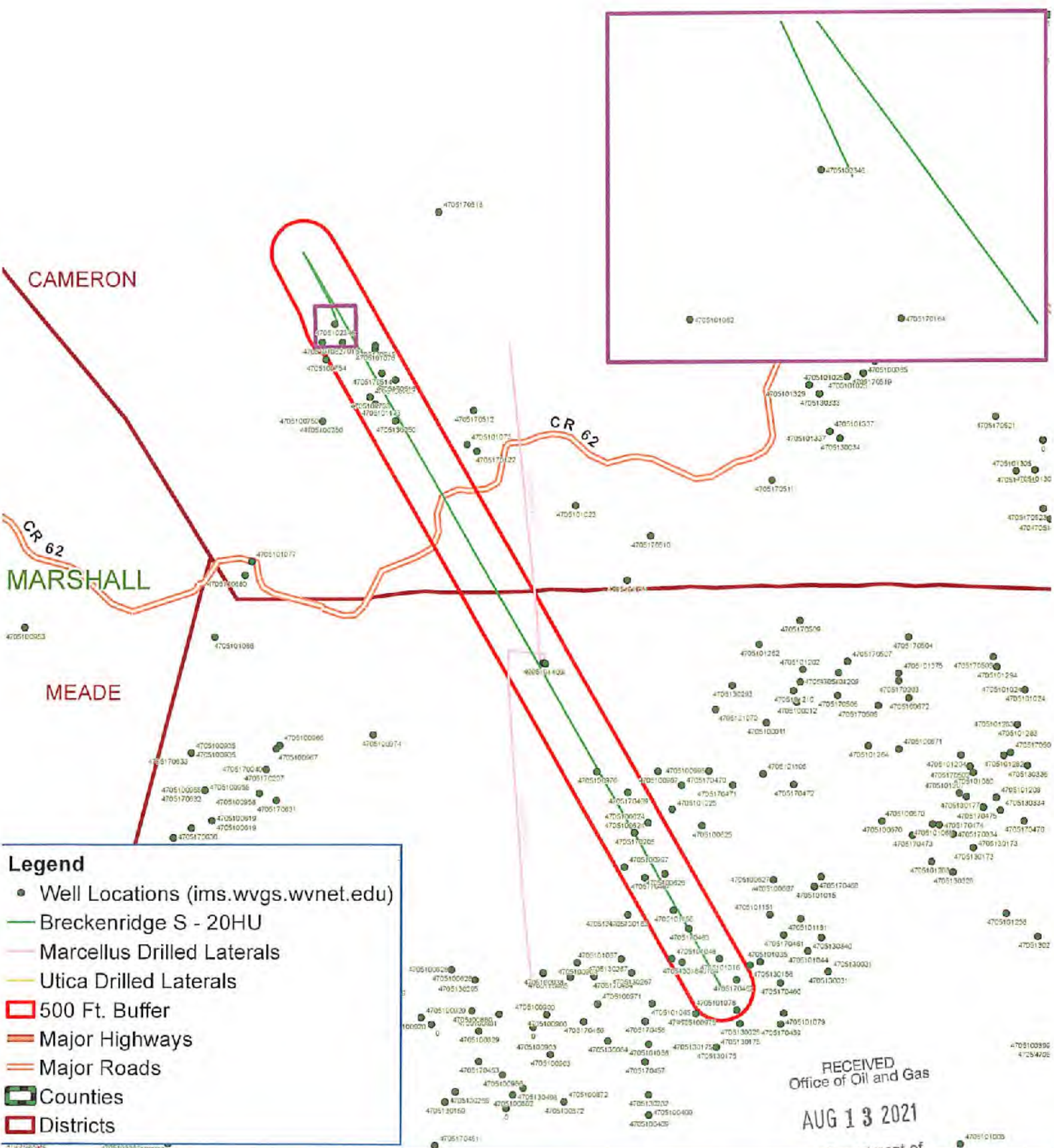
There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

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Legend

- Well Locations (ims.wvgs.wvnet.edu)
- Breckenridge S - 20HU
- Marcellus Drilled Laterals
- Utica Drilled Laterals
- 500 Ft. Buffer
- Major Highways
- Major Roads
- ▭ Counties
- ▭ Districts

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Breckenridge S - 20HU Cameron District Marshall County, WV



Map Prepared by
EPS
LAND SERVICES
11/19/2021

Map Created: April 7, 2021
Notes:
All locations are approximate and are for visualization purposes only.

WW-9
(4/16)

API Number 47 - 051 -
Operator's Well No. Breckenridge S-20HU

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

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FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Tug Hill Operating, LLC OP Code 494510851

Watershed (HUC 10) Grave Creek & Laurel Run Quadrangle Glen Easton 7.5'

WV Department of
Environmental Protection

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: AST Tanks with proper containment will be used for staging fresh water for frac and flow back water

Will a synthetic liner be used in the pit? Yes No If so, what ml.? AST Tanks will be used with proper containment

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number UIC 2459, UIC 965, UIC 359, UIC 2D0732540, UIC 2D0732523)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Will closed loop system be used? If so, describe: Yes - For Vertical and Horizontal Drilling

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air for vertical / Oil for Horizontal

-If oil based, what type? Synthetic, petroleum, etc. Synthetic Oil Base

Additives to be used in drilling medium? Barite for weight

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. All drill cuttings to be disposed of in a Landfill

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

-Landfill or offsite name/permit number? Wetzel County Sanitary Landfill (SWF-1021 / WV0109185) and Westmoreland Sanitary Landfill, LLC (SAN1405 / PA DEP EC#1386420)

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

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

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

Company Official Signature Jim Pancake

Company Official (Typed Name) Jim Pancake

Company Official Title Vice President - Geosciences

Subscribed and sworn before me this 8th day of April, 20 21

Susanne Deliere

Notary Public

My commission expires 1/15/2025

Commonwealth of Pennsylvania - Notary Seal
 Susanne Deliere, Notary Public
 Washington County
 My commission expires February 15, 2025
 Commission number 1382332
 Member, Pennsylvania Association of Notaries

Tug Hill Operating, LLC

Proposed Revegetation Treatment: Acres Disturbed 45.40 Prevegetation pH 6.0

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch 2.5 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Annual Ryegrass	40	Orchard Grass	12
Spring Oats	96	Ladino	3
		White Clover	2

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Benny Stiles

Comments: _____

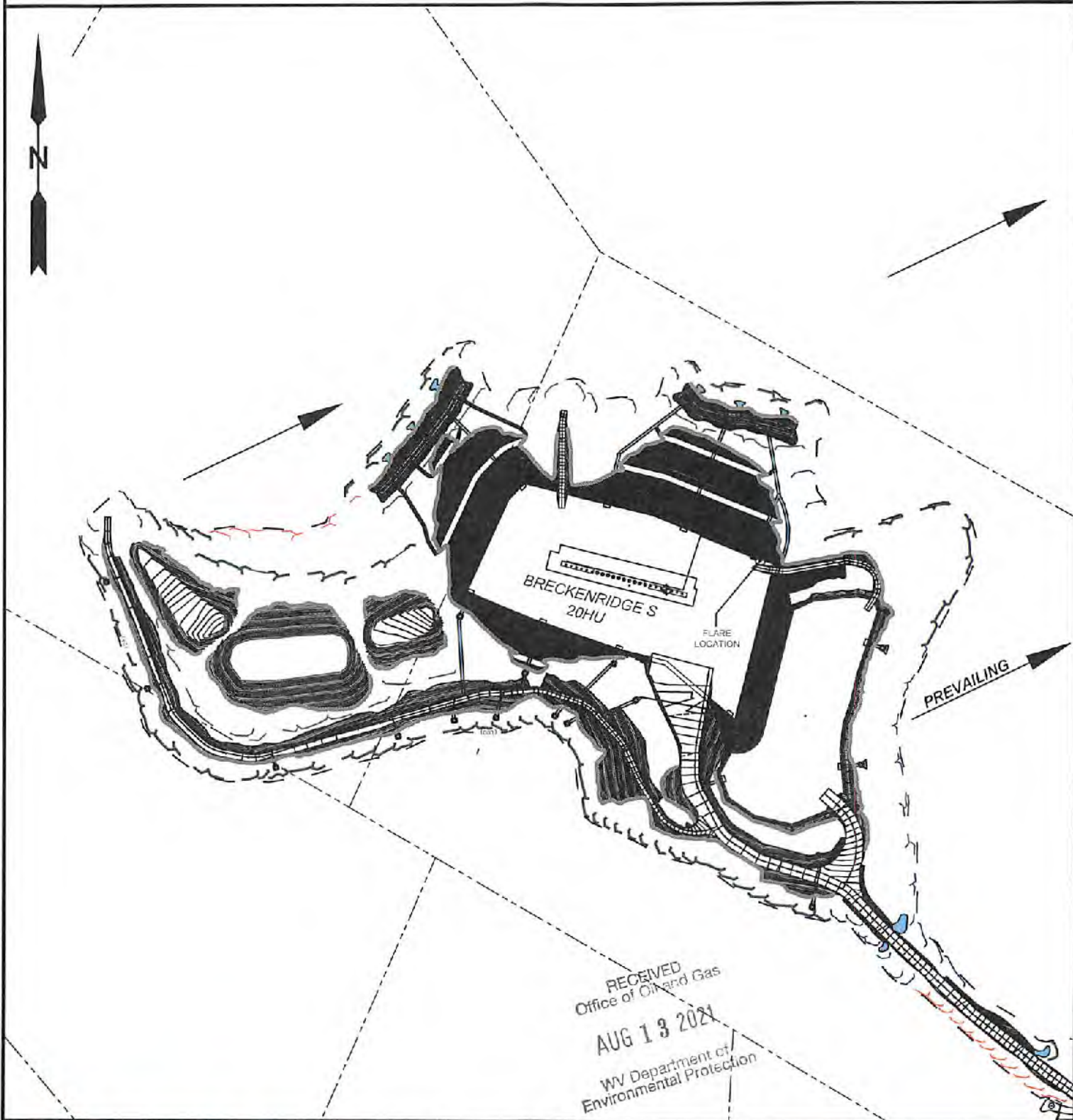
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Environmental Protection

Title: Oil and Gas Inspector Date: 6-17-21

Field Reviewed? Yes No

PROPOSED BRECKENRIDGE S - 20HU

EXHIBIT 1



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12 Veburn Drive | P.O. Box 350 | Glen Dale, WV 26031 | 304.492.6334
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.336.3912
254 East Beckley Bypass | Beckley, WV 26001 | 304.255.0250
sls-wv.com

TOPO SECTION:

GLEN EASTON 7.5'

COUNTY	DISTRICT
MARSHALL	CAMERON

MARSHALL CAMERON

DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	9026	04-08-21	NONE

K.G.M. 9026

OPERATOR:

PREPARED FOR:
TUG HILL OPERATING, LLC
380 SOUTHPOINTE BLVD
SUITE 200
CANONSBURG, PA 15317



TUG HILL
OPERATING

11/19/2021

Breckenridge Coal Exhibit



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WV Department of
Environmental Protection

11/19/2021



TUG HILL
OPERATING

Well Site Safety Plan
Part A – Site Specific Data and Figures

Well Name: Breckenridge S-20HU

Pad Name: Breckenridge

County: Marshall

UTM (meters), NAD83, Zone 17

Northing: 4,408,984.00

Easting: 531,954.86

Bang Stiles 6-17-21

**KEY CONTACT FOR WELL SITE SAFETY PLAN
DEVELOPMENT AND MAINTENANCE**

Jerry V. DeRosa, Director EH&S Affairs

(724) 338-2029 (office)

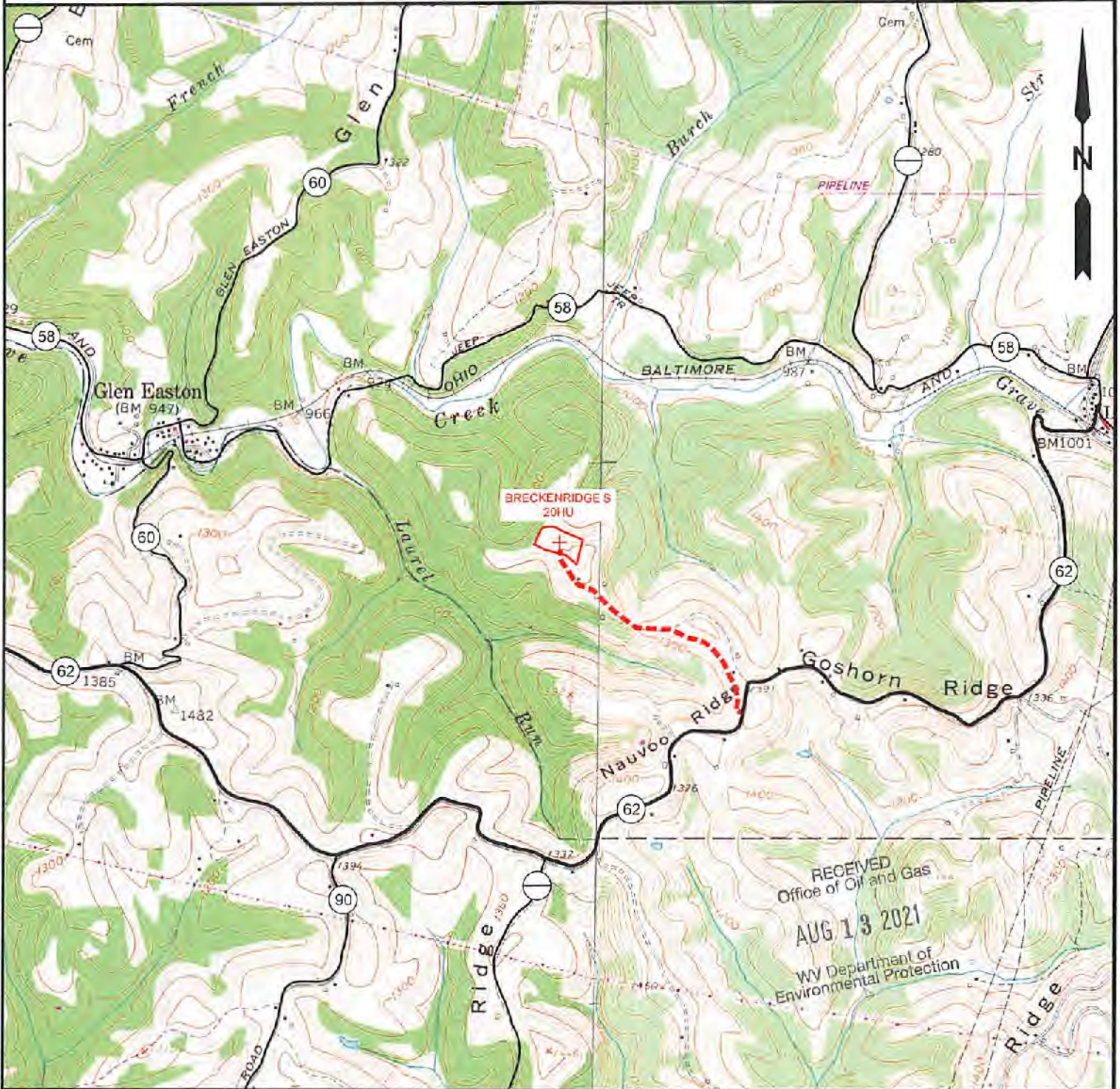
(412) 736-5767 (cellular)

24-HOUR EMERGENCY PHONE NUMBER

(800) 921-9745

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Office of Oil and Gas
AUG 13 2021
WV Department of
Environmental Protection
11/19/2021

PROPOSED BRECKENRIDGE S - 20HU



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Office of Oil and Gas
AUG 13 2021
WV Department of
Environmental Protection

NOTE: CLOSEST WATER PURVEYOR
CITY OF CAMERON - FRANK WALKER RESERVOIR
CAMDEN, WV

LAT: 39.829865
LON: -80.573724
LOCATED: S 88°42'19" E AT 14,928.72' FROM THE CENTER OF BRECKENRIDGE N WELL PAD LOCATION.



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26031 | 304.462.5034
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.345.3952
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5295
slswv.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR: TUG HILL OPERATING, LLC 360 SOUTHPONTE BLVD SUITE 200 CANONSBURG, PA 15317	
COUNTY	DISTRICT		
MARSHALL	CAMERON		
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	9026	04/08/2021	1" = 2000'



TUG HILL
OPERATING
11/19/2021

**BRECKENRIDGE S LEASE
UTICA UNIT - 371.44 AC±
WELL 20HU
TUG HILL OPERATING**

6,197' B.H. 440' T.H.
T.H. LATITUDE 39°50'00"
B.H. LATITUDE 39°50'00"

T.H.

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'83 S.P.C.(FT) N. 486,504.51 E. 1,852,122.16
NAD'83 GEO. LAT-(N) 39.830254 LONG-(W) 80.626568
NAD'83 UTM (M) N. 4,408,964.01 E. 531,954.86

LANDING POINT

NAD'83 S.P.C.(FT) N. 486,571.4 E. 1,852,200.7
NAD'83 GEO. LAT-(N) 39.830440 LONG-(W) 80.626292
NAD'83 UTM (M) N. 4,409,004.8 E. 531,978.4

BOTTOM HOLE

NAD'83 S.P.C.(FT) N. 476,145.7 E. 1,657,942.3
NAD'83 GEO. LAT-(N) 39.802016 LONG-(W) 80.605392
NAD'83 UTM (M) N. 4,405,857.8 E. 533,780.7

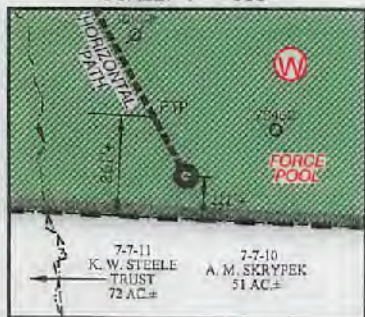
T.H. LONGITUDE 80°37'30"
B.H. LONGITUDE 80°35'00"

11,408' B.H.

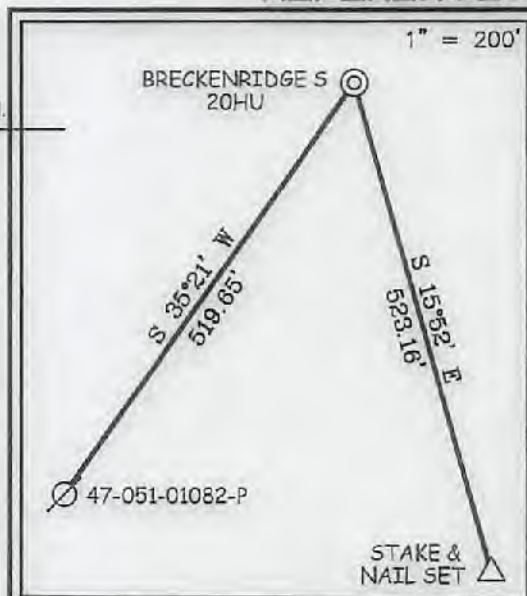
TAG	SURFACE OWNER	PARCEL	ACRES
A	CNX LAND, LLC	3-19-76	53.25
B	CNX LAND, LLC	3-19-75	47.40
C	CNX LAND, LLC	3-19-74	44.59
D	SONJA J. STROPE	3-19-77	46.783
E	CNX LAND, LLC	3-18-1	30.00
F	SONJA J. STROPE	3-18-3	74.757
G	KEVIN R. EVANS	3-18-2	63.89
H	DAVID L. & ARIANNE R. ROBINSON	3-18-3.3	16.884
I	DAVID L. & ARIANNE R. ROBINSON	3-18-3.2	1.886
J	OLIVIA SUZANNE HUBBS	3-18-38	0.433
K	CHARLES JARED STROPE	3-18-4	7.25
L	MOLLY KAY HUBBS COLLINS, ET AL	7-1-11	58.44
M	MOLLY KAY HUBBS COLLINS, ET AL	3-18-5	25.372
N	OLIVIA SUZANNE HUBBS	7-1-12	17.68
O	OLIVIA SUZANNE HUBBS	7-1-13	120.937
P	MOLLY KAY HUBBS COLLINS, ET AL	7-1-14	53.67
Q	MOLLY KAY HUBBS COLLINS, ET AL	7-1-15	57.32
R	MOLLY KAY HUBBS COLLINS, ET AL	7-1-16	54.44
S	RICKIE GENE FRYE	7-2-3.1	37.8578
T	JEAN JAMISON	7-1-19	51.89
U	BEVERLY MAE DAVIS	7-2-4	58.08
V	ANTHONY SKRYPEK	7-2-5	20.915
W	JEAN JAMISON	7-7-9.1	97.896

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
3-18-3.1	CAROL J. EVANS - LIFE	1.173
3-18-6.1	ABF WEST VIRGINIA TRANSMISSION COMPANY	10.175
3-18-7	KEVIN R. & SHELLY JO EVANS	3.134
3-18-14	MOLLY KAY HUBBS COLLINS & OLIVIA SUZANNE HUBBS	21.52
3-19-78	CNX LAND, LLC	30.927
3-19-79	CNX LAND, LLC	10.75
3-19-81	XCL PROCESSING OPERATING LLC	26.52
7-2-2	WILLIAM E. PARSONS, ET UX	56.08
7-2-3	BARBARA & RICKIE FRYE	11.24
7-2-3.2	RICKIE GENE FRYE, ET UX	0.9922
7-2-4.1	BEVERLY MAE DAVIS	1.00
7-2-4.2	DAVID L. FRYE	1.25
7-2-5.1	DAVID L. FRYE & MICHAEL G. SCHLIEPER	2.535
7-2-7	CNX LAND, LLC	12.825
7-2-8	CNX LAND, LLC	3.82
7-7-9	WILLARD JUNIOR EVANS & ROSE MARY EVANS - LIFE	2.214

DETAIL
SCALE: 1" = 500'



REFERENCES



NOTES ON SURVEY

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOP MARK SCALE ARE 1"=2000'
- PROPOSED LATERAL OR TDP HOLE OF PROPOSED BRECKENRIDGE S-20HU IS WITHIN 3000' OF THE TOP HOLES OR LATERALS OF PROPOSED OR EXISTING WELLS:

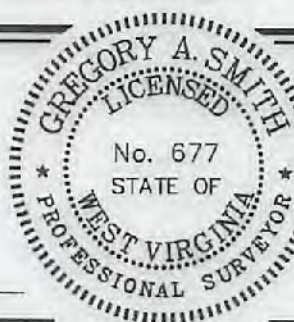
- PROPOSED BRECKENRIDGE S-17HU,
- PROPOSED BRECKENRIDGE S-18HU,
- PROPOSED BRECKENRIDGE S-19HU,
- PROPOSED BRECKENRIDGE S-21HU,
- PROPOSED BRECKENRIDGE S-22HU,
- PROPOSED BRECKENRIDGE S-23HU.



12 Vanover Drive | P.O. Box 150 | Glenville, WV 26031 | 304.662.5634
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
254 East Beckley Bypass | Beckley, WV 25801 | 304.355.5295
slsw.com

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 THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 677 Gregory A. Smith



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE MAY 3, 20 21

REVISED JULY 15, AUGUST 12, 20 21

OPERATORS WELL NO. BRECKENRIDGE S-20HU

API WELL NO. 47 - 051 - 02399
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 9026P20HUR2.dwg
BRECKENRIDGE S-20HU-REV4

HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'

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



WELL TYPE: OIL GAS X INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION X STORAGE DEEP X SHALLOW

LOCATION: GROUND = 1,389.60' ELEVATION PROPOSED = 1,370.10' WATERSHED GRAVE CREEK (HUC 10) & LAUREL RUN

DISTRICT CAMERON COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'

SURFACE OWNER CNX LAND LLC ACREAGE 53.25±

ROYALTY OWNER HASAN'S VENTURES, ET AL ACREAGE 53.21

PROPOSED WORK: LEASE NO. SEE WW-6A1

DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X PLUG OFF OLD

FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) TARGET FORMATION POINT PLEASANT

ESTIMATED DEPTH TVD: 12,087' / TMD: 24,319'

WELL OPERATOR TUG HILL OPERATING, LLC
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500
FORT WORTH, TX 76107

DESIGNATED AGENT DARREN BROWN
CT CORPORATION
ADDRESS 5098 WASHINGTON ST. W, STE 407
CHARLESTON, WV 25313-1561

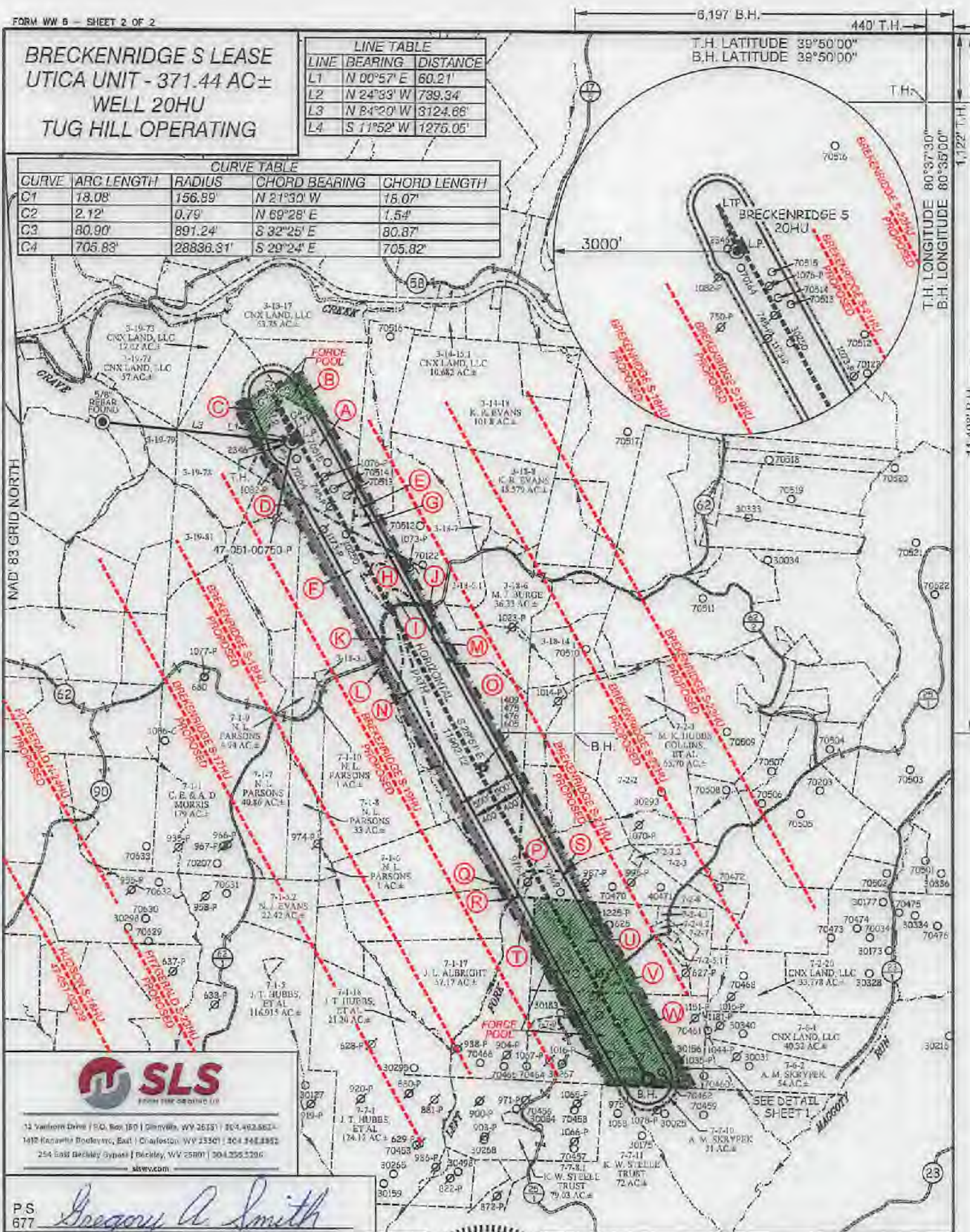
COUNTY NAME

PERMIT

**BRECKENRIDGE S LEASE
UTICA UNIT - 371.44 AC±
WELL 20HU
TUG HILL OPERATING**

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 00°57' E	60.21'
L2	N 24°33' W	739.34'
L3	N 84°20' W	3124.86'
L4	S 11°52' W	1276.05'

CURVE TABLE				
CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	18.08'	156.89'	N 21°30' W	16.07'
C2	2.12'	0.79'	N 69°28' E	1.54'
C3	80.90'	891.24'	S 32°25' E	80.87'
C4	705.83'	28836.31'	S 20°24' E	705.82'



T.H. LATITUDE 39°50'00"
B.H. LATITUDE 39°50'00"

T.H. LONGITUDE 80°37'30"
B.H. LONGITUDE 80°35'00"

NAD 83 GRID NORTH

1,122' T.H.

1,408' B.H.



12 Vanhorn Drive / P.O. Box 160 / Glenville, WV 26031 / 804.492.5631
1410 Kanawha Boulevard, East / Charleston, WV 25301 / 804.342.8852
254 East Beckley Avenue / Beckley, WV 25801 / 804.258.5206
slls.com

PS 677 *Gregory A. Smith*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

LEGEND

- EXTERIOR UNIT BOUNDARY
- INTERIOR LEASE BOUNDARY
- SURFACE LINE
- PROPOSED UTICA
- WELL LATERAL
- 400' OFFSET LINE
- 500' OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- FORCE POOL TRACT
- PROPOSED FIRST TAKE POINT
- PROPOSED LAST TAKE POINT
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- SURFACE OWNER (SEE TABLE)
- LEASE # (SEE ADDITIONAL SHEETS)

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)			
NAD83 S.P.C.(FT)	N. 488,504.51	E. 1,662,122.16	
NAD83 GEO.	LAT-(N) 39.830254	LONG-(W) 80.820568	
NAD83 UTM (M)	N. 4,409,984.01	E. 591,954.86	
LANDING POINT			
NAD83 S.P.C.(FT)	N. 488,571.4	E. 1,652,200.7	
NAD83 GEO.	LAT-(N) 39.830410	LONG-(W) 80.820292	
NAD83 UTM (M)	N. 4,409,004.0	E. 591,978.4	
BOTTOM HOLE			
NAD83 S.P.C.(FT)	N. 478,145.7	E. 1,657,942.3	
NAD83 GEO.	LAT-(N) 39.802018	LONG-(W) 80.805392	
NAD83 UTM (M)	N. 4,405,857.8	E. 593,780.7	

SCALE 1" = 2000' FILE NO. 9026P20HUR2.dwg
BRECKENRIDGE S-20HU-REV4
DATE MAY 3, 20 21
REVISED JULY 15, AUGUST 12, 20 21
OPERATORS WELL NO. BRECKENRIDGE S-20HU
API WELL NO. 47-051-02389
NO. STATE COUNTY PERMIT

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



WELL OPERATOR TUG HILL OPERATING, LLC
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500
FORT WORTH, TX 76107

DESIGNATED AGENT DARREN BROWN
CT CORPORATION
ADDRESS 5098 WASHINGTON ST. W, STE 407
CHARLESTON, WV 25313-1661

COUNTY NAME PERMIT

11/19/2021

**BRECKENRIDGE S LEASE
 UTICA UNIT - 371.44 AC±
 WELL 20HU
 TUG HILL OPERATING**



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26031 | 304.462.5634
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
 254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296
 slsww.com

NO.	Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Deed Book/Page
✓ 1	10*31241	3-19-76	A	JAMES R WAYT, ET AL	729 40
2	**FORCE POOL**	3-19-75	B	KATHERINE ZOGG OLIVER	663 449
✓ 3	**FORCE POOL**	3-19-74	C	KATHERINE ZOGG OLIVER	663 449
4	10*25525	3-19-77	D	JAN MARIE CREGO, ET AL	939 601
5	10*17925	3-18-1	E	BOUNTY MINERALS LLC	928 393
✓ 6	10*17925	3-18-3	F	BOUNTY MINERALS LLC	928 393
7	10*17925	3-18-2	G	BOUNTY MINERALS LLC	928 393
✓ 8	10*17925	3-18-3.3	H	BOUNTY MINERALS LLC	928 393
9	10*17925	3-18-3.2	I	BOUNTY MINERALS LLC	928 393
10	10*17925	3-18-38	J	BOUNTY MINERALS LLC	928 393
✓ 11	10*17925	3-18-4	K	BOUNTY MINERALS LLC	928 393
12	10*17925	7-1-11	L	BOUNTY MINERALS LLC	928 393
13	10*17925	3-18-5	M	BOUNTY MINERALS LLC	928 393
✓ 14	10*17925	7-1-12	N	BOUNTY MINERALS LLC	928 393
15	10*17925	7-1-13	O	BOUNTY MINERALS LLC	928 393
✓ 16	10*29980	7-1-14	P	OLIVIA S ALLEN AND TIM C ALLEN	1103 537
17	10*30003	7-1-14	P	MOLLY K COLLINS AND CHAD J COLLINS	1103 541
18	10*17925	7-1-15	Q	BOUNTY MINERALS LLC	928 393
19	10*17925	7-1-16	R	BOUNTY MINERALS LLC	928 393
✓ 20	10*25603	7-2-3.1	S	BEVERLY MAE DAVIS, ET AL	910 270
21	10*17925	7-1-19	T	BOUNTY MINERALS LLC	928 393
✓ 22	10*30483	7-2-4	U	DAVID W MITCHELL, ET AL	1105 1
23	10*30483	7-2-5	V	DAVID W MITCHELL, ET AL	1105 1
✓ 24	10*29038	7-7-9.1	W	CONSTANCE LINT, ET AL	747 86

FILE NO. 9026P20HUR2.dwg
BRECKENRIDGE S-20HU-REV4

DATE MAY 3, 2021

REVISED JULY 15, AUGUST 12, 2021

OPERATORS WELL NO. BRECKENRIDGE S-20HU

API WELL NO. 47 — 051 — 02399
 NO. STATE COUNTY PERMIT



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



P.S.
 677

Gregory A. Smith

WELL OPERATOR TUG HILL OPERATING, LLC
 ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500
FORT WORTH, TX 76107

DESIGNATED AGENT DARREN BROWN
CT CORPORATION
 ADDRESS 5098 WASHINGTON ST. W, STE 407
CHARLESTON, WV 25313-1561

COUNTY NAME

PERMIT

4705102399

WW-6A1
(5/13)

Operator's Well No. Breckenridge S-20HU

**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 attached pages

RECEIVED
Office of Oil and Gas

AUG 13 2021

WV Department of
Environmental Protection

**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: Tug Hill Operating, LLC
 By: Amy L. Morris *Amy L. Morris*
 Its: Permitting Specialist - Appalachia Region

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page		Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
10*31241	3-19-76	A	JAMES R WAYT	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	729	40	N/A	N/A	N/A	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 24/260	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to TH Exploration LLC: 48/21
10*31242	3-19-76	A	EVELYN L BUTLER	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	729	49	N/A	N/A	N/A	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 24/260	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to TH Exploration LLC: 48/21
FORCE POOL	3-19-74	C	KATHERINE ZOGG OLIVER	GREAT LAKES ENERGY PARTNERS, LLC	1/8+	663	449	Name change to Range Resources - Appalachia LLC: CB 19/443	Range Resources - Appalachia LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 663/449	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/363	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Title Holder LLC: 33/424	Cert of Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	**FORCE POOL**
10*17925	3-18-3	F	BOUNTY MINERALS LLC	TH EXPLORATION LLC	1/8+	928	393	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*17925	3-18-3.3	H	BOUNTY MINERALS LLC	TH EXPLORATION LLC	1/8+	928	393	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*17925	3-18-4	K	BOUNTY MINERALS LLC	TH EXPLORATION LLC	1/8+	928	393	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*17925	7-1-12	N	BOUNTY MINERALS LLC	TH EXPLORATION LLC	1/8+	928	393	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*17925	7-1-13	O	BOUNTY MINERALS LLC	TH EXPLORATION LLC	1/8+	928	393	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29980	7-1-14	P	OLIVIA S ALLEN AND TIM C ALLEN	TH EXPLORATION LLC	1/8+	1103	537	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*25503	7-2-3.1	S	BEVERLY MAE DAVIS	AMERICAN PETROLEUM PARTNERS LLC	1/8+	910	270	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners Operating LLC to TH Exploration LLC: 43/503
10*25507	7-2-3.1	S	DAVID LEE DAVIS AND A JANE DAVIS	AMERICAN PETROLEUM PARTNERS LLC	1/8+	910	265	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners Operating LLC to TH Exploration LLC: 43/503
10*25529	7-2-3.1	S	KAREN S HOLT	AMERICAN PETROLEUM PARTNERS LLC	1/8+	930	261	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners Operating LLC to TH Exploration LLC: 43/503
10*25531	7-2-3.1	S	KATHY L YOUNG AND RODNEY A YOUNG	AMERICAN PETROLEUM PARTNERS LLC	1/8+	932	142	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners Operating LLC to TH Exploration LLC: 43/503
10*25535	7-2-3.1	S	RICKY J CAIN	AMERICAN PETROLEUM PARTNERS LLC	1/8+	930	295	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners Operating LLC to TH Exploration LLC: 43/503
10*25537	7-2-3.1	S	SUSAN E WRIGHT	AMERICAN PETROLEUM PARTNERS LLC	1/8+	932	207	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners Operating LLC to TH Exploration LLC: 43/503
10*30483	7-2-4	U	DAVID W MITCHELL	TH EXPLORATION LLC	1/8+	1105	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30154	7-2-4	U	MICHELLE ABRAMS AND DONALD A ABRAMS	TH EXPLORATION LLC	1/8+	1104	641	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30605	7-2-4	U	CAMMIE WILSON AND CLINT A WILSON	TH EXPLORATION LLC	1/8+	1110	529	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30606	7-2-4	U	NEIL EDWARD WILSON	TH EXPLORATION LLC	1/8+	1110	526	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30157	7-2-4	U	EDISON K MITCHELL AND MARILEE J MITCHELL	TH EXPLORATION LLC	1/8+	1104	645	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30156	7-2-4	U	RAYMOND L MITCHELL AND JANET L MITCHELL	TH EXPLORATION LLC	1/8+	1104	637	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*38535	7-2-4	U	CAROLYN A POSTLETHWAITE	TH EXPLORATION LLC	1/8+	1083	548	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FORCE POOL	7-2-4	U	ROBERT EDISON ANDREWS A/K/A EDISON ANDREWS	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
FORCE POOL	7-2-4	U	DONALD WAYNE ANDREWS	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
FORCE POOL	7-2-4	U	JANET LORRAINE ANDREWS PUSKARICH	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
FORCE POOL	7-2-4	U	KRISTINA OWENS KOLLER F/K/A KRISTINA OWENS WRIGHT	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	787	131	N/A	N/A	N/A	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
FORCE POOL	7-2-4	U	UNKNOWN HEIRS AND ASSIGNS OF RONDA OWENS SPRINGER	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
FORCE POOL	7-2-4	U	UNKNOWN HEIRS AND ASSIGNS OF ROBIN OWENS	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**

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FORCE POOL	7-2-4	U	KYLE OWENS	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	789 296	N/A	N/A	N/A	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
FORCE POOL	7-2-4	U	SUSAN L CLENDENNING	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	761 290	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 26/632	Republic Energy Ventures LLC to American Shale Development Inc: 28/227	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
FORCE POOL	7-2-4	U	CAROLE SIMMONS	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	759 596	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 26/632	Republic Energy Ventures LLC to American Shale Development Inc: 28/227	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
FORCE POOL	7-2-4	U	JACK OWENS JR.	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750 575	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 26/632	Republic Energy Ventures LLC to American Shale Development Inc: 28/227	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
FORCE POOL	7-2-4	U	ALLEN W. OWENS	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750 576	N/A	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
10*29038	7-7-9.1	W	CONSTANCE LINT	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	747 86	N/A	N/A	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
FORCE POOL	7-7-9.1	W	CURTIS W. LINT	UNLEASED	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
FORCE POOL	7-7-9.1	W	SANDRA LINT	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	787 130	N/A	N/A	N/A	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
FORCE POOL	7-7-9.1	W	ROBERT J. RAYMOND	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	789 295	N/A	N/A	N/A	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**

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FORCE POOL	7-7-9.1	W	JAMES W. RAYMOND	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	789 299	N/A	N/A	N/A	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
FORCE POOL	7-7-9.1	W	RHEA TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	784 189	N/A	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
10*28335	7-7-9.1	W	DENNIS TEDROW	TH EXPLORATION LLC	1/8+	1070 442	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27421	7-7-9.1	W	MARTHA MILTON	TH EXPLORATION LLC	1/8+	1058 574	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*39020	7-7-9.1	W	MARCIE WITHEROW	TH EXPLORATION LLC	1/8+	1110 515	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FORCE POOL	7-7-9.1	W	PENNY TEDROW AMBROSE	UNLEASED	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
10*29114	7-7-9.1	W	TERRY WITHEROW	TH EXPLORATION LLC	1/8+	1084 396	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29513	7-7-9.1	W	TRACY J. WEGENDT	TH EXPLORATION LLC	1/8+	1096 292	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29766	7-7-9.1	W	STEWART TEDROW	TH EXPLORATION LLC	1/8+	1100 260	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*28336	7-7-9.1	W	DUSTIN TEDROW	TH EXPLORATION LLC	1/8+	1070 440	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FORCE POOL	7-7-9.1	W	SHIRLEY MORGAN	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	754 17	N/A	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
FORCE POOL	7-7-9.1	W	DONNIS S. TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	741 289	N/A	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 26/632	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
10*38578	7-7-9.1	W	LLOYD TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	N/A	754 18	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
10*38543	7-7-9.1	W	CHARLES ROBERT TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	757 277	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
PENDING	7-7-9.1	W	GARY L. TEDROW, JR	TH EXPLORATION LLC	1/8+		N/A	N/A	N/A	N/A	N/A	N/A	N/A

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10*38648	7-7-9.1	W	BONNIE S. MORRIS	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	577	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
FORCE POOL	7-7-9.1	W	CHARLES F. MARTIN, JR.	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	777	592	N/A	N/A	N/A	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
10*38651	7-7-9.1	W	RUTH VARNER AND DONALD J VARNER	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	578	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
10*38557	7-7-9.1	W	DEBBIE DEGROFF	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	508	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
FORCE POOL	7-7-9.1	W	MARY LOU HARRISON	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	759	598	N/A	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 26/632	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
10*38536	7-7-9.1	W	JOHN SAMUEL TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	757	285	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
10*38549	7-7-9.1	W	ROBERT TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	491	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120

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10*38601	7-7-9.1	W	KIMBERLY DURENDA	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	754 10	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
10*38663	7-7-9.1	W	ALICE FAYE VARNER	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	757 275	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
10*38542	7-7-9.1	W	MARILYN D HOGAN	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750 490	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
10*38574	7-7-9.1	W	JANET L BURA AND MARK BURA	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	757 266	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 26/632	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
10*38649	7-7-9.1	W	B PAUL DILLE AND SHERRY DILLE	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	753 648	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
10*38554	7-7-9.1	W	JACK E. DILLE	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	757 267	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 26/632	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
10*38624	7-7-9.1	W	ANTHONY J TERAVECCHIA	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	754 15	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 26/632	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120

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FORCE POOL	7-7-9.1	W	BEVERLY DILLE, WILLIAM G. DILLE, SHELBY DILLE, JEFFREY DILLE	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	777 593	N/A	N/A	N/A	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
FORCE POOL	7-7-9.1	W	DOROTHY D. DILLE	UNLEASED	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FORCE POOL	7-7-9.1	W	DARLENE MARIE DILLE WADDINGHAM	UNLEASED	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PENDING	7-7-9.1	W	JOYCE LYNNE LOWRY	TH EXPLORATION LLC	1/8+	1114 314	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FORCE POOL	7-7-9.1	W	GUY DILLE	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	758 613	N/A	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 26/632	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
FORCE POOL	7-7-9.1	W	BONNIE L. MURPHY	EQT PRODUCTION CO.	1/8+	961 572	N/A	N/A	N/A	N/A	N/A	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
10*30155	7-7-9.1	W	CHARLES W. GORBY, BY ATTORNEY IN FACT, CHARLES C. GORBY	TH EXPLORATION LLC	1/8+	1104 633	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*39051	7-7-9.1	W	SUZANNE TAYLOR	TH EXPLORATION LLC	1/8+	1104 635	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*38630	7-7-9.1	W	MARJORIE HARTMAN	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750 493	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
10*38633	7-7-9.1	W	JANICE C. HETRICK	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750 495	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 26/632	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
FORCE POOL	7-7-9.1	W	EQT PRODUCTION CO.	SWN PRODUCTION CO.	1/8+	1065 545	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29939	7-7-9.1	W	DONALD H. SHANOR	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	754 19	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 26/632	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
FORCE POOL	7-7-9.1	W	HOWARD A. SHANOR, JR.	UNLEASED	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29138	7-7-9.1	W	DEBORAH ANN GORBY	TH EXPLORATION LLC	1/8+	1085 180	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30483	7-7-9.1	W	DAVID W MITCHELL	TH EXPLORATION LLC	1/8+	1105 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30154	7-7-9.1	W	MICHELLE ABRAMS AND DONALD A ABRAMS	TH EXPLORATION LLC	1/8+	1104 641	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30605	7-7-9.1	W	CAMMIE WILSON AND CLINT A WILSON	TH EXPLORATION LLC	1/8+	1110 529	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30606	7-7-9.1	W	NEIL EDWARD WILSON	TH EXPLORATION LLC	1/8+	1110 526	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30157	7-7-9.1	W	EDISON K MITCHELL AND MARILEE J MITCHELL	TH EXPLORATION LLC	1/8+	1104 645	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30156	7-7-9.1	W	RAYMOND L MITCHELL AND JANET L MITCHELL	TH EXPLORATION LLC	1/8+	1104 637	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*38535	7-7-9.1	W	CAROLYN A POSTLETHWAITE	TH EXPLORATION LLC	1/8+	1083 548	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FORCE POOL	7-7-9.1	W	ROBERT EDISON ANDREWS A/K/A EDISON ANDREWS	UNLEASED	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FORCE POOL	7-7-9.1	W	DONALD WAYNE ANDREWS	UNLEASED	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FORCE POOL	7-7-9.1	W	JANET LORRAINE ANDREWS PUSKARICH	UNLEASED	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page		Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
FORCE POOL	7-7-9.1	W	KRISTINA OWENS KOLLER F/K/A KRISTINA OWENS WRIGHT	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	787	131	N/A	N/A	N/A	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
FORCE POOL	7-7-9.1	W	UNKNOWN HEIRS AND ASSIGNS OF RONDA OWENS SPRINGER	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
FORCE POOL	7-7-9.1	W	UNKNOWN HEIRS AND ASSIGNS OF ROBIN OWENS	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
FORCE POOL	7-7-9.1	W	KYLE OWENS	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	789	296	N/A	N/A	N/A	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
FORCE POOL	7-7-9.1	W	SUSAN L CLENDENNING	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	761	290	N/A	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 26/632	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
FORCE POOL	7-7-9.1	W	CAROLE SIMMONS	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	759	596	N/A	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 26/632	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	**FORCE POOL**
10*38640	7-7-9.1	W	JACK OWENS JR.	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	575	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
10*38643	7-7-9.1	W	ALLEN W. OWENS	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	576	N/A	Trans Energy Inc to American Shale Development Inc: 27/172	American Shale Devel. Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII & VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104	SWN Production Company LLC to TH Exploration LLC: 49/120
FORCE POOL	7-7-9.1	W	UNKNOWN HEIRS AND ASSIGNS OF MARY ELLEN SAYRE	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
FORCE POOL	7-7-9.1	W	GOLDIE I. HINKLE	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
PENDING	7-7-9.1	W	STONE HILL MINERALS	TH EXPLORATION LLC	1/8+	1119	493	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FORCE POOL	7-7-9.1	W	VICTORIA PETREE	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
FORCE POOL	7-7-9.1	W	LYNETTE KRAGNESS	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
FORCE POOL	7-7-9.1	W	ERNEST GRAHAM LOTT	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
FORCE POOL	7-7-9.1	W	UNKNOWN HEIRS AND ASSIGNS OF MARJORIE JEAN FITZGERALD	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
FORCE POOL	7-7-9.1	W	UNKNOWN HEIRS AND ASSIGNS OF LULILY KLEMME AKA LOU LILY KLEMME	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**
FORCE POOL	7-7-9.1	W	UNKNOWN HEIRS AND ASSIGNS OF HARRY ZINK AKA HARRISON YOUNG ZINK	UNLEASED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**FORCE POOL**

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ASSIGNMENT AND BILL OF SALE

This ASSIGNMENT AND BILL OF SALE (this "*Assignment*") dated as of December 1, 2020 (the "*Execution Date*"), is made by and between EQT PRODUCTION COMPANY, a Pennsylvania corporation, with an address at 625 Liberty Avenue, Suite 1700, Pittsburgh, Pennsylvania 15222 ("*EQT*"), and TH EXPLORATION, LLC, a Texas limited liability company, with an address at 1320 S. University Drive, Suite 500, Fort Worth, Texas 76107 ("*TH*") pursuant to the terms of that certain Acreage Trade Agreement by and among EQT, TH and TH Exploration II, LLC ("*TH II*"), dated July 8, 2020 (the "*Agreement*"). EQT and TH may be referred to herein together as the "*Parties*", and each individually as a "*Party*".

RECITALS

WHEREAS, EQT desires to transfer, convey and assign to TH certain of EQT's oil and gas leasehold interests located in Marshall County, West Virginia set forth on Exhibit A attached hereto and incorporated herein ("*EQT Leases*") in accordance with this Assignment and the Agreement; and

WHEREAS, TH desires to receive from EQT, all of EQT's right, title and interest in and to the EQT Leases in accordance with this Assignment and the Agreement.

NOW, THEREFORE, for and in consideration of the mutual promises contained herein and in the Agreement, the benefits to be derived by each Party hereunder and under the Agreement, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

ARTICLE I
DEFINED TERMS

1.1 *Definitions.* Capitalized terms used herein and not otherwise defined throughout this Assignment shall have the meanings given such terms in the Agreement.

ARTICLE II
ASSIGNMENT OF ASSETS

2.1 *Assignment.* Subject to the terms and conditions of this Assignment and the Agreement, EQT does hereby assign, convey and transfer to TH all of the right, title and interest of EQT in and to the following (collectively for purposes of this Assignment, the "*EQT Assets*"):

(a) Subject to the conveyance of the Wells Assets from EQT to TH II as described in the Agreement, the EQT Leases and appurtenances thereto (including rights of access and to install facilities), all Hydrocarbons within, produced from, derived from, or sold from the EQT Leases (and all proceeds related thereto), on and after the Valuation Date, and all Surface Contracts including but not limited to those set forth on Exhibit B attached hereto and incorporated herein (the "*EQT Surface Contracts*") related to the EQT Leases and such Hydrocarbons; and

(b) Copies of deeds, files and all other ownership information directly related to the acquisition, operations and maintenance of the EQT Leases, lease files for the EQT Leases

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ASSIGNMENT AND CONVEYANCE

This Assignment and Conveyance (this "*Assignment*") is from SWN PRODUCTION COMPANY, LLC, a Texas limited liability company ("*Assignor*"), to TH Exploration, LLC, a Texas limited liability company ("*Assignee*"), and is executed on June 30, 2021 (the "*Effective Date*"). Assignor and Assignee may be referred to herein collectively as the "*Parties*," or individually as a "*Party*." Capitalized terms used herein but not otherwise defined herein (including in Section 3.7) shall have the meanings given such terms in that certain Acreage Trade Agreement between the Assignor and the Assignee dated June 22, 2021 (the "*Acreage Trade Agreement*").

**ARTICLE 1
ASSIGNMENT OF ASSETS**

Section 1.1 Assignment. For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor hereby GRANTS, BARGAINS, ASSIGNS, CONVEYS AND TRANSFERS unto Assignee all of Assignor's right, title and interest in and to (i) the oil and gas leases described in more detail on Exhibit A attached hereto (the "*Leases*") IN SO FAR AND ONLY IN SO FAR as they cover those lands described on Exhibit A (the "*Leasehold Rights*") and (ii) any surface use agreements that relate to such Leasehold Rights (collectively with the Leasehold Rights, the "*Conveyed Assets*").

TO HAVE AND TO HOLD the Conveyed Assets, together with all and singular the rights, privileges, contracts and appurtenances, in any way appertaining or belonging thereto, unto Assignee, its successors and assigns, forever, subject, to the terms and conditions of this Assignment.

Section 1.2 Assignment Subject to Acreage Trade Agreement. This Assignment is made in accordance with and is subject to the terms, covenants and conditions contained in that certain Acreage Trade Agreement. In the event of a conflict between the provisions of the Acreage Trade Agreement and this Assignment, the provisions of the Acreage Trade Agreement shall control. The execution and delivery of this Assignment by Assignor, and the execution and acceptance of this Assignment by Assignee, shall not operate to release or impair any surviving rights or obligations of either Party with respect to the other under the Acreage Trade Agreement.

**ARTICLE 2
SPECIAL WARRANTY OF TITLE AND DISCLAIMERS**

Section 2.1 Special Warranty of Title. Assignor hereby agrees to warrant and defend Defensible Title to the Leases unto Assignee, its successors and assigns, against every Person whomsoever lawfully claiming or to claim the same or any part thereof by, through or under Assignor or any of its Affiliates, but not otherwise.

Section 2.2 Disclaimers of Warranties and Representations.

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COPY

STATE OF WEST VIRGINIA §
 §
COUNTY OF MARSHALL §

Marshall County
Jan Pest, Clerk
Instrument 1453305
04/24/2019 @ 11:51:22 AM
ASSIGNMENTS
Book 43 @ Page 503
Pages Recorded 10
Recording Cost \$ 17.00

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "Assignment") is made and entered into this 23rd day of April, 2019 (the "Effective Date"), by and between AMERICAN PETROLEUM PARTNERS OPERATING, LLC, (hereinafter "Assignor") and TH EXPLORATION, LLC (hereinafter "Assignee") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated November 15, 2018 (the "Acreage Trade Agreement"). Capitalized terms used but not defined herein and defined in the Acreage Trade Agreement shall have the meanings given to such terms in the Acreage Trade Agreement.

WITNESSETH:

WHEREAS, Assignor desires to assign, set over, and transfer to Assignee all of Assignor's right, title, and interest in and to those certain Oil and Gas Leases situated in Marshall County, West Virginia, as described in Exhibit A-2, attached hereto and made a part hereof (hereinafter the "Leases"); and

WHEREAS, Assignor desires to assign, set over, and transfer to Assignee all of Assignor's right, title, and interest in and to the Leases as described below.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and subject to the limited warranties, restrictions and conditions hereinafter mentioned, the parties hereto, intending to be legally bound, do covenant and agree as follows:

1. Assignment. Assignor does hereby grant, bargain, sell, convey, deliver, assign, set over and transfer, as of the Effective Date, to Assignee, its respective successors and assigns, forever, all of Assignor's right, title and interest in and to the Leases, and the lands covered thereby, together with all rights incident thereto and appurtenances thereon.

TO HAVE AND TO HOLD such right, title and interest in and to the Leases unto Assignee or its designee, and their respective successors and assigns, forever, in accordance with the provisions of this Assignment.

2. Special Warranty. Assignor represents and warrants that Assignor has not conveyed or otherwise encumbered (other than Permitted Encumbrances) its interest in the Leases since the time that Assignor obtained its interests in the Leases. Assignor does covenant, promise and agree, to and with the Assignee, its respective successors and assigns, to forever specially warrant and defend the title to the Leases or portions thereof included under this Assignment, unto the Assignee and its respective successors and assigns, against the lawful claims of Assignor, and all persons claiming, or to claim, the same or any part thereof, by, through or under Assignor.

Assignor represents and warrants that Assignor has paid any and all bonuses, rentals, royalties, overriding royalties, and other payments required by the Leases which were due for the period in which Assignor held its interests in the Leases, and that Assignor has fully performed all conditions necessary to maintain the Leases in full force and effect during such period, free and clear of all Encumbrances, except for and subject only to Permitted Encumbrances.

3. Successors and Assigns. The terms of this Assignment shall be binding upon and inure to the benefit of the parties hereto and each of their respective successors

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4705102399
4705102399

August 11, 2021

WV Department of Environmental Protection
Office of Oil & Gas
601 57th Street, SE
Charleston, WV 25304
Attention: Susan Rose

RE: Breckenridge S-20HU

Subject: Proposed Voluntary Pooling and Unitization

Dear Susan:

Tug Hill Operating, LLC is authorized through, either lease or other agreement, to unitize and pool all lands falling within the boundaries of the proposed voluntary unit included with this submission, with the exception of the following tracts which we intend to force pool.

3-19-75
3-19-74
7-2-4
7-2-5
7-7-9.1

If your office has any questions or concerns regarding the contents of this letter, please do not hesitate to contact me directly at 724-749-8388, or by email at amorris@tug-hillop.com.

Sincerely,

Amy L. Morris
Permitting Specialist – Appalachia Region
Tug Hill Operating

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CERTIFICATE OF CONSENT AND EASEMENT

The undersigned, for valuable consideration, the receipt and sufficiency of which is hereby acknowledged, being the owner of the surface of that certain lots, tracts or parcels of land located in Cameron District, Marshall County, State of West Virginia, shown on the attached plat or survey, hereby consents and grants an easement (subject to the terms of a separate Surface Use Agreement between the undersigned and TH Exploration, LLC (the "SUA")), pursuant to West Virginia Code, Section 22C-9-7(b)(4) and Operating Rule 4.4 of the Rules and Regulations of the West Virginia Oil and Gas Conservation Commission, to TH Exploration, LLC, its successors or permitted assigns subject to the SUA, for the drilling and operation of a deep well for the production of oil or gas at the location shown on the attached plat or survey.

[Signatures on the Following Page]

Marshall County
Jan Pest, Clerk
Instrument 1472063
11/04/2020 @ 01:07:07 PM
RIGHT OF WAY W/O CONSIDERATION
Book 1098 @ Page 555
Pages Recorded 3
Recording Cost \$ 11.00

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Executed the date set forth in the notary but effective as of November 2, 2020.

CNX LAND LLC

By: [Signature]
Name: Peter J. Binotto
Title: Assistant Vice President

COMMONWEALTH OF PENNSYLVANIA

SS:

COUNTY OF WASHINGTON

On this, the 30 day of Oct, 2020, before me, a notary public, the undersigned officer, personally appeared Peter J. Binotto who acknowledged himself/herself to be the Assistant Vice President of CNX Land LLC and that he/she as such, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the company by himself/herself as Assistant Vice President.

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

My Commission Expires: _____
Signature of Notary Public: [Signature]
Name/Notary Public (print): _____

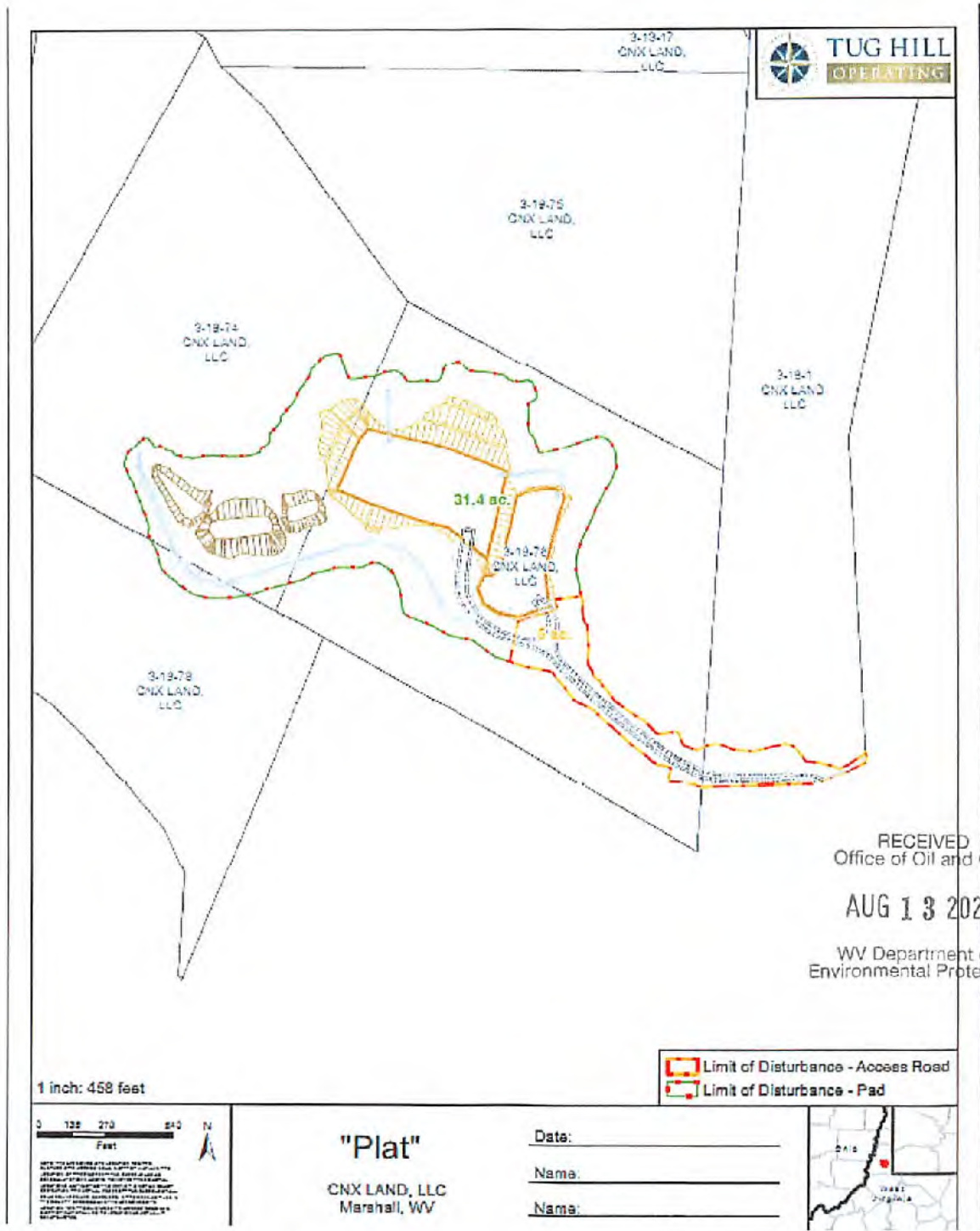
This instrument prepared by:
WV Oil and Gas Conservation Commission
601 57th Street
Charleston, WV 25304

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Douglas E. Smith, Notary Public
Cecil Twp., Washington County
My Commission Expires Dec. 6, 2020
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

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[Signature Page to Consent and Easement]

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STATE OF WEST VIRGINIA, MARSHALL COUNTY, SCT.:

I, JAN PEST, Clerk of the County Commission of said County, do hereby certify that the annexed writing, bearing date on the 2nd day of November, 2020, was presented for and by me, admitted to record in my office upon the above certificate as to the parties therein named this 4th day of November, 2020 at 1:07 11/19/2021 P.M.

(Handwritten signatures)

**Offset Operators within 500'
Breckenridge S - 20HU**

COUNTY	DISTRICT	TMP	OWNER	ADDRESS
Marshall	Cameron	3-18-1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Cameron	3-18-2	TH EXPLORATION LLC	1321 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Cameron	3-18-3	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Cameron	3-18-3.2	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Cameron	3-18-3.3	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Cameron	3-18-4	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Cameron	3-18-5	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Cameron	3-19-74	SOUTHWESTERN ENERGY	10000 Energy Drive Spring, TX 77389
Marshall	Cameron	3-19-74	EQUINOR USA ONSHORE PROPERTIES INC	6300 Bridge Point Pkwy Bldg 2, Suite 100 Austin, TX 78730
Marshall	Cameron	3-19-75	SOUTHWESTERN ENERGY	10000 Energy Drive Spring, TX 77389
Marshall	Cameron	3-19-75	EQUINOR USA ONSHORE PROPERTIES INC	6300 Bridge Point Pkwy Bldg 2, Suite 100 Austin, TX 78730
Marshall	Cameron	3-19-76	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Cameron	3-19-77	TH EXPLORATION LLC	1321 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Liberty	7-1-12	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Liberty	7-1-13	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107

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**Offset Operators within 500'
Breckenridge S - 20HU**

Marshall	Liberty	7-1-14	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Liberty	7-1-19	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Liberty	7-2-3.1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Liberty	7-2-4	SOUTHWESTERN ENERGY	10000 Energy Drive Spring, TX 77389
Marshall	Liberty	7-2-4	EQUINOR USA ONSHORE PROPERTIES INC	6300 Bridge Point Pkwy Bldg 2, Suite 100 Austin, TX 78730
Marshall	Liberty	7-2-4	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Liberty	7-2-4	ROBERT EDISON ANDREWS A/K/A EDISON ANDREWS	3107 Broomsedge Way Durham, NC 27712
Marshall	Liberty	7-2-4	DONALD WAYNE ANDREWS	141 Youngs Lane Wellsburg, WV 26070
Marshall	Liberty	7-2-4	JANET LORRAINE ANDREWS PUSKARICH	54 Bluegrass Avenue Middleburg, FL 32068
Marshall	Liberty	7-2-4	UNKNOWN HEIRS AND ASSIGNS OF RONDA OWENS SPRINGER	ADDRESS UNKNOWN
Marshall	Liberty	7-2-4	UNKNOWN HEIRS AND ASSIGNS OF ROBIN OWENS	ADDRESS UNKNOWN
Marshall	Liberty	7-2-5	SOUTHWESTERN ENERGY	10000 Energy Drive Spring, TX 77389
Marshall	Liberty	7-2-5	EQUINOR USA ONSHORE PROPERTIES INC	6300 Bridge Point Pkwy Bldg 2, Suite 100 Austin, TX 78730
Marshall	Liberty	7-2-5	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Liberty	7-2-5	ROBERT EDISON ANDREWS A/K/A EDISON ANDREWS	3107 Broomsedge Way Durham, NC 27712
Marshall	Liberty	7-2-5	DONALD WAYNE ANDREWS	141 Youngs Lane Wellsburg, WV 26070
Marshall	Liberty	7-2-5	JANET LORRAINE ANDREWS PUSKARICH	54 Bluegrass Avenue Middleburg, FL 32068
Marshall	Liberty	7-2-5	UNKNOWN HEIRS AND ASSIGNS OF RONDA OWENS SPRINGER	ADDRESS UNKNOWN
Marshall	Liberty	7-2-5	UNKNOWN HEIRS AND ASSIGNS OF ROBIN OWENS	ADDRESS UNKNOWN

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11/19/2021

**Offset Operators within 500'
Breckenridge S - 20HU**

Marshall	Liberty	7-7-10	SOUTHWESTERN ENERGY	10000 Energy Drive Spring, TX 77389
Marshall	Liberty	7-7-10	EQUINOR USA ONSHORE PROPERTIES INC	6300 Bridge Point Pkwy Bldg 2, Suite 100 Austin, TX 78730
Marshall	Liberty	7-7-11	SOUTHWESTERN ENERGY	10000 Energy Drive Spring, TX 77389
Marshall	Liberty	7-7-11	EQUINOR USA ONSHORE PROPERTIES INC	6300 Bridge Point Pkwy Bldg 2, Suite 100 Austin, TX 78730
Marshall	Liberty	7-7-9.1	SOUTHWESTERN ENERGY	10000 Energy Drive Spring, TX 77389
Marshall	Liberty	7-7-9.1	EQUINOR USA ONSHORE PROPERTIES INC	6300 Bridge Point Pkwy Bldg 2, Suite 100 Austin, TX 78730
Marshall	Liberty	7-7-9.1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Liberty	7-7-9.1	CURTIS W. LINT	123 Northwest Bowdoin Place Seattle, WA 98107
Marshall	Liberty	7-7-9.1	PENNY TEDROW AMBROSE	5475 Columbus Sandusky Road N SR98 Marion, OH 43302
Marshall	Liberty	7-7-9.1	DOROTHY D. DILLE	1516 5th Street New Brighton, PA 15066
Marshall	Liberty	7-7-9.1	DARLENE MARIE DILLE WADDINGHAM	157 6th Avenue Pittsburgh, PA 15229
Marshall	Liberty	7-7-9.1	HOWARD A. SHANOR, JR.	750 Corder Road Apt. 12 Warner Robins, GA 31088
Marshall	Liberty	7-7-9.1	ROBERT EDISON ANDREWS A/K/A EDISON ANDREWS	3107 Broomsedge Way Durham, NC 27712
Marshall	Liberty	7-7-9.1	DONALD WAYNE ANDREWS	141 Youngs Lane Wellsburg, WV 26070
Marshall	Liberty	7-7-9.1	JANET LORRAINE ANDREWS PUSKARICH	54 Bluegrass Avenue Middleburg, FL 32068
Marshall	Liberty	7-7-9.1	UNKNOWN HEIRS AND ASSIGNS OF RONDA OWENS SPRINGER	ADDRESS UNKNOWN
Marshall	Liberty	7-7-9.1	UNKNOWN HEIRS AND ASSIGNS OF ROBIN OWENS	ADDRESS UNKNOWN
Marshall	Liberty	7-7-9.1	UNKNOWN HEIRS AND ASSIGNS OF MARY ELLEN SAYRE	ADDRESS UNKNOWN
Marshall	Liberty	7-7-9.1	GOLDIE I. HINKLE	14839 East Pike Road Lot 34 Cambridge, OH 43725

RECEIVED
Office of Oil and Gas
AUG 13 2021

WV Department of
Environmental Protection
11/19/2021

**Offset Operators within 500'
Breckenridge S - 20HU**

Marshall	Liberty	7-7-9.1	VICTORIA PETREE	143 Pine Street Salinas, CA 93901
Marshall	Liberty	7-7-9.1	LYNETTE KRAGNESS	136 Century LN Arroyo Grande, CA 32250
Marshall	Liberty	7-7-9.1	ERNEST GRAHAM LOTT	1331 1st ST. N. Apt. 503 Jacksonville Beach, FL 32250
Marshall	Liberty	7-7-9.1	UNKNOWN HEIRS AND ASSIGNS OF MARJORIE JEAN FITZGERALD	ADDRESS UNKNOWN
Marshall	Liberty	7-7-9.1	UNKNOWN HEIRS AND ASSIGNS OF LULILY KLEMME AKA LOU LILY KLEMME	ADDRESS UNKNOWN
Marshall	Liberty	7-7-9.1	UNKNOWN HEIRS AND ASSIGNS OF HARRY ZINK AKA HARRISON YOUNG ZINK	ADDRESS UNKNOWN

"For those parties identified as Missing or Address Unknown, the following actions were performed in pursuit of locating these individuals : A reasonable review of the records of the clerk of the county commission, the sheriff, the assessor, and the clerk of the circuit court in the county in which the interest is located, and includes unknown heirs, successors and assigns known to be alive; A reasonable inquiry in the vicinity of the owner's last known place of residence; A diligent inquiry into known interest owners in the same tract; and A reasonable review of available Internet resources commonly utilized by the industry."

RECEIVED
Office of Oil and Gas

AUG 13 2021

WV Department of
Environmental Protection

**Offset Operators within 500'
Breckenridge S - 20HU**

RECEIVED
Office of Oil and Gas

AUG 13 2021

WV Department of
Environmental Protection

**Offset Operators within 500'
Breckenridge S - 20HU**



RECEIVED
Office of Oil and Gas

AUG 13 2021

WV Department of
Environmental Protection



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

arriving late

August 27, 2021

Ernest Graham Lott
1331 1st St N Apt 503
Jacksonville Beach FL 32250

9489 0090 0027 6349 8921 35

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Sir:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 414-1239.

Sincerely,

A handwritten signature in cursive script that reads "Susan Rose".
Susan Rose
Administrator

encl:

11/19/2021



in transit

west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

Equinor USA Onshore Properties, Inc.
6300 Bridge Point Pkwy Bldg 2 Ste 100
Austin TX 78730

9489 0090 0027 6201 331970

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Sir or Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

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If you have any questions please call me at (304) 414-1239.

Sincerely,

A handwritten signature in black ink that reads "Susan Rose". The signature is written in a cursive, flowing style.

Susan Rose
Administrator

encl:

11/19/2021



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

TH Exploration, LLC
1320 S. University Dr Ste 500
Ft Worth TX 76107

9489 0090 0027 6201 3319 87

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Sir or Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commission's granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 414-1239.

Sincerely,

A handwritten signature in black ink that reads "Susan Rose". The signature is written in a cursive, flowing style.

Susan Rose
Administrator

encl:

11/19/2021



September 14, 2021

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number:
9489 0090 0027 6201 3319 87.

Item Details

Status:	Delivered, Front Desk/Reception/Mail Room
Status Date / Time:	September 2, 2021, 1:35 pm
Location:	FORT WORTH, TX 76107
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight:	20lb, 3.9oz
----------------	-------------

Recipient Signature

Signature of Recipient:	<i>JB</i>
Address of Recipient:	<i>JB Attn Covid-19 1320 S University 76107 #500</i>

Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

11/19/2021



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

Southwestern Energy
10000 Energy Dr
Spring TX 77389

9489 0090 0027 6349 8920 12

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Sir or Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 414-1239.

Sincerely,

A handwritten signature in black ink that reads "Susan Rose". The signature is written in a cursive, flowing style.

Susan Rose
Administrator

encl:

11/19/2021



September 14, 2021

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number:
9489 0090 0027 6349 8920 12.

Item Details

Status:	Delivered, Front Desk/Reception/Mail Room
Status Date / Time:	September 1, 2021, 11:55 am
Location:	MORGANTOWN, WV 26508
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight:	20lb, 3.3oz
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Recipient Signature

Signature of Recipient:	CO-19 MARVIN
Address of Recipient:	1300 FORT Pierpont #201

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Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

11/19/2021



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

Victoria Petree
143 Pine St
Salinas CA 93901

9489 0090 0027 63498921 11

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 414-1239.

Sincerely,

Susan Rose
Administrator

encl:

11/19/2021



September 14, 2021

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number:
9489 0090 0027 6349 8921 11.


Item Details

Status:	Delivered, Left with Individual
Status Date / Time:	September 7, 2021, 3:27 pm
Location:	SALINAS, CA 93901
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight:	10lb, 1.3oz
----------------	-------------

Recipient Signature

Signature of Recipient:	
Address of Recipient:	143

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Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

11/19/2021



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

Robert Edison Andrews
3107 Broomsedge Way
Durham NC 27712

9489 009000276349 892029

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Sir:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 414-1239.

Sincerely,

Susan Rose
Administrator

encl:

11/19/2021



September 14, 2021

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number:
9489 0090 0027 6349 8920 29.

Item Details

Status:	Delivered, Left with Individual
Status Date / Time:	September 2, 2021, 3:03 pm
Location:	DURHAM, NC 27712
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight:	12lb, 14.4oz
----------------	--------------

Recipient Signature

Signature of Recipient:

Address of Recipient:

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Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

11/19/2021



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

Donald Wayne Andrews
141 Youngs Lane
Wellsburg WV 26070

9489 0090 00276349 8920 36

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Sir:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commission's granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 414-1239.

Sincerely,

A handwritten signature in cursive script that reads "Susan Rose". The signature is written in black ink and is positioned above the printed name and title.

Susan Rose
Administrator

encl:

11/19/2021



September 14, 2021

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number:
9489 0090 0027 6349 8920 36.


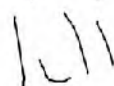
Item Details

Status:	Delivered, Left with Individual
Status Date / Time:	September 1, 2021, 1:22 pm
Location:	WELLSBURG, WV 26070
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight:	12lb, 15.1oz
----------------	--------------

Recipient Signature

Signature of Recipient:	
Address of Recipient:	

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Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

11/19/2021



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

Janet Lorraine Andrews Puskarich
54 Bluegrass Ave
Middleburg FL 32068

9489 0090 00276349 8920 43

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 414-1239.

Sincerely,

A handwritten signature in black ink that reads "Susan Rose". The signature is written in a cursive, flowing style.
Susan Rose
Administrator

encl:

11/19/2021



September 14, 2021

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number:
9489 0090 0027 6349 8920 43.

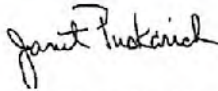
Item Details

Status:	Delivered
Status Date / Time:	September 8, 2021, 2:08 pm
Location:	MIDDLEBURG, FL 32068
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight:	12lb, 15.1oz
----------------	--------------

Recipient Signature

Signature of Recipient:	
Address of Recipient:	54 BLUEGRASS AVE MIDDLEBURG, FL 32068-4711

Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

11/19/2021



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

Curtis W. Lint
123 Northwest Bowdoin Place
Seattle WA 98107

9489 0090 0027 6349 892050

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Sir:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 414-1239.

Sincerely,

A handwritten signature in cursive script that reads "Susan Rose". The signature is written in black ink and is positioned above the printed name and title.

Susan Rose
Administrator

encl:

11/19/2021



September 14, 2021

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number:
9489 0090 0027 6349 8920 50.

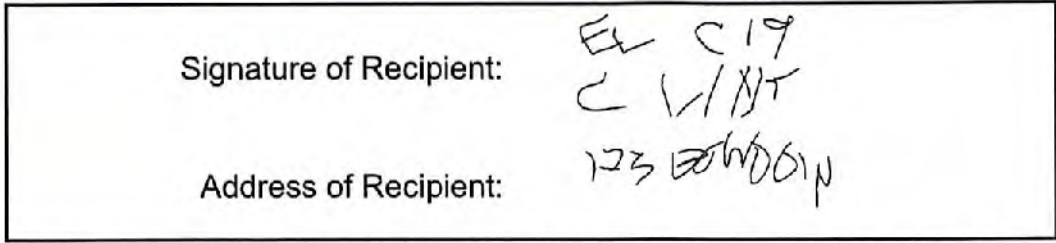
Item Details

Status:	Delivered, Left with Individual
Status Date / Time:	September 3, 2021, 3:14 pm
Location:	SEATTLE, WA 98107
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight:	10lb, 1.6oz
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Recipient Signature



Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

Penny Tedrow Ambrose
5475 Columbus Sandusky Rd N SR98
Marion OH 43302

9489 0090 0027 6349 8920 67

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commission's granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 414-1239.

Sincerely,

Susan Rose
Administrator

encl:

11/19/2021



September 14, 2021

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number: **9489 0090 0027 6349 8920 67.**

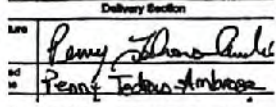
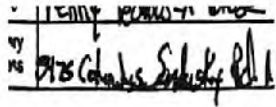
Item Details

Status:	Delivered, Left with Individual
Status Date / Time:	September 13, 2021, 2:23 pm
Location:	MARION, OH 43302
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight:	10lb, 1.4oz
----------------	-------------

Recipient Signature

Signature of Recipient:	
Address of Recipient:	

Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

Dorothy D. Dille
1516 5th Street
New Brighton PA 15066

9489 0090 0027 6349892074

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 414-1239.

Sincerely,

A handwritten signature in cursive script that reads "Susan Rose".

Susan Rose
Administrator

encl:

11/19/2021



September 14, 2021

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number:
9489 0090 0027 6349 8920 74.


Item Details

Status:	Delivered, Left with Individual
Status Date / Time:	September 1, 2021, 9:58 am
Location:	NEW BRIGHTON, PA 15066
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight:	10lb, 1.0oz
----------------	-------------

Recipient Signature

Signature of Recipient:	
Address of Recipient:	

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Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

11/19/2021



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

Darlene Marie Dille Waddingham
157 6th Ave
Pittsburgh PA 15229

9489 0090 0027 6349 8920 81

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 414-1239.

Sincerely,

A handwritten signature in cursive script that reads "Susan Rose". The signature is written in black ink and is positioned above the printed name and title.

Susan Rose
Administrator

encl:

11/19/2021



September 14, 2021

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number: **9489 0090 0027 6349 8920 81.**

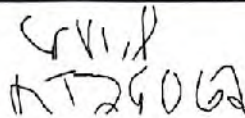
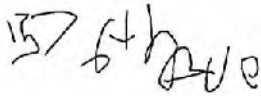
Item Details

Status: Delivered, Left with Individual
Status Date / Time: September 1, 2021, 9:24 am
Location: PITTSBURGH, PA 15229
Postal Product: First-Class Mail®
Extra Services: Certified Mail™
Return Receipt Electronic

Shipment Details

Weight: 10lb, 1.6oz

Recipient Signature

Signature of Recipient:	
Address of Recipient:	

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Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

11/19/2021



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

Howard A. Shanor, Jr.
750 Corder Rd Apt 12
Warner Robins GA 31088

9489 0090 0027 6349 8920 98

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Sir or Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

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If you have any questions please call me at (304) 414-1239.

Sincerely,

A handwritten signature in cursive script that reads "Susan Rose". The signature is written in black ink and is positioned above the printed name and title.

Susan Rose
Administrator

encl:

11/19/2021



September 14, 2021

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number: **9489 0090 0027 6349 8920 98.**

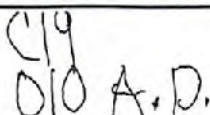
Item Details

Status:	Delivered, Left with Individual
Status Date / Time:	September 3, 2021, 2:53 pm
Location:	WARNER ROBINS, GA 31088
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight:	10lb, 0.9oz
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Recipient Signature

Signature of Recipient:	
Address of Recipient:	010 A.D. 750 Conder Rd. Apt. 12

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Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

11/19/2021



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

Goldie I. Hinkle
14839 East Pike Rd Lot 34
Cambridge OH 43725

9489 0090 0027 6349 8921 04

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Sir or Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

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If you have any questions please call me at (304) 414-1239.

Sincerely,

A handwritten signature in black ink that reads "Susan Rose". The signature is written in a cursive, flowing style.

Susan Rose
Administrator

encl:

11/19/2021



September 14, 2021

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number:
9489 0090 0027 6349 8921 04.

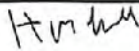
Item Details

Status:	Delivered, Left with Individual
Status Date / Time:	September 3, 2021, 12:42 pm
Location:	CAMBRIDGE, OH 43725
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight:	10lb, 4.4oz
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Recipient Signature

Signature of Recipient:	
Address of Recipient:	M 711 120 14835 E Pine

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Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

11/19/2021



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-414-1239

Randall M. Albert, Chairman
dep.wv.gov

August 27, 2021

Lynette Kragness
136 Century Lane
Arroyo Grande, CA 32250

9489 0090 0027 63498921 28

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Breckenridge S-20HU

Dear Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commission's granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

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If you have any questions please call me at (304) 414-1239.

Sincerely,

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Susan Rose
Administrator

encl:

11/19/2021



September 14, 2021

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number:
9489 0090 0027 6349 8921 28.



Item Details

Status:	Delivered, Left with Individual
Status Date / Time:	September 7, 2021, 12:12 pm
Location:	ARROYO GRANDE, CA 93420
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight:	9lb, 15.5oz
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Recipient Signature

Signature of Recipient:	
Address of Recipient:	

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Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004



August 4, 2021

WV Department of Environmental Protection
Office of Oil & Gas
601 57th Street, SE
Charleston, WV 25304
Attention: Charles Brewer

RE: Breckenridge S-20HU

Subject: Road Crossing Letter

Dear Taylor:

Tug Hill Operating, LLC (THO) hereby submits this letter as confirmation that THO has obtained the right to drill, extract and produce the minerals under Marshall County Route 62 and 25/1 in the area reflected on the Breckenridge S-20HU well plat. THO has conducted a full title search in the relevant Court House to confirm its ownership under said County Route and is not currently aware of any recorded document that would suggest an ownership other than THO.

If your office has any questions or concerns regarding the contents of this letter, please do not hesitate to contact me directly at 304-376-0111, or by email at amorris@tug-hilop.com.

Sincerely,

A handwritten signature in black ink that reads "Amy L. Morris".

Amy L. Morris
Permitting Specialist – Appalachia Region

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Office of Oil and Gas
AUG 13 2021
WV Department of
Environmental Protection

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

Date of Notice Certification: 08/05/2021

API No. 47- 051 - _____
Operator's Well No. Breckenridge S-20HU
Well Pad Name: Breckenridge

Notice has been given:

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>531,954.86</u>
County:	<u>Marshall</u>		Northing:	<u>4,408,984.00</u>
District:	<u>Cameron</u>	Public Road Access:	<u>County Route 62</u>	
Quadrangle:	<u>Glen Easton 7.5'</u>	Generally used farm name:	<u>CNX Land, LLC</u>	
Watershed:	<u>Grave Creek (HUC 10) & Laurel Run</u>			

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

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 40px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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RECEIVED
Office of Oil and Gas
AUG 13 2021
WV Department of
Environmental Protection

Required Attachments:

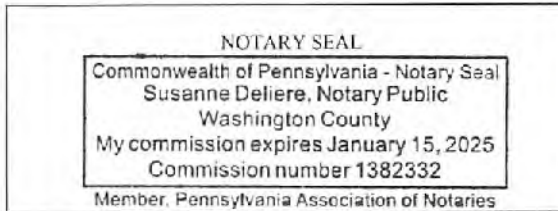
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication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

Certification of Notice is hereby given:

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

Well Operator: Tug Hill Operating, LLC
By: Amy L. Morris *Amy L. Morris*
Its: Permitting Specialist - Appalachia Region
Telephone: 724-749-8388

Address: 380 Southpointe Boulevard, Plaza II, Suite 200
Canonsburg, PA 15317
Facsimile: 724-338-2030
Email: amorris@tug-hillop.com



Subscribed and sworn before me this 5th day of August 2021
Susanne Deliere Notary Public
My Commission Expires 1/15/2025

Oil and Gas Privacy Notice:

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

RECEIVED
Office of Oil and Gas
AUG 13 2021
WV Department of
Environmental Protection

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

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

Date of Notice: 8/10/2021 **Date Permit Application Filed:** 8/11/2021

Notice of:

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

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

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

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

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

SURFACE OWNER(s)
Name: CNX Land, LLC (Well Pad and Access Road)
Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: Kevin R. & Shelly Jo Evans
Address: 3820 New Bethel Road
Cameron, WV 26033

Name: David L. & Arianne R. Robinson
Address: 3518 New Bethel Road
Cameron, WV 26033

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

COAL OWNER OR LESSEE
Name: CNX Land, LLC
Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

COAL OPERATOR
Name: Marshall County Coal Resources, Inc. Attn: Steve Blair
Address: 46226 National Road
St. Clairsville, OH 43950

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: *see attached
Address: _____

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

*Please attach additional forms if necessary

RECEIVED
Office of Oil and Gas
AUG 13 2021
WV Department of
Environmental Protection

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

RECEIVED
Office of Oil and Gas

Well Location Restrictions

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

AUG 13 2021

11/19/2021

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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

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Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

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WW-6A
(8-13)

API NO. 47- 051 -
OPERATOR WELL NO. Breckenridge S-20HU
Well Pad Name: Breckenridge

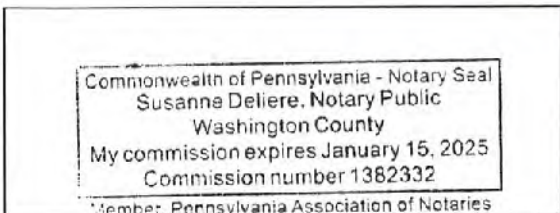
Notice is hereby given by:

Well Operator: Tug Hill Operating, LLC
Telephone: 724-749-8388
Email: amorris@tug-hillop.com *amorris*

Address: 380 Southpointe Boulevard, Plaza II, Suite 200
Canonsburg, PA 15317
Facsimile: 724-338-2030

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 5th day of August 2021
Susanna Deliere Notary Public
My Commission Expires 1/15/2025

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Exhibit WW-6A

Supplement Pg. 1A

Tug Hill Operating, LLC
380 Southpointe Blvd, Suite 200
Cannonsburg, PA 15137

Residences within Two-Thousand Feet (2,000')

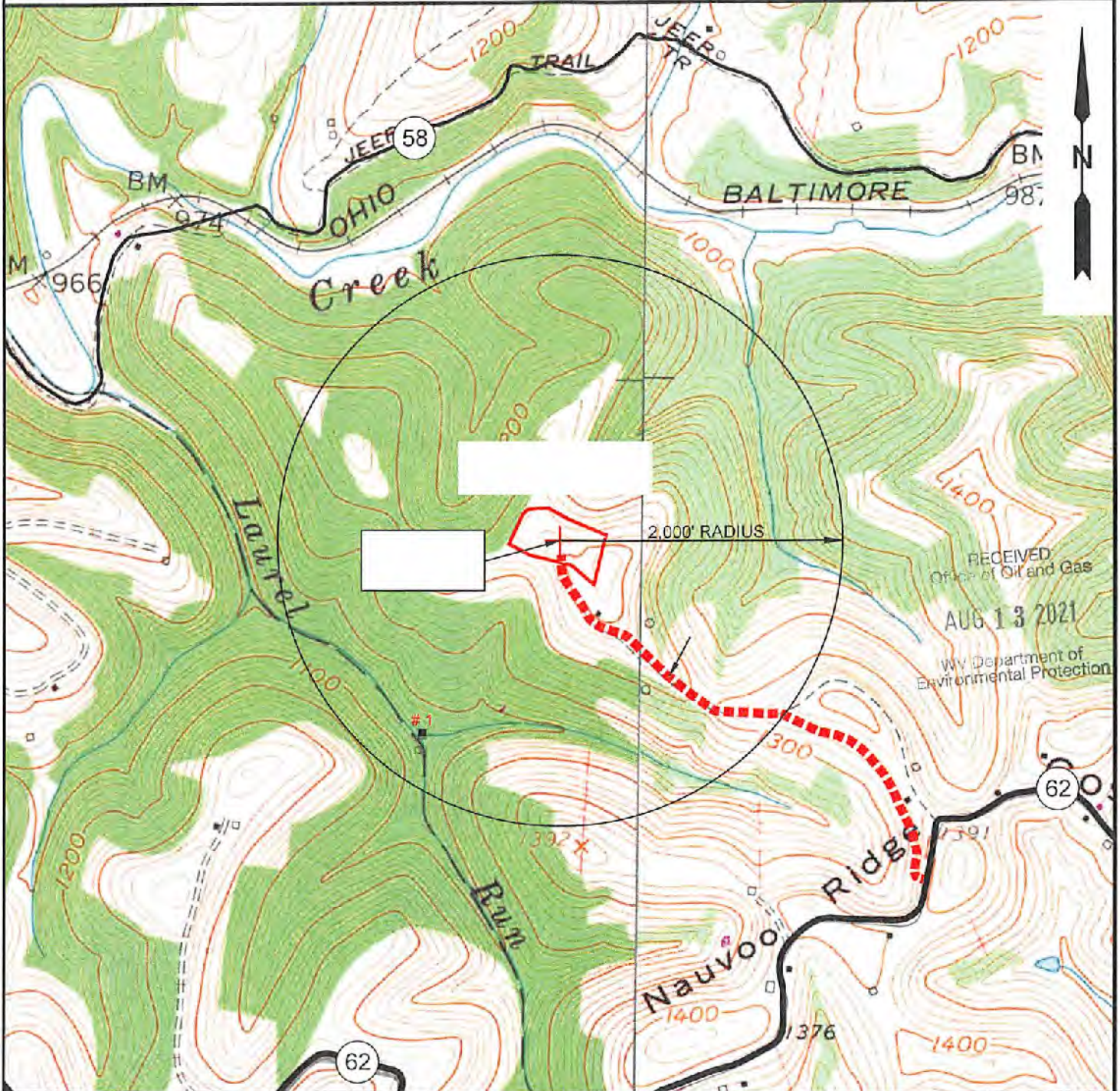
Well: Breckenridge S – 20HU
District: Cameron
State: WV

There is one (1) residence, no business or commercial sites, no churches, no schools or no emergency facilities within two-thousand feet (2,000') of the above referenced well location.

<p>Residence (#1) TM 3-19-78 CNX Land, LLC Phone: 724-485-4000 Physical Address: Unknown – Possible Unoccupied Home or Hunting Cabin Tax Address: 1000 Consol Energy DR Canonsburg, PA 15317-6506</p>

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PROPOSED BRECKENRIDGE S - 20HU



NOTE: THERE APPEARS TO BE ONE (1) POSSIBLE WATER SOURCE WITHIN 2,000'.



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 25351 | 304.462.5634
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
 254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296
 slswv.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR: TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317	
COUNTY	DISTRICT		
MARSHALL	CAMERON		
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	9026	04/08/2021	1" = 1000'



TUG HILL
OPERATING

11/19/2021

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF ENTRY FOR PLAT SURVEY

Notice Time Requirement: Notice shall be provided at least **SEVEN (7)** days but no more than **FORTY-FIVE (45)** days prior to entry

Date of Notice: 12/1/2020 **Date of Planned Entry:** 12/7/2020

Delivery method pursuant to West Virginia Code § 22-6A-10a

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

Pursuant to West Virginia Code § 22-6A-10(a), Prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

Notice is hereby provided to:

SURFACE OWNER(s)

Name: CNX Land, LLC (Well Pad and Access Road)
 Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

Name: Kevin R & Shelly Jo Evans (Access Road)
 Address: 3820 New Bethel Road
Cameron, WV 26033

Name: David L. & Arianne R. Robinson
 Address: 3518 New Bethel Road
Cameron, WV 26033

COAL OWNER OR LESSEE

Name: CNX Land, LLC
 Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

MINERAL OWNER(s)

Name: Onward E. Burge
 Address: RD 3 Box 33
Cameron, WV 26033 **See attached list
 *please attach additional forms if necessary

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 WV Department of
 Environmental Protection

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

State: <u>West Virginia</u>	Approx. Latitude & Longitude: <u>39.83027651; -80.62685846</u>
County: <u>Marshall</u>	Public Road Access: <u>County Route 62</u>
District: <u>Cameron</u>	Watershed: <u>Grave Creek (HUC 10) and Laurel Run</u>
Quadrangle: <u>Glen Easton 7.5'</u>	Generally used farm name: <u>CNX Land, LLC</u>

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator: <u>Tug Hill Operating, LLC</u>	Address: <u>380 Southpointe Boulevard, Plaza II, Suite 200</u>
Telephone: <u>724-749-8386</u>	<u>Canonsburg, PA 15317</u>
Email: <u>amorris@tug-hillop.com</u>	Facsimile: <u>724-338-2020</u>

Oil and Gas Privacy Notice:

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

11/19/2021

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WW-6A3 Attachment
Breckenridge Well Pad

Jan Marie Crego 2110 Plum Street Parkersburg, WV 26101	Nina K. Fletcher 45 Briarwood Drive Wheeling, WV 26003
Leon McCard 25 Honour Cir NW Atlanta, GA 30305	Gary Briggs 1508 26th Street Cody, WY 82414
Jeff and Connie Briggs 803 Meadow Lane Ave Apt 5 Cody, WY 42414	Roger L. Briggs 908 Amble Court Harrington, DE 19952
Thomas A. Briggs 996 Tunnel Hill Road Cameron, WV 26033	Julia A. Briggs 8154 W. Ohio State Lane NW Lancaster, OH 43130
Deena J. Palomo 20 Maxwell Street, Apartment 4 Hebron, IN 46341	Jerrilyn Litts 5582 Fairview Street Stevensville, MI 49127
Douglas Briggs PO Box 1416 Gillette, WY 82717	Gerri A Bannister 508 Richards Ave Gillette, WY 82717
John Briggs PO Box 2008 Richland, WA 99352	Noble Marcellus LP 15601 North Dallas Parkway, Suite 900 Addison, TX 75001
Meridius Ventures LLC PO Box 1099 Ripley, WV 25271	Hasan's Ventures LLC PO Box 1099 Ripley, WV 25271
Bounty Minerals LLC 777 Main Street, Suite 3400 Fort Worth, TX 76102	Goshorn Ridge, LLC 112 Algonquin Trace Wheeling, WV 26003

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WW-6A5
(1/12)

Operator Well No. Breckenridge S-20HU

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

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

Date of Notice: 09/10/2021 **Date Permit Application Filed:** 09/11/2021

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

CERTIFIED MAIL HAND
RETURN RECEIPT REQUESTED DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)

(at the address listed in the records of the sheriff at the time of notice):

Name: CNX Land, LLC

Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

Name: Kevin R. and Shelly Jo Evans *See Attached

Address: 3820 New Bethel Road
Cameron, WV 26033

Notice is hereby given:

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

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>531,954.85</u>	<u>RECEIVED</u> <i>Office of Oil and Gas</i>
County: <u>Marshall</u>		Northing: <u>4,408,984.00</u>	
District: <u>Cameron</u>	Public Road Access: <u>CR 62</u>		<u>AUG 13 2021</u>
Quadrangle: <u>Glen Easton 7.5'</u>	Generally used farm name: <u>CNX Land, LLC</u>		
Watershed: <u>Grace Creek (Huc 10) & Laurel Run</u>			

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Environmental Protection

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by W. Va. Code § 22-6A-10(b) to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator: Tug Hill Operating, LLC

Telephone: 724-749-8388

Email: amorris@tug-hill-op.com

Address: 380 Southpointe Boulevard, Plaza II, Suite 200

Canonsburg, PA 15317

Facsimile: 724-338-2030

Oil and Gas Privacy Notice:

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

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**Additional Notice for WW-6A5
Breckenridge Pad**

David L. & Arianne R. Robinson
3518 New Bethel Road
Cameron, WV 26033



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WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways

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

January 8, 2021

Byrd E. White, III
Secretary of Transportation

Jimmy Wriston, P. E.
Deputy Secretary/
Acting Commissioner

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

Subject: DOH Permit for the Breckenridge Pad, Marshall County
Breckenridge S-20HU Well site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2020-0398 issued to Tug Hill Operating for access to the State Road for a well site located off Marshall County Route 62 SLS MP 3.81.

This operator is in compliance with §22-6A-20 of the WV Code. Operator has signed a DISTRICT WIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated October 1, 2018.

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Very Truly Yours,

Gary K. Clayton, P.E.
Regional Maintenance Engineer
Central Office O&G Coordinator

Cc: Amy Morris
Tug Hill Operating
CH, OM, D-6
File

11/19/2021



PLANNED ADDITIVES TO BE USED IN FRACTURING OR STIMULATION

Breckenridge Wells

PRODUCT NAME:	CHEMICAL DESCRIPTION:	PRODUCT USE:	HAZARDOUS COMPONENT:
GBW-20C	Hemicellulase Breaker	Breaker - Water	None
ALPHA 1427		Biocide	Glutaraldehyde – CAS#000111-30-8 Quaternary ammonium chloride CAS# 007173-51-5 Alky dimethyl benzyl ammonium Chloride (C12-16) – CAS#068424-85-1 Ethanol – CAS# 000064-17-5 Water – CAS# 007732-18-5
FRAC SAND	Silica Sand (various Mesh sizes)	Proppant	Crystalline silica (quartz) CAS# 14808-60-7
S-8C, Sand	Silica Sand (100 mesh)	Sand	Silica – CAS# 14808-60-7
GW-3LDF		Gellant - Water	Petroleum Distillate Blend – Proprietary, (Not Associated with Diesel Fuel) Guar gum – CAS# 009000-30-0
FRW-18		Friction Reducer	Hydrotreated light distillate CAS# 064742-47-8
Scaletrol		Scale Inhibitor	Ethylene glycol – CAS# 000107-21-1 Diethylene glycol – CAS# 000111-46-6

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