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west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Friday, January 21, 2022  
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-24HM  
47-051-02431-00-00

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.

James A. Martin  
Chief

Operator's Well Number: BRECKENRIDGE S-24HM  
Farm Name: CNX LAND LLC  
U.S. WELL NUMBER: 47-051-02431-00-00  
Horizontal 6A New Drill  
Date Issued: 1/21/2022

## 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

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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 [DEPOCGNotify@wv.gov](mailto:DEPOCGNotify@wv.gov).

01/28/2022

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

1) Well Operator: Tug Hill Operating, LLC 494510851 Marshall Cameron Glen Easton 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: Breckenridge S-24HM Well Pad Name: Breckenridge

3) Farm Name/Surface Owner: CNX Land, LLC Public Road Access: CR 62

4) Elevation, current ground: 1,380' Elevation, proposed post-construction: 1,370.10'

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

(b) If Gas Shallow  Deep   
Horizontal

6) Existing Pad: Yes or No No

*MDK 12/1/2021*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):

Marcellus is the target formation at a depth of 7,003' - 7,054', thickness of 51' and anticipated pressure of approx. 3800 psi.

8) Proposed Total Vertical Depth: 7,154'

9) Formation at Total Vertical Depth: Onondaga

10) Proposed Total Measured Depth: 16,777'

11) Proposed Horizontal Leg Length: 8,976.74'

12) Approximate Fresh Water Strata Depths: 70; 1,048'

13) Method to Determine Fresh Water Depths: Based on the depth of Pittsburgh Coal seam, per WVGES mapping contours

14) Approximate Saltwater Depths: 1,515'

15) Approximate Coal Seam Depths: Sewickley Coal - 952' and Pittsburgh Coal - 1,042'

16) Approximate Depth to Possible Void (coal mine, karst, other): None anticipated

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

(a) If Yes, provide Mine Info: Name: Marshall County Mine  
Depth: Pittsburgh coal - 1,042'; subsea level - 328'  
Seam: Pittsburgh  
Owner: Marshall County Coal Resources, Inc.

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18) CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	30"	NEW	BW	BW	120'	120' ✓	259ft <sup>3</sup> (CTS)
Fresh Water/Coal	13 3/8"	NEW	J55	54.5#	1,150'	1,150' ✓	1149ft <sup>3</sup> (CTS)
Intermediate	9 5/8"	NEW	J55	36#	3,043'	3,043' ✓	1010ft <sup>3</sup> (CTS)
Production	5 1/2"	NEW	P110	20#	16,777'	16,777' ✓	4287ft <sup>3</sup> (CTS)
Tubing	2 3/8"	NEW	N80	4.7#	7,514'		
Liners							

*MDK 12/1/2021*

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	13 3/8"	17 1/2"	.38	2,740	2,192	SEE #24	1.2
Intermediate	9 5/8"	12 1/4"	.352	3,520	2,816	SEE #24	1.19
Production	5 1/2"	8 7/8" _ 8 3/4"	.361	12,640	10,112	SEE #24	1.17/1.19
Tubing	2 3/8"		.19	11,200	8,960		
Liners							

PACKERS

Kind:	N/A			RECEIVED Office of Oil and Gas DEC 14 2021 WV Department of Environmental Protection
Sizes:	N/A			
Depths Set:	N/A			

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

Drill through the Marcellus and TD Pilot Hole 100' into the Onondaga. Log vertical section and run a solid cement plug back to proposed KOP. 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 22,500,000 lb proppant and 405,000 bbl of water. Max rate = 80 bpm; max psi = 9,000#.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 45.50 acres

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

23) Describe centralizer placement for each casing string:

Will run 3 centralizers on surface casing at equal distance. Intermediate 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.

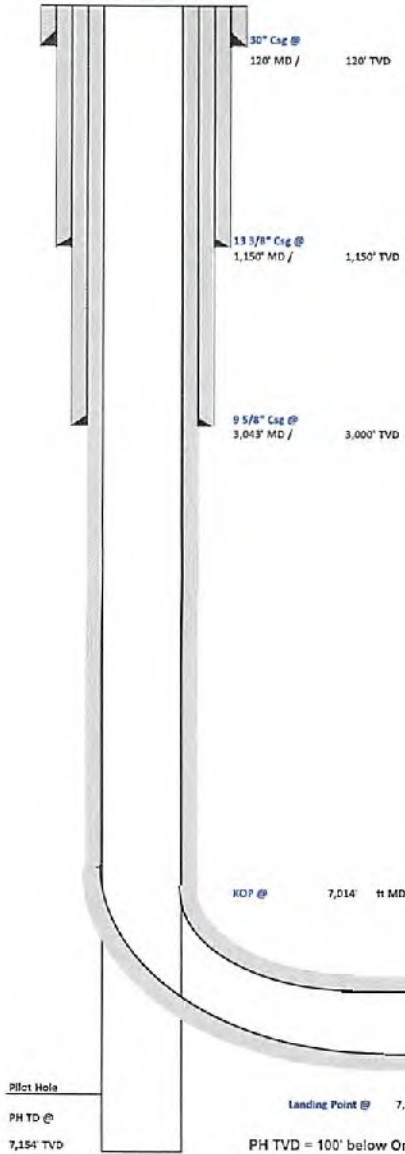


**WELL NAME:** Breckenridge S-24HM  
**STATE:** WV **COUNTY:** Marshall  
**DISTRICT:** Cameron  
**DF Elev:** 1,370' **GL Elev:** 1,370'  
**TD:** 16,777'  
**TH Latitude:** 39.830306  
**TH Longitude:** -80.626859  
**BH Latitude:** 39.802141  
**BH Longitude:** -80.611719

FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	1043
Sewickley Coal	952
Pittsburgh Coal	1042
Big Lime	2262
Weir	2683
Berea	2879
Gordon	3132
Rhinestreet	6292
Genesee/Burkett	6847
Tully	6883
Hamilton	6912
Marcellus	7093
Landing Depth	7036
Onondaga	7054
Pilot Hole TD	7154

CASING SUMMARY							
Type	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cement
Conductor	36	30	120'	120'	BW	BW	Surface
Surface	17 1/2	13 3/8	1,150'	1,150'	54.5	J55	Surface
Intermediate 1	12 1/4	9 5/8	3,043'	3,000'	38	J55	Surface
Production	8 7/8 x 8 3/4	5 1/2	16,777'	7,193'	20	CYHP110	Surface

CEMENT SUMMARY				DRILLING DETAILS	
Type	Sacks	Class	Density (ppg)	Fluid Type	Centralizer Notes
Conductor	338	A	15.6	Air	None
Surface	1,165	A	15.6	Air	3 Centralizers at equal distance
Intermediate 1	873	A	15	Air	1 Centralizer every other joint
Production	3,737	A	14.5	Air / SOBIM	1 every other joint in lateral; 1 per joint in curve; 1 every other joint to surface



Pilot Hole  
 PH TD @  
 7,154' TVD

Landing Point @ 7,801' MD / 7,036' TVD

PH TVD = 100' below Onondaga Top

Lateral TD @ 16,777' ft MD  
 7,193' ft TVD

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**Tug Hill Operating, LLC Casing and Cement Program**

**Breckenridge S-24HM**

**Casing**

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	13 3/8"	J55	17 1/2"	1,150'	CTS
Intermediate	9 5/8"	J55	12 1/4"	3,043'	CTS
Production	5 1/2"	CYHP110	8 7/8 x 8 3/4"	16,777'	CTS

**Cement**

- Conductor:** Premium NE-1 + 2% bwoc CaC12 + 46.5% Fresh Water – Conductor Cement mixed at 15.6 ppg, Y=1.2
- Surface:** Premium NE-1 + 2% bwoc CaC12 + 46.5% Fresh Water – Surface Cement mixed at 15.6 ppg, Y=1.2
- Intermediate:** Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 15 ppg, Y=1.38
- Kick Off Plug:** Class H Cement + 1% CD-32 + .7% Sodium Metasilicate + .1% R-3 + .75 gal/100sk FP-13L - KOP Plug
- 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 14.5 ppg, Y = 1.3

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Well: Breckenridge S-24 HM (slot M)  
 Site: Breckenridge (1 row)  
 Project: Marshall County, West Virginia  
 Design: rev0  
 Rig:

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 2°/100' build
3	1950.00	5.00	160.00	1949.68	-10.24	3.73	2.00	150.000	10.89	Begin 2°/100' build/turn
4	2226.39	10.00	140.00	2225.65	-40.18	23.43	2.00	37.743	46.12	Begin 2°/100' build/turn
5	3025.72	25.10	121.15	2984.17	-181.61	213.69	2.00	-29.925	250.21	Begin 25.10° tangent
6	7014.24	25.10	121.15	6595.03	-1055.82	1651.91	0.00	0.000	1617.47	Begin 8°/100' build/turn
7	7390.51	50.00	150.57	6894.22	-1227.57	1304.32	8.00	48.616	1930.01	Begin 10°/100' build/turn
8	7801.40	89.00	164.60	7036.00	-1578.02	1941.45	10.00	21.952	2206.22	Begin 89.00° lateral
9	16776.54	89.00	164.60	7193.00	-10237.66	4294.98	0.00	0.00011102	10	PBHL/TD 16776.54 MD 7193.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Breckenridge S-24HM LP	7036.00	-1578.01	1941.35	14463582.42	1747114.85	39.82595000	-80.61996800
- plan misses target center by 0.10ft at 7801.37ft MD (7036.00 TVD, -1577.99 N, 1941.44 E)							
Breckenridge S-24HM PBHL	7193.00	-10237.66	4294.98	14454922.79	1749468.47	39.80214100	-80.61171900
- plan hits target center							

Geodatic 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

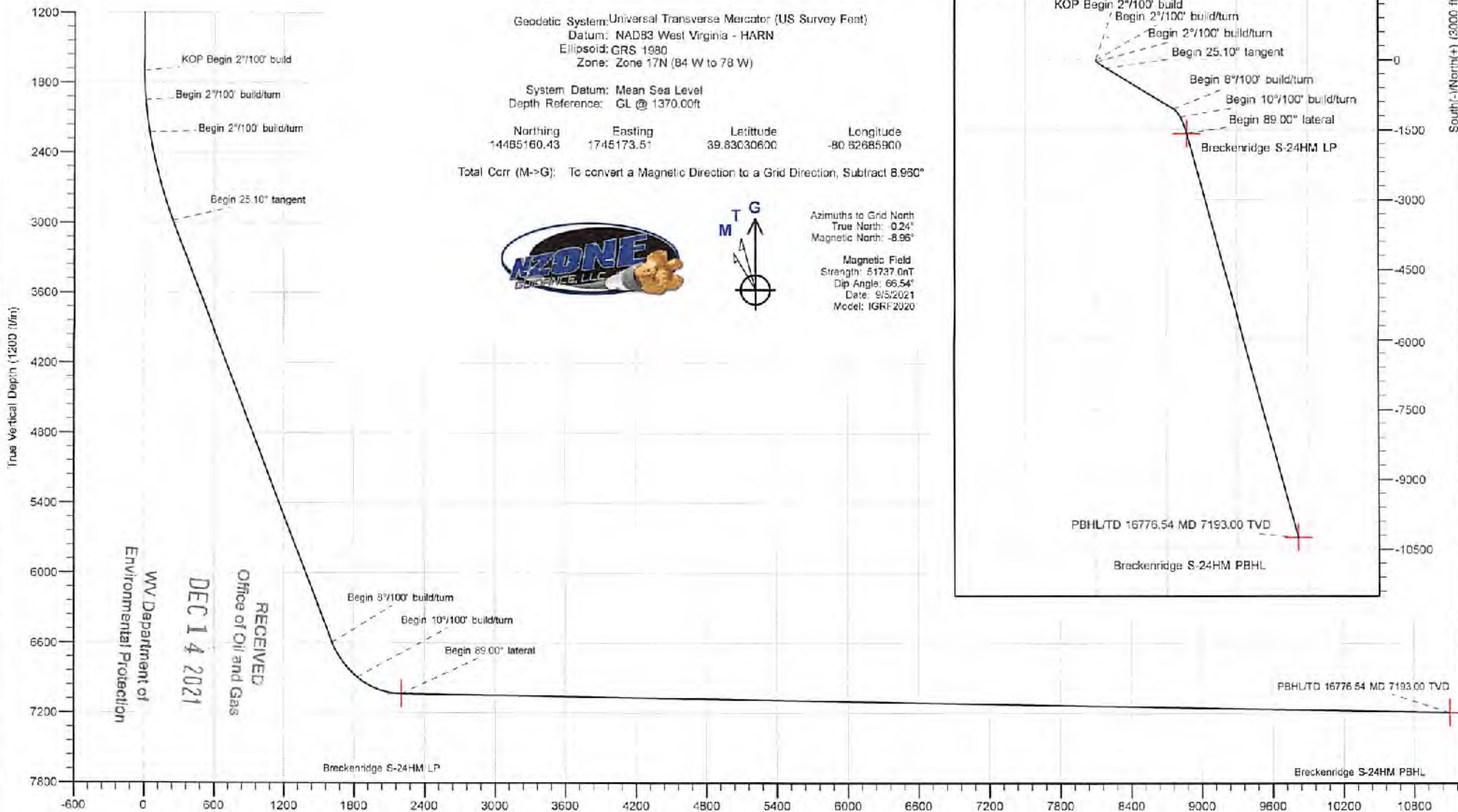
Northing	Easting	Latitude	Longitude
14465160.43	1745173.51	39.83030600	-80.62685900

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



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

Magnetic Field  
 Strength: 51737.0nT  
 Dip Angle: 66.54°  
 Date: 9/5/2021  
 Model: IGRF2020



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Vertical Section at 157.24° (1200 ft/in)



Planning Report - Geographic

<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Breckenridge S-24 HM (slot M)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL @ 1370.00ft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL @ 1370.00ft
<b>Site:</b>	Breckenridge (1 row)	<b>North Reference:</b>	Grid
<b>Well:</b>	Breckenridge S-24 HM (slot M)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

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

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

<b>Well</b>	Breckenridge S-24 HM (slot M)					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,465,160.43 usft	<b>Latitude:</b>	39.83030600
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	1,745,173.50 usft	<b>Longitude:</b>	-80.62685900
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	1,370.00 ft	
<b>Grid Convergence:</b>						

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b> (°)	<b>Dip Angle</b> (°)	<b>Field Strength</b> (nT)
	IGRF2020	9/5/2021	-8.721	66.539	51,737.03145240

<b>Design</b>	rev0			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b> (ft)	<b>+N/-S</b> (ft)	<b>+E/-W</b> (ft)	<b>Direction</b> (°)
	0.00	0.00	0.00	157.24

Plan Survey Tool Program	Date			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,776.54	rev0 (Original Hole)	

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Planning Report - Geographic

<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Breckenridge S-24 HM (slot M)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL @ 1370.00ft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL @ 1370.00ft
<b>Site:</b>	Breckenridge (1 row)	<b>North Reference:</b>	Grid
<b>Well:</b>	Breckenridge S-24 HM (slot M)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

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	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,950.00	5.00	160.00	1,949.68	-10.24	3.73	2.00	2.00	0.00	160.000	
2,228.39	10.00	140.00	2,225.65	-40.18	23.43	2.00	1.80	-7.18	-37.743	
3,025.72	25.10	121.15	2,984.17	-181.61	213.89	2.00	1.89	-2.36	-29.926	
7,014.24	25.10	121.15	6,596.04	-1,056.82	1,661.91	0.00	0.00	0.00	0.000	
7,390.51	50.00	150.57	6,894.22	-1,227.57	1,804.32	8.00	6.62	7.82	48.616	
7,801.40	89.00	164.80	7,036.00	-1,578.02	1,941.45	10.00	9.49	3.46	21.952	
16,776.54	89.00	164.80	7,193.00	-10,237.66	4,294.98	0.00	0.00	0.00	0.000	Breckenridge S-24HM

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Planning Report - Geographic

Database: DB\_Dec2220\_v16  
 Company: Tug Hill Operating LLC  
 Project: Marshall County, West Virginia  
 Site: Breckenridge (1 row)  
 Well: Breckenridge S-24 HM (slot M)  
 Wellbore: Original Hole  
 Design: rev0

Local Co-ordinate Reference: Well Breckenridge S-24 HM (slot M)  
 TVD Reference: GL @ 1370.00ft  
 MD Reference: GL @ 1370.00ft  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

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	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
100.00	0.00	0.00	100.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
200.00	0.00	0.00	200.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
300.00	0.00	0.00	300.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
400.00	0.00	0.00	400.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
500.00	0.00	0.00	500.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
600.00	0.00	0.00	600.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
700.00	0.00	0.00	700.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
800.00	0.00	0.00	800.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
900.00	0.00	0.00	900.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,465,160.43	1,745,173.50	39.83030600	-80.62685900
<b>KOP Begin 2°/100' build</b>									
1,800.00	2.00	160.00	1,799.98	-1.64	0.60	14,465,158.79	1,745,174.10	39.83030149	-80.62685690
1,900.00	4.00	160.00	1,899.84	-6.56	2.39	14,465,153.68	1,745,175.69	39.83028797	-80.62685060
1,950.00	5.00	160.00	1,949.68	-10.24	3.73	14,465,150.19	1,745,177.23	39.83027783	-80.62684587
<b>Begin 2°/100' build/turn</b>									
2,000.00	5.82	153.96	1,999.46	-14.57	5.59	14,465,145.88	1,745,179.09	39.83026592	-80.62683931
2,100.00	7.50	145.98	2,098.77	-24.61	11.51	14,465,135.83	1,745,185.02	39.83023829	-80.62681835
2,200.00	9.46	141.06	2,197.66	-36.48	20.38	14,465,123.95	1,745,193.88	39.83020559	-80.62678695
2,228.39	10.00	140.00	2,225.65	-40.18	23.43	14,465,120.25	1,745,196.93	39.83019538	-80.62677614
<b>Begin 2°/100' build/turn</b>									
2,300.00	11.26	136.34	2,296.03	-50.01	32.26	14,465,110.43	1,745,205.76	39.83016830	-80.62674485
2,400.00	13.09	132.42	2,393.77	-64.71	47.36	14,465,095.73	1,745,220.86	39.83012775	-80.62669128
2,500.00	14.95	129.45	2,490.79	-80.55	65.68	14,465,079.89	1,745,239.18	39.83008405	-80.62662626
2,600.00	16.85	127.14	2,586.96	-97.50	87.19	14,465,062.94	1,745,260.70	39.83003728	-80.62654987
2,700.00	18.77	125.28	2,682.17	-115.54	111.88	14,465,044.90	1,745,285.39	39.82998743	-80.62646220
2,800.00	20.70	123.76	2,776.29	-134.65	139.71	14,465,025.78	1,745,313.22	39.82993462	-80.62636336
2,900.00	22.64	122.48	2,869.22	-154.81	170.65	14,465,005.62	1,745,344.15	39.82987690	-80.62625347
3,000.00	24.60	121.40	2,960.83	-176.00	204.66	14,464,984.44	1,745,378.16	39.82982033	-80.62613266
3,025.72	25.10	121.15	2,984.17	-181.61	213.89	14,464,978.83	1,745,387.40	39.82980481	-80.62609984
<b>Begin 25.10° tangent</b>									
3,100.00	25.10	121.15	3,051.44	-197.91	240.86	14,464,962.53	1,745,414.36	39.82975974	-80.62600403
3,200.00	25.10	121.15	3,142.00	-219.85	277.17	14,464,940.58	1,745,450.67	39.82969906	-80.62587504
3,300.00	25.10	121.15	3,232.55	-241.80	313.47	14,464,918.54	1,745,486.97	39.82963839	-80.62574606
3,400.00	25.10	121.15	3,323.11	-263.74	349.77	14,464,896.70	1,745,523.28	39.82957771	-80.62561707
3,500.00	25.10	121.15	3,413.66	-285.68	386.06	14,464,874.75	1,745,559.58	39.82951703	-80.62548809
3,600.00	25.10	121.15	3,504.22	-307.62	422.38	14,464,852.81	1,745,595.89	39.82945635	-80.62535910
3,700.00	25.10	121.15	3,594.78	-329.57	458.69	14,464,830.87	1,745,632.19	39.82939567	-80.62523012
3,800.00	25.10	121.15	3,685.33	-351.51	494.99	14,464,808.92	1,745,668.50	39.82933499	-80.62510113
3,900.00	25.10	121.15	3,775.89	-373.45	531.30	14,464,786.98	1,745,704.80	39.82927431	-80.62497215
4,000.00	25.10	121.15	3,866.45	-395.40	567.60	14,464,765.04	1,745,741.11	39.82921364	-80.62484316
4,100.00	25.10	121.15	3,957.00	-417.34	603.91	14,464,743.09	1,745,777.41	39.82915296	-80.62471418
4,200.00	25.10	121.15	4,047.56	-439.28	640.21	14,464,721.15	1,745,813.72	39.82909228	-80.62458520
4,300.00	25.10	121.15	4,138.12	-461.23	676.52	14,464,699.21	1,745,850.02	39.82903160	-80.62445621
4,400.00	25.10	121.15	4,228.67	-483.17	712.82	14,464,677.26	1,745,886.32	39.82897092	-80.62432723
4,500.00	25.10	121.15	4,319.23	-505.11	749.13	14,464,655.32	1,745,922.63	39.82891024	-80.62419825
4,600.00	25.10	121.15	4,409.78	-527.06	785.43	14,464,633.38	1,745,958.93	39.82884956	-80.62406927

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Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Breckenridge S-24 HM (slot M)
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-24 HM (slot M)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
4,700.00	25.10	121.15	4,500.34	-549.00	821.74	14,464,611.43	1,745,995.24	39.82878888	-80.62394028	
4,800.00	25.10	121.15	4,590.90	-570.94	858.04	14,464,589.49	1,746,031.54	39.82872620	-80.62381130	
4,900.00	25.10	121.15	4,681.45	-592.89	894.35	14,464,567.55	1,746,067.85	39.82866752	-80.62368232	
5,000.00	25.10	121.15	4,772.01	-614.83	930.65	14,464,545.61	1,746,104.15	39.82860684	-80.62355334	
5,100.00	25.10	121.15	4,862.57	-636.77	966.96	14,464,523.66	1,746,140.46	39.82854616	-80.62342436	
5,200.00	25.10	121.15	4,953.12	-658.72	1,003.26	14,464,501.72	1,746,176.76	39.82848548	-80.62329538	
5,300.00	25.10	121.15	5,043.68	-680.66	1,039.56	14,464,479.78	1,746,213.07	39.82842480	-80.62316640	
5,400.00	25.10	121.15	5,134.24	-702.60	1,075.87	14,464,457.83	1,746,249.37	39.82836412	-80.62303742	
5,500.00	25.10	121.15	5,224.79	-724.55	1,112.17	14,464,435.89	1,746,285.68	39.82830344	-80.62290843	
5,600.00	25.10	121.15	5,315.35	-746.49	1,148.48	14,464,413.95	1,746,321.98	39.82824275	-80.62277945	
5,700.00	25.10	121.15	5,405.91	-768.43	1,184.78	14,464,392.00	1,746,358.29	39.82818207	-80.62265047	
5,800.00	25.10	121.15	5,496.46	-790.38	1,221.09	14,464,370.06	1,746,394.59	39.82812139	-80.62252150	
5,900.00	25.10	121.15	5,587.02	-812.32	1,257.39	14,464,348.12	1,746,430.89	39.82806071	-80.62239252	
6,000.00	25.10	121.15	5,677.57	-834.26	1,293.70	14,464,326.17	1,746,467.20	39.82800003	-80.62226354	
6,100.00	25.10	121.15	5,768.13	-856.21	1,330.00	14,464,304.23	1,746,503.50	39.82793935	-80.62213456	
6,200.00	25.10	121.15	5,858.69	-878.15	1,366.31	14,464,282.29	1,746,539.81	39.82787866	-80.62200558	
6,300.00	25.10	121.15	5,949.24	-900.09	1,402.61	14,464,260.34	1,746,576.11	39.82781798	-80.62187660	
6,400.00	25.10	121.15	6,039.80	-922.04	1,438.92	14,464,238.40	1,746,612.42	39.82775730	-80.62174762	
6,500.00	25.10	121.15	6,130.36	-943.98	1,475.22	14,464,216.46	1,746,648.72	39.82769662	-80.62161864	
6,600.00	25.10	121.15	6,220.91	-965.92	1,511.53	14,464,194.51	1,746,685.03	39.82763593	-80.62148967	
6,700.00	25.10	121.15	6,311.47	-987.87	1,547.83	14,464,172.57	1,746,721.33	39.82757525	-80.62136069	
6,800.00	25.10	121.15	6,402.03	-1,009.81	1,584.14	14,464,150.63	1,746,757.64	39.82751457	-80.62123171	
6,900.00	25.10	121.15	6,492.58	-1,031.75	1,620.44	14,464,128.68	1,746,793.94	39.82745388	-80.62110273	
7,000.00	25.10	121.15	6,583.14	-1,053.70	1,656.74	14,464,106.74	1,746,830.25	39.82739320	-80.62097376	
7,014.24	25.10	121.15	6,596.04	-1,056.82	1,661.91	14,464,103.82	1,746,835.42	39.82738456	-80.62095539	
<b>Begin 8°/100' build/turn</b>										
7,050.00	27.07	125.87	6,628.15	-1,065.51	1,675.00	14,464,084.92	1,746,848.50	39.82736053	-80.62090891	
7,100.00	30.05	131.46	6,672.07	-1,080.48	1,693.61	14,464,079.96	1,746,867.11	39.82731923	-80.62084285	
7,150.00	33.23	136.10	6,714.64	-1,098.64	1,712.50	14,464,061.79	1,746,886.00	39.82726912	-80.62077585	
7,200.00	36.55	140.00	6,755.65	-1,119.93	1,731.58	14,464,040.51	1,746,905.08	39.82721045	-80.62070822	
7,250.00	39.98	143.33	6,794.91	-1,144.23	1,750.75	14,464,016.21	1,746,924.25	39.82714349	-80.62064031	
7,300.00	43.49	146.21	6,832.22	-1,171.42	1,769.92	14,463,989.02	1,746,943.42	39.82706859	-80.62057244	
7,350.00	47.07	148.73	6,867.40	-1,201.38	1,789.00	14,463,959.06	1,746,962.50	39.82699610	-80.62050494	
7,390.51	50.00	150.57	6,894.22	-1,227.57	1,804.32	14,463,932.87	1,746,977.82	39.82691399	-80.62045076	
<b>Begin 10°/100' build/turn</b>										
7,400.00	50.88	151.03	6,900.27	-1,233.96	1,807.89	14,463,926.48	1,746,981.39	39.82689640	-80.62043814	
7,450.00	55.55	153.26	6,930.20	-1,269.36	1,826.57	14,463,891.08	1,747,000.07	39.82679896	-80.62037213	
7,500.00	60.26	155.26	6,956.76	-1,307.51	1,844.94	14,463,852.93	1,747,018.44	39.82669398	-80.62030728	
7,550.00	64.99	157.08	6,979.75	-1,348.12	1,862.86	14,463,812.32	1,747,036.36	39.82658226	-80.62024407	
7,600.00	69.74	158.76	6,998.99	-1,390.87	1,880.19	14,463,769.57	1,747,053.69	39.82646464	-80.62018299	
7,650.00	74.51	160.34	7,014.33	-1,435.45	1,896.80	14,463,724.99	1,747,070.30	39.82634203	-80.62012450	
7,700.00	79.29	161.85	7,025.66	-1,481.51	1,912.57	14,463,678.93	1,747,086.07	39.82621536	-80.62006905	
7,750.00	84.07	163.32	7,032.90	-1,528.70	1,927.37	14,463,631.74	1,747,100.87	39.82608559	-80.62001706	
7,801.40	89.00	164.80	7,036.00	-1,578.02	1,941.45	14,463,582.42	1,747,114.95	39.82594999	-80.61996763	
<b>Begin 89.00° lateral</b>										
7,900.00	89.00	164.80	7,037.73	-1,673.15	1,967.31	14,463,487.29	1,747,140.81	39.82568843	-80.61987698	
8,000.00	89.00	164.80	7,039.48	-1,769.64	1,993.53	14,463,390.80	1,747,167.03	39.82542300	-80.61978505	
8,100.00	89.00	164.80	7,041.23	-1,865.12	2,019.75	14,463,294.32	1,747,193.25	39.82515788	-80.61969311	
8,200.00	89.00	164.80	7,042.97	-1,962.61	2,045.98	14,463,197.83	1,747,219.46	39.82489261	-80.61960118	
8,300.00	89.00	164.80	7,044.72	-2,059.09	2,072.20	14,463,101.35	1,747,245.70	39.82462734	-80.61950924	
8,400.00	89.00	164.80	7,046.47	-2,155.57	2,098.42	14,463,004.86	1,747,271.92	39.82436207	-80.61941731	
8,500.00	89.00	164.80	7,048.22	-2,252.06	2,124.64	14,462,908.38	1,747,298.14	39.82409679	-80.61932538	
8,600.00	89.00	164.80	7,049.97	-2,348.54	2,150.87	14,462,811.90	1,747,324.37	39.82383152	-80.61923345	
8,700.00	89.00	164.80	7,051.72	-2,445.03	2,177.09	14,462,715.41	1,747,350.59	39.82356624	-80.61914152	

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Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Breckenridge S-24 HM (slot M)
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-24 HM (slot M)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
8,800.00	89.00	164.80	7,053.47	-2,541.51	2,203.31	14,462,518.93	1,747,376.81	39.82330097	-80.61904959	
8,900.00	89.00	164.80	7,055.22	-2,638.00	2,229.54	14,462,522.44	1,747,403.04	39.82303569	-80.61895766	
9,000.00	89.00	164.80	7,058.97	-2,734.48	2,255.76	14,462,425.96	1,747,429.26	39.82277042	-80.61886573	
9,100.00	89.00	164.80	7,058.72	-2,830.97	2,281.98	14,462,329.47	1,747,455.48	39.82250514	-80.61877380	
9,200.00	89.00	164.80	7,060.47	-2,927.45	2,308.20	14,462,232.99	1,747,481.70	39.82223987	-80.61868187	
9,300.00	89.00	164.80	7,062.22	-3,023.94	2,334.43	14,462,136.50	1,747,507.93	39.82197460	-80.61858995	
9,400.00	89.00	164.80	7,063.97	-3,120.42	2,360.65	14,462,040.02	1,747,534.15	39.82170932	-80.61849802	
9,500.00	89.00	164.80	7,065.71	-3,218.91	2,386.87	14,461,943.53	1,747,560.37	39.82144405	-80.61840610	
9,600.00	89.00	164.80	7,067.46	-3,313.39	2,413.09	14,461,847.05	1,747,586.59	39.82117877	-80.61831417	
9,700.00	89.00	164.80	7,069.21	-3,409.88	2,439.32	14,461,750.56	1,747,612.82	39.82091350	-80.61822225	
9,800.00	89.00	164.80	7,070.95	-3,506.36	2,465.54	14,461,654.08	1,747,639.04	39.82064822	-80.61813033	
9,900.00	89.00	164.80	7,072.71	-3,602.85	2,491.76	14,461,557.60	1,747,665.26	39.82038295	-80.61803840	
10,000.00	89.00	164.80	7,074.46	-3,699.33	2,517.99	14,461,461.11	1,747,691.48	39.82011767	-80.61794648	
10,100.00	89.00	164.80	7,076.21	-3,795.82	2,544.21	14,461,364.63	1,747,717.71	39.81985240	-80.61785456	
10,200.00	89.00	164.80	7,077.96	-3,892.30	2,570.43	14,461,268.14	1,747,743.93	39.81958712	-80.61776264	
10,300.00	89.00	164.80	7,079.71	-3,988.79	2,596.65	14,461,171.66	1,747,770.15	39.81932185	-80.61767072	
10,400.00	89.00	164.80	7,081.46	-4,085.27	2,622.88	14,461,075.17	1,747,796.38	39.81905657	-80.61757880	
10,500.00	89.00	164.80	7,083.21	-4,181.75	2,649.10	14,460,978.69	1,747,822.60	39.81879129	-80.61748688	
10,600.00	89.00	164.80	7,084.96	-4,278.24	2,675.32	14,460,882.20	1,747,848.82	39.81852602	-80.61739497	
10,700.00	89.00	164.80	7,086.71	-4,374.72	2,701.54	14,460,785.72	1,747,875.04	39.81826074	-80.61730305	
10,800.00	89.00	164.80	7,088.46	-4,471.21	2,727.77	14,460,689.23	1,747,901.27	39.81799547	-80.61721113	
10,900.00	89.00	164.80	7,090.20	-4,567.69	2,753.99	14,460,592.75	1,747,927.49	39.81773019	-80.61711922	
11,000.00	89.00	164.80	7,091.95	-4,664.18	2,780.21	14,460,496.27	1,747,953.71	39.81746492	-80.61702730	
11,100.00	89.00	164.80	7,093.70	-4,760.66	2,806.44	14,460,399.78	1,747,979.93	39.81719964	-80.61693539	
11,200.00	89.00	164.80	7,095.45	-4,857.15	2,832.66	14,460,303.30	1,748,006.16	39.81693438	-80.61684348	
11,300.00	89.00	164.80	7,097.20	-4,953.63	2,858.88	14,460,206.81	1,748,032.38	39.81666909	-80.61675156	
11,400.00	89.00	164.80	7,098.95	-5,050.12	2,885.10	14,460,110.33	1,748,058.60	39.81640381	-80.61665965	
11,500.00	89.00	164.80	7,100.70	-5,146.60	2,911.33	14,460,013.84	1,748,084.82	39.81613853	-80.61656774	
11,600.00	89.00	164.80	7,102.45	-5,243.09	2,937.55	14,459,917.36	1,748,111.05	39.81587326	-80.61647583	
11,700.00	89.00	164.80	7,104.20	-5,339.57	2,963.77	14,459,820.87	1,748,137.27	39.81560798	-80.61638392	
11,800.00	89.00	164.80	7,105.95	-5,436.06	2,989.99	14,459,724.39	1,748,163.49	39.81534271	-80.61629201	
11,900.00	89.00	164.80	7,107.70	-5,532.54	3,016.22	14,459,627.90	1,748,189.71	39.81507743	-80.61620010	
12,000.00	89.00	164.80	7,109.45	-5,629.03	3,042.44	14,459,531.42	1,748,215.94	39.81481215	-80.61610819	
12,100.00	89.00	164.80	7,111.20	-5,725.51	3,068.66	14,459,434.94	1,748,242.16	39.81454688	-80.61601629	
12,200.00	89.00	164.80	7,112.94	-5,822.00	3,094.88	14,459,338.45	1,748,268.38	39.81428160	-80.61592438	
12,300.00	89.00	164.80	7,114.69	-5,918.48	3,121.11	14,459,241.97	1,748,294.61	39.81401632	-80.61583248	
12,400.00	89.00	164.80	7,116.44	-6,014.97	3,147.33	14,459,145.48	1,748,320.83	39.81375104	-80.61574057	
12,500.00	89.00	164.80	7,118.19	-6,111.45	3,173.55	14,459,048.00	1,748,347.05	39.81348577	-80.61564867	
12,600.00	89.00	164.80	7,119.94	-6,207.94	3,199.78	14,458,952.51	1,748,373.27	39.81322049	-80.61555676	
12,700.00	89.00	164.80	7,121.69	-6,304.42	3,226.00	14,458,856.03	1,748,399.50	39.81295521	-80.61546486	
12,800.00	89.00	164.80	7,123.44	-6,400.90	3,252.22	14,458,759.54	1,748,425.72	39.81268994	-80.61537296	
12,900.00	89.00	164.80	7,125.19	-6,497.39	3,278.44	14,458,663.06	1,748,451.94	39.81242466	-80.61528106	
13,000.00	89.00	164.80	7,126.94	-6,593.87	3,304.67	14,458,566.57	1,748,478.16	39.81215938	-80.61518916	
13,100.00	89.00	164.80	7,128.69	-6,690.36	3,330.89	14,458,470.09	1,748,504.39	39.81189410	-80.61509726	
13,200.00	89.00	164.80	7,130.44	-6,786.84	3,357.11	14,458,373.60	1,748,530.61	39.81162882	-80.61500536	
13,300.00	89.00	164.80	7,132.19	-6,883.33	3,383.33	14,458,277.12	1,748,556.83	39.81136355	-80.61491346	
13,400.00	89.00	164.80	7,133.94	-6,979.81	3,409.55	14,458,180.64	1,748,583.05	39.81109827	-80.61482156	
13,500.00	89.00	164.80	7,135.69	-7,076.30	3,435.78	14,458,084.15	1,748,609.28	39.81083299	-80.61472966	
13,600.00	89.00	164.80	7,137.43	-7,172.78	3,462.00	14,457,987.67	1,748,635.50	39.81056771	-80.61463777	
13,700.00	89.00	164.80	7,139.18	-7,269.27	3,488.23	14,457,891.18	1,748,661.72	39.81030243	-80.61454587	
13,800.00	89.00	164.80	7,140.93	-7,365.75	3,514.45	14,457,794.70	1,748,687.95	39.81003716	-80.61445398	
13,900.00	89.00	164.80	7,142.68	-7,462.24	3,540.67	14,457,698.21	1,748,714.17	39.80977188	-80.61436208	
14,000.00	89.00	164.80	7,144.43	-7,558.72	3,566.89	14,457,601.73	1,748,740.39	39.80950660	-80.61427019	
14,100.00	89.00	164.80	7,146.18	-7,655.21	3,593.12	14,457,505.24	1,748,766.61	39.80924132	-80.61417830	
14,200.00	89.00	164.80	7,147.93	-7,751.69	3,619.34	14,457,408.76	1,748,792.84	39.80897604	-80.61408640	

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<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Breckenridge S-24 HM (slot M)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL @ 1370.00ft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL @ 1370.00ft
<b>Site:</b>	Breckenridge (1 row)	<b>North Reference:</b>	Grid
<b>Well:</b>	Breckenridge S-24 HM (slot M)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
14,300.00	89.00	164.80	7,149.68	-7,848.18	3,645.56	14,457,312.27	1,748,819.06	39.80871076	-80.61399451	
14,400.00	89.00	164.80	7,151.43	-7,944.66	3,671.78	14,457,215.79	1,748,845.23	39.80844549	-80.61390262	
14,500.00	89.00	164.80	7,153.18	-8,041.15	3,698.01	14,457,119.31	1,748,871.50	39.80818021	-80.61381073	
14,600.00	89.00	164.80	7,154.93	-8,137.63	3,724.23	14,457,022.82	1,748,897.73	39.80791493	-80.61371884	
14,700.00	89.00	164.80	7,156.68	-8,234.12	3,750.45	14,456,926.34	1,748,923.95	39.80764965	-80.61362695	
14,800.00	89.00	164.80	7,158.43	-8,330.60	3,776.68	14,456,829.85	1,748,950.17	39.80738437	-80.61353506	
14,900.00	89.00	164.80	7,160.17	-8,427.08	3,802.90	14,456,733.37	1,748,976.39	39.80711909	-80.61344318	
15,000.00	89.00	164.80	7,161.92	-8,523.57	3,829.12	14,456,636.88	1,749,002.62	39.80685381	-80.61335129	
15,100.00	89.00	164.80	7,163.67	-8,620.05	3,855.34	14,456,540.40	1,749,028.84	39.80658853	-80.61325940	
15,200.00	89.00	164.80	7,165.42	-8,716.54	3,881.57	14,456,443.91	1,749,055.06	39.80632325	-80.61316752	
15,300.00	89.00	164.80	7,167.17	-8,813.02	3,907.79	14,456,347.43	1,749,081.29	39.80605797	-80.61307563	
15,400.00	89.00	164.80	7,168.92	-8,909.51	3,934.01	14,456,250.94	1,749,107.51	39.80579269	-80.61298375	
15,500.00	89.00	164.80	7,170.67	-9,005.99	3,960.23	14,456,154.46	1,749,133.73	39.80552741	-80.61289187	
15,600.00	89.00	164.80	7,172.42	-9,102.48	3,986.46	14,456,057.98	1,749,159.95	39.80526214	-80.61279998	
15,700.00	89.00	164.80	7,174.17	-9,198.96	4,012.68	14,455,961.49	1,749,186.18	39.80499686	-80.61270810	
15,800.00	89.00	164.80	7,175.92	-9,295.45	4,038.90	14,455,865.01	1,749,212.40	39.80473158	-80.61261622	
15,900.00	89.00	164.80	7,177.67	-9,391.93	4,065.12	14,455,768.52	1,749,238.62	39.80446630	-80.61252434	
16,000.00	89.00	164.80	7,179.42	-9,488.42	4,091.35	14,455,672.04	1,749,264.84	39.80420102	-80.61243246	
16,100.00	89.00	164.80	7,181.17	-9,584.90	4,117.57	14,455,575.55	1,749,291.07	39.80393574	-80.61234058	
16,200.00	89.00	164.80	7,182.91	-9,681.39	4,143.79	14,455,479.07	1,749,317.29	39.80367046	-80.61224870	
16,300.00	89.00	164.80	7,184.66	-9,777.87	4,170.02	14,455,382.58	1,749,343.51	39.80340518	-80.61215683	
16,400.00	89.00	164.80	7,186.41	-9,874.36	4,196.24	14,455,286.10	1,749,369.73	39.80313989	-80.61206495	
16,500.00	89.00	164.80	7,188.16	-9,970.84	4,222.46	14,455,189.61	1,749,395.96	39.80287461	-80.61197307	
16,600.00	89.00	164.80	7,189.91	-10,067.33	4,248.68	14,455,093.13	1,749,422.18	39.80260933	-80.61188120	
16,700.00	89.00	164.80	7,191.66	-10,163.81	4,274.91	14,454,996.64	1,749,448.40	39.80234405	-80.61178932	
16,776.54	89.00	164.80	7,193.00	-10,237.66	4,294.98	14,454,922.79	1,749,468.47	39.80214100	-80.61171900	

**PBHL/TD 16776.54 MD 7193.00 TVD**

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Breckenridge S-24HM LI - hit/miss target - Shape - Point	0.00	0.00	7,036.00	-1,578.01	1,941.35	14,463,582.42	1,747,114.85	39.82595000	-80.61996800	
- plan misses target center by 0.10ft at 7801.37ft MD (7036.00 TVD, -1577.99 N, 1941.44 E)										
Breckenridge S-24HM P - plan hits target center - Point	0.00	0.00	7,193.00	-10,237.66	4,294.98	14,454,922.79	1,749,468.47	39.80214100	-80.61171900	

Casing Points										
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")						
1,150.00	1,150.00	Csg 13 3/8	13-3/8	RECEIVED						
3,043.20	3,000.00	Csg 9 5/8	9-5/8	Office of Oil and Gas						

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Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Breckenridge S-24 HM (slot M)
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-24 HM (slot M)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,700.00	1,700.00	0.00	0.00	KOP Begin 2°/100' build
1,950.00	1,949.68	-10.24	3.73	Begin 2°/100' build/turn
2,228.39	2,225.65	-40.18	23.43	Begin 2°/100' build/turn
3,025.72	2,984.17	-181.61	213.89	Begin 25.10° tangent
7,014.24	6,596.04	-1,056.82	1,661.91	Begin 8°/100' build/turn
7,390.51	6,894.22	-1,227.57	1,804.32	Begin 10°/100' build/turn
7,801.40	7,036.00	-1,578.02	1,941.45	Begin 89.00° lateral
16,776.54	7,193.00	-10,237.66	4,294.98	PBHL/TD 16776.54 MD 7193.00 TVD

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WW-9  
(4/16)

API Number 47 - 051 - 02431  
Operator's Well No. Brackanridge S-24HM

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Tug Hill Operating, LLC OP Code 494510851

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

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 and produced water for frac

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

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 Drilling

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

-If oil based, what type? Synthetic, petroleum, etc. n/a

Additives to be used in drilling medium? \_\_\_\_\_

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? Weston County Sanitary Landfill (SW-1021 / WVD09105) and Westmoreland Sanitary Landfill, LLC (SAN1405 / PA DEP EOP1286426), Chestnut Valley Landfill (120419)

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 James A Pancake  
Company Official (Typed Name) Jim Pancake  
Company Official Title Vice President - Geosciences

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Subscribed and sworn before me this 2nd day of December, 2021

Susanne Deliere

Notary Public

My commission expires 1/15/2025

Commonwealth of Pennsylvania - Notary Seal  
Susanne Deliere, Notary Public  
Washington County  
My commission expires January 15, 2025  
Commission # 01/28/2022  
Member, Pennsylvania Association of Notaries

**Tug Hill Operating, LLC**

Proposed Revegetation Treatment: Acres Disturbed 8.59 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: *Harmon J. Kautz*

Comments:

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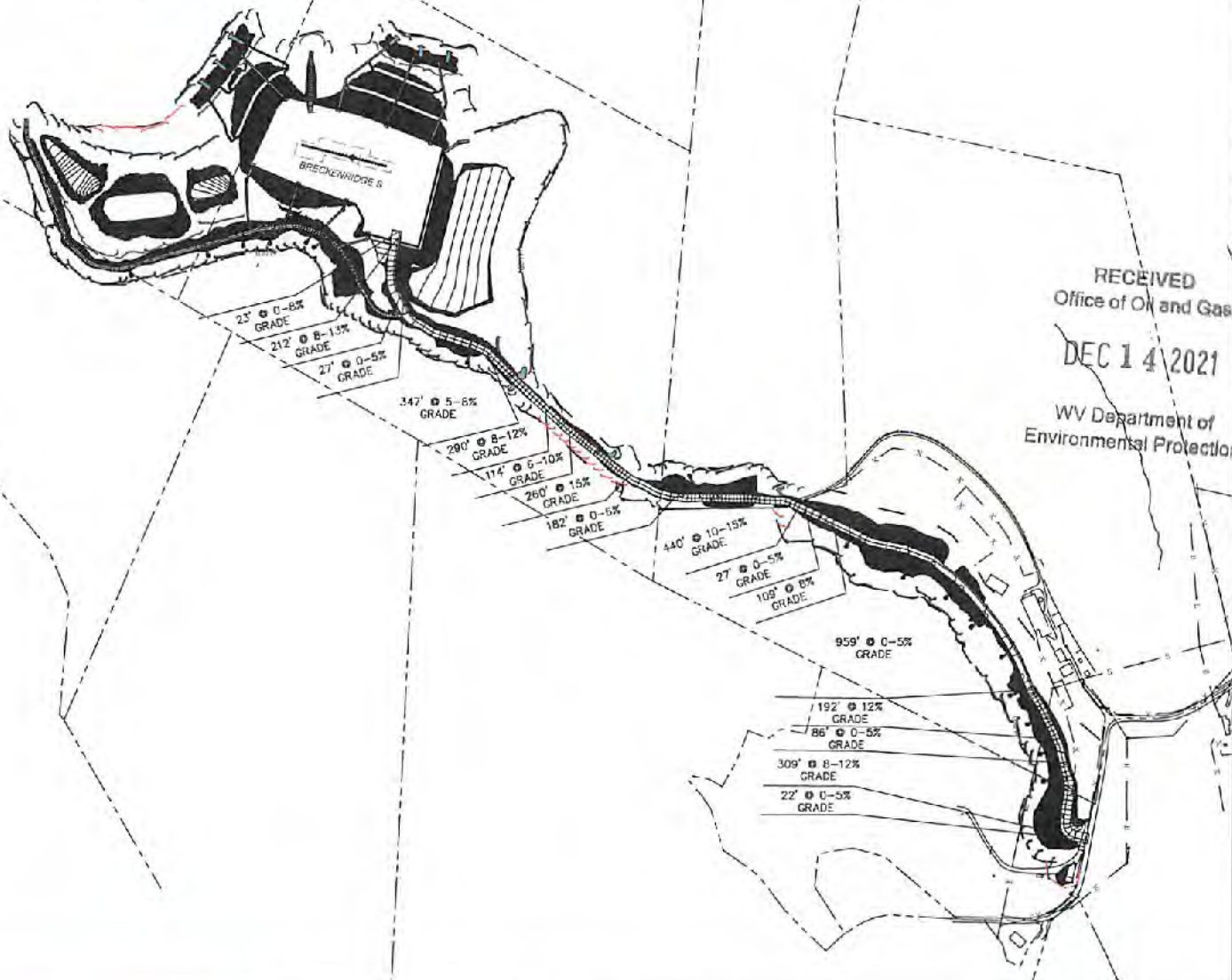
Title: Oil and Gas Inspector Date: 12/1/2021

Field Reviewed?  Yes  No

# PROPOSED BRECKENRIDGE S - 24HM



CNX Land, Inc



**NOTES:**

1. DRAWING NOT TO SCALE
2. REFERENCE IS HEREBY MADE TO THE WV D.E.P. OFFICE OF OIL & GAS, "EROSION AND SEDIMENT CONTROL FIELD MANUAL" FOR REQUIREMENTS AND BMPs FOR AVERAGE FIELD CONDITIONS CONCERNING THE MAINTENANCE OF EXISTING ROADS AND THE CONSTRUCTION OF PROPOSED ROADS. FIELD CONDITIONS MAY REQUIRE VARIANCE FROM THESE GUIDELINES AND THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION TO THE INSPECTOR AND THE OPERATOR SHOULD THESE CONDITIONS OCCUR.
3. ENTRANCES ONTO PUBLIC ROADS SHALL BE CONSTRUCTED OR MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATIONS. ADDITIONAL PERMITS MAY BE REQUIRED.
4. SEE BRECKENRIDGE N SITE PLAN PREPARED BY KELLEY SURVEYING, FOR COMPLETE CONSTRUCTION & EROSION AND SEDIMENT CONTROL DETAILS.

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12 Venhorn Drive | P.O. Box 150 | Glenville, WV 26031 | 304.692.3614  
1432 Kanawha Boulevard East | Charleston, WV 25310 | 304.345.3392  
254 East Beckley Bypass | Beckley, WV 26801 | 304.235.9296  
sls.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	09-23-21	NONE



**TUG HILL  
OPERATING**  
01/28/2022



**TUG HILL**  
**OPERATING**

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

**Well Name: Breckenridge S-24HM**

**Pad Name: Breckenridge**

**County: Marshall**

UTM (meters), NAD83, Zone 17

Northing: 4,408,989.75

Easting: 531,929.91

*Erin J. King*  
12/1/2021

**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)**

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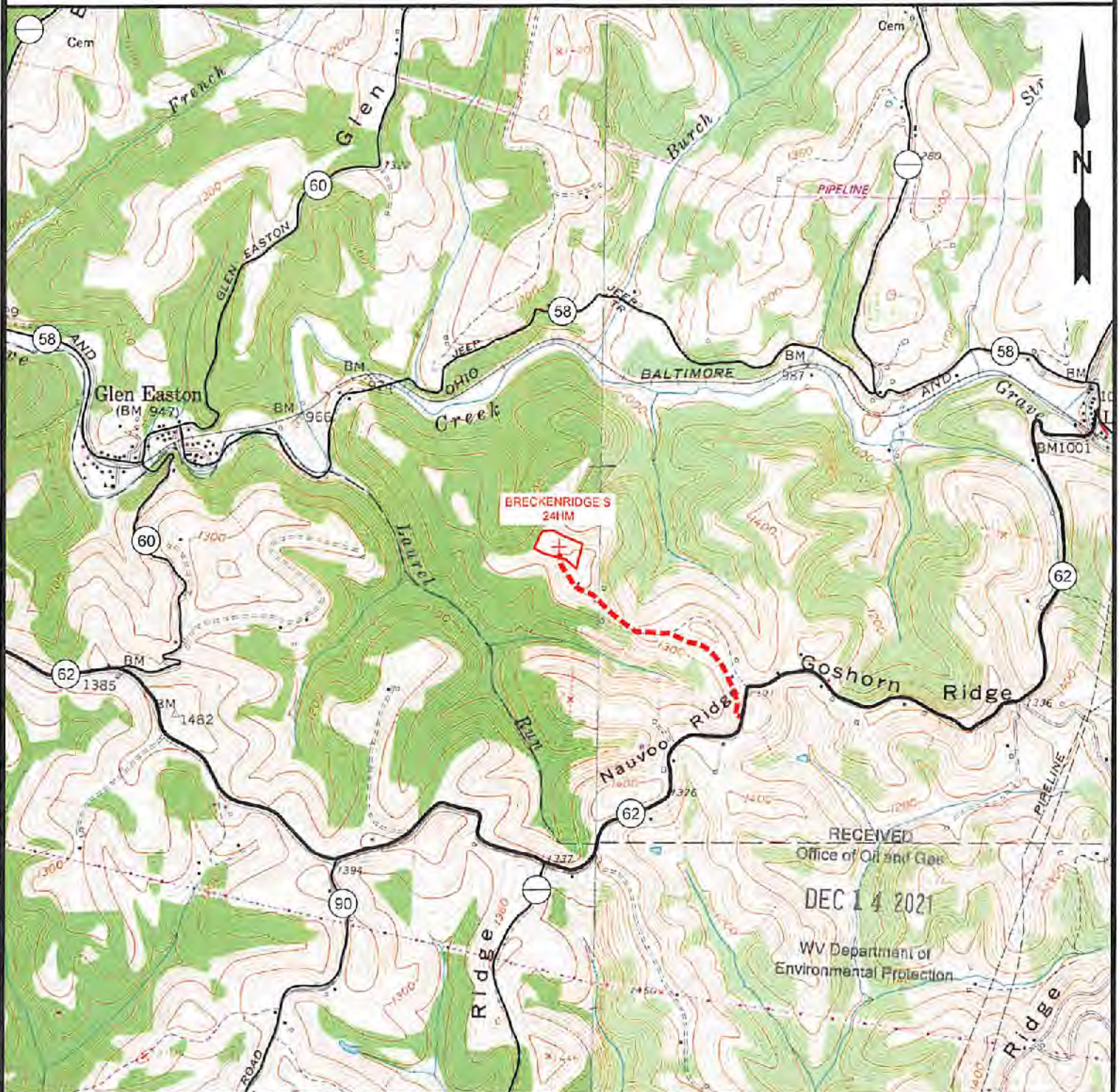
WV Department of  
Environmental Protection

**24-HOUR EMERGENCY PHONE NUMBER**

**(800) 921-9745**

01/28/2022

# PROPOSED BRECKENRIDGE S - 24HM



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 S WELL PAD LOCATION.



12 Venhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5634  
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952  
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5295  
slswv.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR:	
COUNTY	DISTRICT	TUG HILL OPERATING, LLC	
MARSHALL	CAMERON	380 SOUTHPOINTE BLVD	
		SUITE 200	
		CANONSBURG, PA 15317	
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	9026	09/23/2021	1" = 2000'



**TUG HILL  
OPERATING**

01/28/2022

**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](mailto:apicard@dpslandservices.com), DPS GIS (09/27/2021) 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 Enverus 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 Marcellus 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 Marcellus stimulation.	
4705102346	Tug Hill Operating, LLC	7115' TVD (proposed)	none	none	Yes, this is a proposed well in the Marcellus. Once completed the well will be within the expected fracture propagation from a Marcellus stimulation. Proper casing and cement should prevent migration of fluids between wellbores.	A Tug Hill Operating, LLC permitted well on the pad that is not drilled or perforated.
4705100754	Leatherwood, Inc.	3045' TVD	Gordon	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Marcellus stimulation. Well is plugged.	Well was plugged 8/8/2008.

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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
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 Marcellus well. Well is plugged.	Well was plugged 6/17/2008.
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 Marcellus 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 Marcellus well.	State records are incomplete.
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 Marcellus well.	State records are incomplete.
4705101073	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 Marcellus well. Well is plugged.	Well was plugged 3/26/2008.

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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
4705170122 ✓	Manufacturers Light & Heat Co.	3109' TVD	Gordon	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Marcellus stimulation.	
4705170512 ✓	Manufacturers Light & Heat Co.	unknown	Gordon	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Marcellus well.	
4705101409 ✓	Tug Hill Operating, LLC	6962' TVD / 11672' MD	Marcellus	unknown	Yes, this is a producing well in the Marcellus. This well is within the expected fracture propagation from a Marcellus stimulation. Proper casing and cement should prevent migration of fluids between wellbores.	A Tug Hill Operating, LLC producing well on adjacent pad.
4705101475 ✓	Tug Hill Operating, LLC	7068' TVD / 11820' MD	Marcellus	unknown	Yes, this is a producing well in the Marcellus. This well is within the expected fracture propagation from a Marcellus stimulation. Proper casing and cement should prevent migration of fluids between wellbores.	A Tug Hill Operating, LLC producing well on adjacent pad.
4705101476 ✓	Tug Hill Operating, LLC	6944' TVD / 12985' MD	Marcellus	unknown	Yes, this is a producing well in the Marcellus. This well is within the expected fracture propagation from a Marcellus stimulation. Proper casing and cement should prevent migration of fluids between wellbores.	A Tug Hill Operating, LLC producing well on adjacent pad.

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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
4705101605	Tug Hill Operating, LLC	6953' TVD / 12624' MD	Marcellus	unknown	Yes, this is a producing well in the Marcellus. This well is within the expected fracture propagation from a Marcellus stimulation. Proper casing and cement should prevent migration of fluids between wellbores.	A Tug Hill Operating, LLC producing well on adjacent pad.
4705100904	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 Marcellus well. Well is plugged.	Well was plugged 4/21/2003.
4705101067	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 Marcellus well. Well is plugged.	Well was plugged 5/16/2008.
4705130267	Randall-Zogg Supply Co.	3044' TVD	Gordon	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Marcellus stimulation. Well is plugged.	Well was plugged in 1947.
4705170464 (4705100904)	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 Marcellus well. Well is plugged.	Well was plugged 4/21/2003. API # 4705170464 reassigned to 4705100904.

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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
4705100971	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 Marcellus well. Well is plugged.	Well was plugged 11/4/2015.

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WV Geological & Economic Survey:

Well: County = 51 Permit = 01082

Report Time: Friday, August 27, 2021 4:10:01 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LONG_DD	UTME	UTMN
4705101082	Marshall	1082	Cameron	Glen Easton	Cameron	39.629496	-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_AF
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: Friday, August 27, 2021 4:11:58 PM

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	-80.626303	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_PR
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_AFT
4705170164	-/-	-/-	1420	Barometer	Big Injun (undiff)	Big Injun (undiff)		unclassified	unclassified	not available	unknown	unknown	2374					2374

WV Geological & Economic Survey

Well: County = 51 Permit = 02346

Report Time: Friday, August 27, 2021 4:12:17 PM

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	39.830284	-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

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
4705102346	-/-		Dvtd Wrkrd 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_BEF
4705102346	-/-	-/-	1330	Ground Level															

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WV Geological & Economic Survey

Well: County = 51 Permit = 00754

Report Time: Wednesday, September 29, 2021 12:53:54 PM

Well Reassignment Information: Reassigned From

OLD_COUNTY	OLD_PERMIT	NEW_COUNTY	NEW_PERMIT
51	70163	51	754

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_16	LAT_DD	LONG_DD	UTME	UTMN
4705100754	Marshall	754	Liberty	Glen Easton	Cameron	39 82877.1	-80 62724.8	531697.4	4408919.3

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_EST
4705100754	-/-1928	Original Loc	Completed	J O Williams	2					Cameron Heat & Light			
4705100754	8/8/2008	Plugging	Completed	J Richard Wayt		M-108				Leatherwood, Inc.			
4705100754	-/-	Worked Over	Permitted	J Richard Wayt	2		J O Williams		J Richard Wayt	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	KOI
4705100754	-/-1928	-/-	1330	Ground Level	Cameron-Garner	Gordon Stray	Gordon Stray	Development Well	Development Well	Gas w/ Oil Show	Cable Tool	Shot	2999		2999
4705100754	8/8/2008	7/9/2008	1299	Ground Level	Cameron-Garner				not available	unknown	unknown				
4705100754	-/-	-/-	1330	Ground Level	Cameron-Garner		Gordon Stray		Gas			3045			

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
4705100754	-/-1928	Show	Oil & Gas	Vertical			2200	Big Injun (PriceSeq)	0	0			
4705100754	-/-1928	Pay	Gas	Vertical			2954	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
4705100754	Cameron Oil and Gas Co.	1993	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100754	Cameron Gas Co.	1994													
4705100754	Cameron Gas Co.	1995													
4705100754	Coleman, C. R.	1996													
4705100754	Mountaineer Gas Services, Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100754	Mountaineer Gas Services, Inc.	2001	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100754	Mountaineer Gas Services, Inc.	2002	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100754	Mountaineer Gas Services, Inc.	2003	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100754	Mountaineer Gas Services, Inc.	2004	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100754	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
4705100754	Cameron Oil and Gas Co.	1993	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100754	Cameron Gas Co.	1994													
4705100754	Cameron Gas Co.	1995													
4705100754	Coleman, C. R.	1996													
4705100754	Mountaineer Gas Services, Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100754	Mountaineer Gas Services, Inc.	2001	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100754	Mountaineer Gas Services, Inc.	2002	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100754	Mountaineer Gas Services, Inc.	2003	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100754	Mountaineer Gas Services, Inc.	2004	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100754	Leatherwood, Inc.	2006	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
4705100754	8/8/2008	0

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Well: County = 51 Permit = 01076

Report Time: Wednesday, September 29, 2021 3:16:08 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101076	Marshall	1076	Cameron	Cameron	Cameron		39.829205	-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	O_BE
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	6	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

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Well: County = 51 Permit = 70513

Report Time: Wednesday, September 29, 2021 3:17:23 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	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_BEF	G_AFT	O_BEF	O_A
4705170513	--	--						unclassified	unclassified	not available	unknown	unknown								

WV Geological & Economic Survey

Well: County = 51 Permit = 70514

Report Time: Wednesday, September 29, 2021 3:17:48 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	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_BEF	G_AFT	O_BEF	O_A
4705170514	--	--						unclassified	unclassified	not available	unknown	unknown								

WV Geological & Economic Survey

Well: County = 51 Permit = 70515

Report Time: Wednesday, September 29, 2021 3:18:12 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_BEF	G_AFT	O_BEF	O_A
4705170515	--	--						unclassified	unclassified	not available	unknown	unknown								

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WV Geological & Economic Survey

Well: County = 51 Permit = 01073

Report Time: Wednesday, September 29, 2021 3:18:35 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101073	Marshall	1073	Cameron	Cameron	Cameron	39.825147	-80.61943	532568.1	4408419.8

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
4705101073	3/26/2008	Plugging	Completed	Charles & Sonja Strope		M-1313				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_
4705101073	3/26/2008	3/12/2008	1228	Ground Level	Unnamed			unclassified	unclassified	not available	unknown	unknown							

Comment: 3/26/2008 River Operations. Pittsburgh Coal 941-947ft.

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
4705101073	3/26/2008	0

WV Geological & Economic Survey

Well: County = 51 Permit = 70122

Report Time: Wednesday, September 29, 2021 3:18:50 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170122	Marshall	70122	Cameron	Cameron	Cameron	39.824857	-80.618866	532616.5	4408387.8

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
4705170122	5/25/1930	Original Loc	Completed	Rhoda A Parsons		1073				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	G_BEF	G_AFT	O_BEF	O_
4705170122	5/25/1930	J.J.			Fifth			unclassified	unclassified	not available	unknown	unknown	3109		3109					

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WV Geological & Economic Survey:

Well: County = 51 Permit = 70512

Report Time: Wednesday, September 29, 2021 3:19:07 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170512	Marshall	70512	Cameron	Canteron	Cameron	39.826591	-80.619847	532600.2	4408580.2

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
4705170512	-/-1899	unknown	Prpty Map	J G Crawford					unknown	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	G_BEF	G_AFT	O_BEF	O
4705170512	-/-1899	-/-1898	1095	Ground Level	Cameron		Gordon	unclassified	unclassified	Gas	unknown	unknown								

Comment: -/-1899 Some info is from historical records in black notebook, and is not yet scanned into database.

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
4705170512	Original Loc	Pittsburgh coal	Well Record	728	Reasonable			1095	Ground Level
4705170512	Original Loc	Gordon	Well Record	2738	Reasonable			1095	Ground Level

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Operator's Well No. Breckenridge S-24HM

WV Geological & Economic Survey.

Well: County = 51 Permit = 01409

Report Time: Wednesday, September 29, 2021 3:19:25 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	39.815855	-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	39.831901

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	TFI
4705101409	2/8/2012	Dvtd Orign Loc	Completed	Goshorn	1H		Goshorn Ridge LLC		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_BEF
4705101409	2/8/2012	10/10/2011	1308	Ground Level	Cameron-Garner	Onondaga Ls	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	unknown	6982	11872	11672	6100

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
4705101409	2/8/2012	Water	Fresh Water	Vertical			60	Pennsylvanian System					
4705101409	2/8/2012	Water	Salt Water	Vertical			1500						
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	7290	Marcellus Fm	7530	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	7615	Marcellus Fm	7755	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	7820	Marcellus Fm	8040	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	8120	Marcellus Fm	8365	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	8465	Marcellus Fm	8675	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	8740	Marcellus Fm	8925	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	8985	Marcellus Fm	9182	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	9320	Marcellus Fm	9495	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	9540	Marcellus Fm	9735	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	9808	Marcellus Fm	9995	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	10060	Marcellus Fm	10245	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	10317	Marcellus Fm	10520	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	10600	Marcellus Fm	10824	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	10885	Marcellus Fm	11077	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	11150	Marcellus Fm	11336	Marcellus Fm					
4705101409	2/8/2012	Pay	Oil & Gas	Deviated	11418	Marcellus Fm	11618	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	88,545	65,820	71,055	63,022	58,892	6,044	55,828	83,064
4705101409	Trans Energy, Inc.	2013	377,492	82,583	80,233	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	37,514	31,242
4705101409	Trans Energy, Inc.	2015	448,969	43,398	13,546	0	63,619	39,139	33,007	31,623	32,660	113,917	30,642	18,390	28,828
4705101409	EQT Production Company	2016	384,379	50,505	27,304	33,388	32,453	32,503	28,510	30,675	30,311	28,800	27,730	30,472	31,728
4705101409	EQT Production Company	2017	326,843	32,920	24,114	26,142	24,449	25,457	27,369	27,405	26,942	25,445	26,509	25,514	34,377
4705101409	EQT Production Company	2018	322,200	4,436	20,773	28,806	35,560	29,180	29,578	28,256	29,987	28,661	30,818	25,582	30,563
4705101409	EQT Production Company	2019	273,070	16,129	29,621	26,698	24,844	1,093	49,831	25,960	23,506	22,940	16,562	3,087	32,799
4705101409	Tug Hill Operating, LLC	2020	30,080	0	0	0	0	0	0	0	0	0	0	0	30,080

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	1,976	0	0	0	252	277	255	196	278	175	180	186	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	31	74	22	8	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
4705101409	Tug Hill Operating, LLC	2020	0	0	0	0	0	0	0	0	0	0	0	0	0

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Operator's Well No. Breckenridge S-24HM

WV Geological & Economic Survey

Well: County = 51 Permit = 01475

Report Time: Wednesday, September 29, 2021 3:20:32 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX	DISTRICT	QUAD_76	QUAD_16	LAT_DD	LON_DD	UTME	UTMN
4705101475	Marshall	1475	Liberty	Cameron	Cameron	39.815656	-80.615219	532932.9	4407390.1	

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705101475	1	As Proposed	533057	4405976.2	-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_EST_PI
4705101475	4/6/2012	Dvld Orgnl Loc	Completed	Goshorn	2#1		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_BEF
4705101475	4/6/2012	11/21/2011	1308	Ground Level	Cameron-Garner	Onondaga Ls	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	unknown	7060	11820	11820	6880

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	8265	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	8930	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	9900	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	9967	Marcellus Fm	10120	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	10100	Marcellus Fm	10360	Marcellus Fm					
4705101475	4/6/2012	Pay	Oil & Gas	Deviated	10432	Marcellus Fm	10595	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	68,918	79,089	66,669
4705101475	Trans Energy, Inc.	2013	279,811	74,717	53,064	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	19,265	20,507	0	83,046	49,822	42,147	30,871	48,446	129,601	35,718	15,101	28,680
4705101475	EQT Production Company	2016	438,246	17,438	28,525	38,555	40,262	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	31,406	30,059	30,460	32,269	31,689	32,043	31,080	26,967	30,305	26,216	20,755
4705101475	EQT Production Company	2018	267,918	19,950	16,945	39,660	25,576	23,911	24,854	21,543	24,493	24,436	24,508	16,759	5,263
4705101475	EQT Production Company	2019	220,897	14,683	15,368	1	0	0	0	1	5	67,782	59,473	13,238	50,346
4705101475	Tug Hill Operating, LLC	2020	23,757	0	0	0	0	0	0	0	0	0	0	0	23,757

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	0	65	339	190	173	180	76	164
4705101475	Trans Energy, Inc.	2013	710	53	85	94	0	0	0	0	0	0	42	247	179
4705101475	Trans Energy, Inc.	2014	1,650	188	267	290	350	170	64	50	84	34	31	44	58
4705101475	Trans Energy, Inc.	2015	306	70	31	0	45	14	21	39	19	23	13	16	15
4705101475	EQT Production Company	2016	0	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	0
4705101475	EQT Production Company	2018	0	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	0	100	0	0	0
4705101475	Tug Hill Operating, LLC	2020	0	0	0	0	0	0	0	0	0	0	0	0	0

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Operator's Well No. Breckenridge S-24HM

WV Geological & Economic Survey:

Well: County = 51 Permit = 01476

Report Time: Wednesday, September 29, 2021 3:21:01 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX	DISTRICT	QUAD_75	QUAD_16	LAT_DD	LON_DD	UTME	UTMN
4705101476	Marshall	1476	Liberty	Cameron	Cameron		39.815637	-80.615167	532937.3	4407388.1

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705101476	1	As Drilled	532183.8	4409071.8	-80.623889
4705101476	1	As Proposed	532200.6	4409080.6	-80.623692

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
4705101476	6/20/2013	David Orvnl 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	RKG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BE1
4705101476	6/20/2013	4/2/2013	1310	Ground Level	Cameron-Gamer	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Fractured		12677	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_BE1	G_AFT	O_BE1	O_AFT	WATER_QNTY
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	7831	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	9585	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	11465	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	23,096	23,476	21,778	21,373	17,221	15,385	20,060
4705101476	Trans Energy, Inc.	2015	217,919	20,021	5,239	0	35,183	17,851	15,938	18,703	14,290	42,379	19,019	9,622	19,674
4705101476	EQT Production Company	2016	130,282	14,741	8,839	13,032	11,433	11,938	10,785	11,116	10,900	10,413	9,211	9,009	8,865
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	4,864
4705101476	EQT Production Company	2018	106,799	12,652	6,861	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	8,515	11,507	11,080	8,824	605	8,163	4,782	13,652	17,177	7,860	5,350	6,071
4705101476	Tug Hill Operating, LLC	2020	12,138	0	0	0	0	0	0	0	0	0	0	0	12,138

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	80	40	59	31	32	38
4705101476	Trans Energy, Inc.	2015	619	62	19	0	93	52	56	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
4705101476	EQT Production Company	2020	0	0	0	0	0	0	0	0	0	0	0	0	0

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WV Geological & Economic Survey.

Well: County = 51 Permit = 01605

Report Time: Wednesday, September 29, 2021 3:21:31 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_76	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101605	Marshall	1605	Liberty	Cameron	Cameron	39.815827	-80.615124	532941	4407387

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
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	TFM_I
4705101605	6/30/2013	David Grgrl Loc	Completed	Timothy James Hubbs Trust	4H		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_FTC	KOD	G_BEF
4705101605	6/30/2013	5/4/2013	1309	Ground Level	Cameron-Gamer	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	9760	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	63,884	60,751
4705101605	Trans Energy, Inc.	2015	535,305	58,412	16,531	0	78,684	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	25,801	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	17,840	30,627	19,818	14,389	28,133	5,605	24,498
4705101605	Tug Hill Operating, LLC	2020	3,567	0	0	0	0	0	0	0	0	0	0	0	3,567
4705101605	EQT Production Company	2020	147,956	30,232	26,131	19,122	1,530	1,784	18,482	14,982	11,625	24,058	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
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	66	90	93	100	96	127	143	120	91	55	66	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												
4705101605	EQT Production Company	2017	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
4705101605	Tug Hill Operating, LLC	2020	25	0	0	0	0	0	0	0	0	0	0	0	25
4705101605	EQT Production Company	2020	44	0	0	0	0	0	44	0	0	0	0	0	0

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WV Geological & Economic Survey

Well: County = 51 Permit = 00904

Report Time: Wednesday, September 29, 2021 3:21:59 PM

Well Reassignment Information: Reassigned From

OLD_COUNTY	OLD_PERMIT	NEW_COUNTY	NEW_PERMIT
51	70464	51	904

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705100904	Marshall	904	Liberty	Cameron	Cameron	39.803106	-80.613403	533094.4	4405975.8

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
4705100904	4/21/2003	Plugging	Completed	Jean Jamison		M-371			Consolidation Coal Co	Consolidation Coal Co.			
4705100904	-/-	Original Loc	Prpty Map	Alfred Caldwell	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_BEF	G_AFT	O_BE
4705100904	4/21/2003	3/24/2003	1302	Ground Level				unclassified	unclassified	not available	unknown	unknown							
4705100904	-/-	-/-	1302	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
4705100904	4/21/2003	0

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WV Geological & Economic Survey

Well: County = 51 Permit = 01067

Report Time: Wednesday, September 29, 2021 3:22:33 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101067	Marshall	1067	Liberty	Cameron	Cameron	39.803251	-80.610959	533303.5	4405992.8

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
4705101067	5/16/2008	Plugging	Completed	Jean Jamison		M-368				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_BE
4705101067	5/16/2008	4/11/2008	1275	Ground Level				unclassified	unclassified	not available	unknown	unknown							

Comment: 5/16/2008 River Operations

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
4705101067	Plugging	Pittsburgh coal	Well Record	1029	Reasonable	8	Reasonable	1275	Ground Level

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

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705101067	5/16/2008	0

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 Environmental Protection



WV Geological & Economic Survey:

Well: County = 51 Permit = 30267

Report Time: Wednesday, September 29, 2021 3:22:49 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705130267	Marshall	30267	Liberty	Cameron	Cameron	39.802671	-80.610395	533352.1	4405928.6

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
4705130267	12/13/1905		Worked Over	unknown						----- unknown -----			
4705130267	3/17/1913		Worked Over	unknown						----- unknown -----			
4705130267	-/-	Original Loc	Completed	AH Dobbs	2		V P Gorby		J W Gorby	Randall-Zogg Supply 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
4705130267	12/13/1905	-/-	1281	Ground Level	Cameron-Garner	Gordon	Gordon	Development Well	Development Well	Oil	Cable Tool	Shot	3044		0		0	
4705130267	3/17/1913	-/-	1281	Ground Level	Cameron-Garner	Gordon	Gordon	Development Well	Development Well	Oil	Cable Tool	Shot	3044		0		0	
4705130267	-/-	-/-	1282	Ground Level	Cameron-Garner	Gordon	Gordon	Development Well	Development Well	Oil	Cable Tool	Shot	3044		3044		0	

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
4705130267	-/-	Pay	Oil	Vertical			3018	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
4705130267	Original Loc	unidentified coal	Well Record	660	Reasonable	5	Reasonable	1282	Ground Level
4705130267	Original Loc	Sewickley coal	Well Record	920	Reasonable	2	Reasonable	1282	Ground Level
4705130267	Original Loc	Pittsburgh coal	Well Record	1010	Reasonable	6	Reasonable	1282	Ground Level
4705130267	Original Loc	Bufflo Ss/1st Cow Rn	Well Record	1232	Reasonable	30	Reasonable	1282	Ground Level
4705130267	Original Loc	Mahonig Ss/Big Dunk	Well Record	1402	Reasonable	20	Reasonable	1282	Ground Level
4705130267	Original Loc	Salt Sands (undiff)	Well Record	1900	Reasonable	54	Reasonable	1282	Ground Level
4705130267	Original Loc	Big Lime	Well Record	2060	Reasonable	35	Reasonable	1282	Ground Level
4705130267	Original Loc	Big Injun (undiff)	Well Record	2095	Reasonable	240	Reasonable	1282	Ground Level
4705130267	Original Loc	Gordon Stray	Well Record	2971	Reasonable	10	Reasonable	1282	Ground Level
4705130267	Original Loc	Gordon	Well Record	3011	Reasonable	23	Reasonable	1282	Ground Level

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

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705130267	-/-1947	0

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WV Geological & Economic Survey:

**Well: County = 51 Permit = 70464**

Report Time: Wednesday, September 29, 2021 3:23:09 PM

Well Reassignment Information: Reassigned To

OLD_COUNTY	OLD_PERMIT	NEW_COUNTY	NEW_PERMIT
51	70464	51	904

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170464	Marshall	70464	Liberty	Cameron	Cameron	39.802526	-80.612463	533175.2	4405911.8

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
4705170464	--		unknown	Reassign						----- 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_BEF	G_AFT	O_BEF	O_AFT	NGL_
4705170464	--	--																			

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WV Geological & Economic Survey:

Well: County = 51 Permit = 00971

Report Time: Wednesday, September 29, 2021 3:23:34 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705100971	Marshall	971	Liberty	Cameron	Cameron	39.801386	-80.612275	533191.9	4405783.1

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
4705100971	11/4/2015	Plugging	Completed	Kenneth Wayne Steele		M-385				Consolidation Coal Co.			
4705100971	-/-	Plugging	Cancelled	Kenneth Steele		M-385				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_BE
4705100971	11/4/2015	10/22/2015	1305	Ground Level															
4705100971	-/-	-/-	1305	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

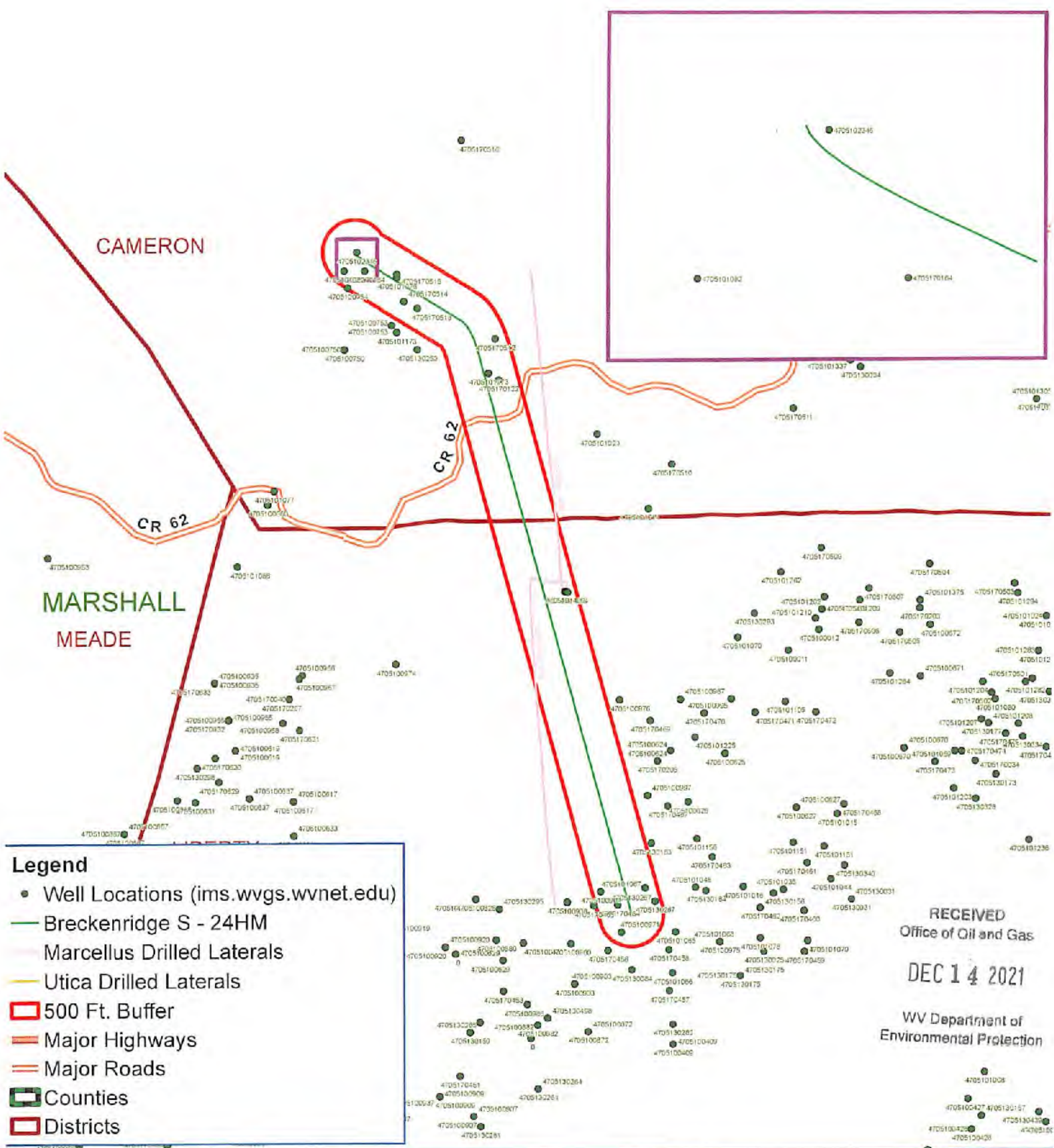
There is no Stratigraphy data for this well

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

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705100971	11/4/2015	0

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**Legend**

- Well Locations (ims.wvgs.wvnet.edu)
- Breckenridge S - 24HM
- Marcellus Drilled Laterals
- Utica Drilled Laterals
- 500 Ft. Buffer
- Major Highways
- Major Roads
- ▭ Counties
- ▭ Districts

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Environmental Protection



# Breckenridge S - 24HM Cameron District Marshall County, WV



Map Prepared by:  
**EPS**  
LAND SERVICES  
01/28/2022

**BRECKENRIDGE S LEASE  
WELL 24HM  
TUG HILL OPERATING**

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

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

NAD'83 S.P.C.(FT)	N. 486,524.62	E. 1,552,040.74
NAD'83 GEO.	LAT-(N) 39.830308	LONG-(W) 80.626859
NAD'83 UTM (M)	N. 4,408,989.72	E. 531,929.95

**LANDING POINT**

NAD'83 S.P.C.(FT)	N. 484,913.8	E. 1,653,956.2
NAD'83 GEO.	LAT-(N) 39.825950	LONG-(W) 80.619988
NAD'83 UTM (M)	N. 4,408,508.7	E. 532,521.7

**BOTTOM HOLE**

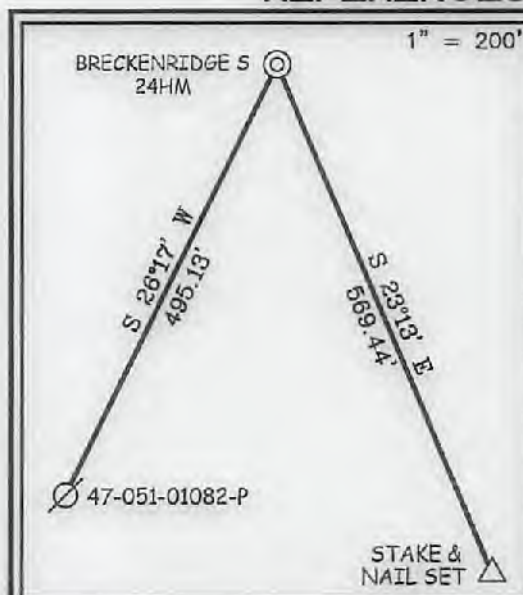
NAD'83 S.P.C.(FT)	N. 476,213.2	E. 1,656,165.4
NAD'83 GEO.	LAT-(N) 39.802141	LONG-(W) 80.611719
NAD'83 UTM (M)	N. 4,405,869.3	E. 533,239.1

TAG	SURFACE OWNER	PARCEL	ACRES
A	CNX LAND, LLC	3-19-76	53.25
B	CNX LAND, LLC	3-18-1	30.00
C	KEVIN R. EVANS	3-18-2	63.89
D	DAVID L. & ARIANNE R. ROBINSON	3-18-3.3	16.884
E	OLIVIA SUZANNE HUBBS	7-1-13	120.937
F	MOLLY KAY HUBBS COLLINS, ET AL	7-1-15	57.32
G	MOLLY KAY HUBBS COLLINS, ET AL	7-1-16	54.44
H	JEAN JAMISON	7-1-19	51.89
I	WILLARD JUNIOR EVANS & ROSE MARIE EVANS - LIFE	7-7-9	2.214
J	JEAN JAMISON	7-7-9.1	97.896

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
3-18-5	MOLLY KAY HUBBS COLLINS & OLIVIA SUZANNE HUBBS	25.372
3-18-6.1	AEP WEST VIRGINIA TRANSMISSION COMPANY	10.175
3-18-38	OLIVIA SUZANNE HUBBS	0.433
7-1-5.2	NICHOLAS J. EVANS	22.42
7-1-6	NANCY L. PARSONS	1.00
7-1-8	NANCY L. PARSONS - LIFE	33.00
7-2-3.1	RICKIE GENE FRYE	37.8578

T.H. LONGITUDE 80°37'30"  
B.H. LONGITUDE 80°35'00"  
1,103' T.H.  
11,363' B.H.

**REFERENCES**



**NOTES ON SURVEY**

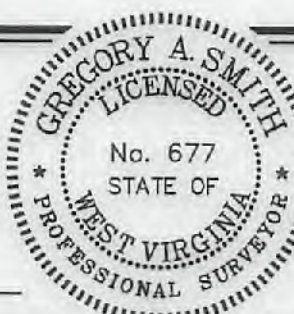
- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=200'



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26031 | 304.462.5654  
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952  
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296  
slew.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 OCTOBER 13, 20 21  
REVISED \_\_\_\_\_, 20 \_\_\_\_\_  
OPERATORS WELL NO. BRECKENRIDGE S-24HM  
API WELL NO. 47 — 051 — 02431  
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 9026P24HM.dwg  
BRECKENRIDGE S-24HM REV0  
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  LIQUID INJECTION  WASTE DISPOSAL  IF "GAS" PRODUCTION  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION GROUND = 1,382.90' 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 0.17±

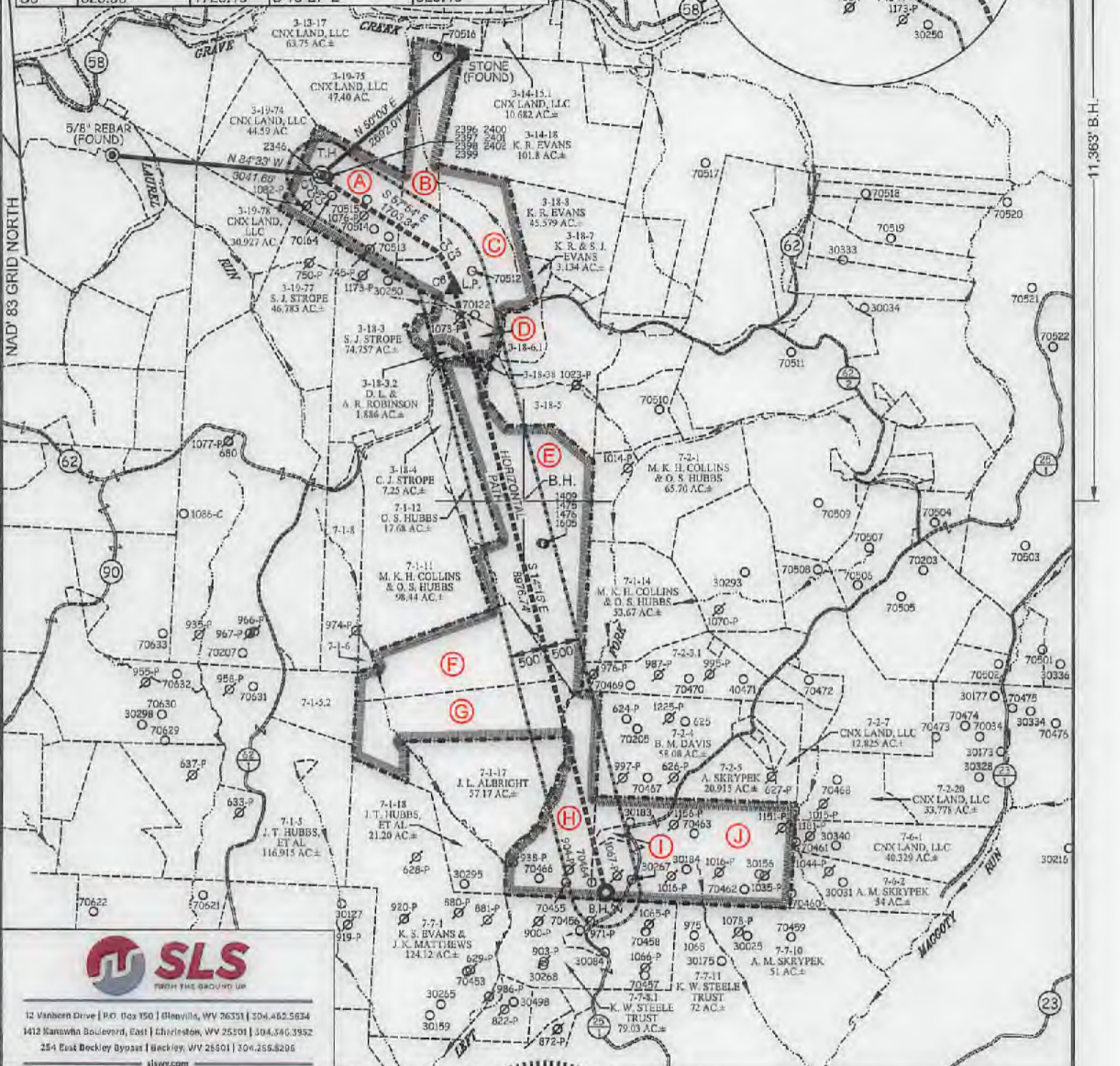
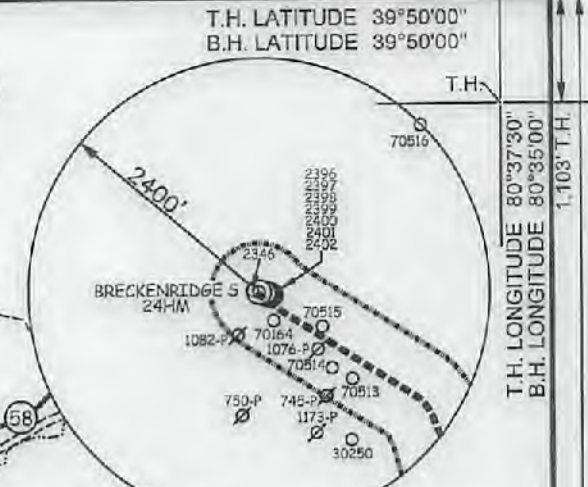
PROPOSED WORK: LEASE NO. SEE WW-6A1  
DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  PLUG AND ABANDON  CLEAN OUT AND REPLUG  OTHER   
PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_ TARGET FORMATION MARCELLUS  
ESTIMATED DEPTH TVD: 7,154' / TMD: 16,777'

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN - CT CORPORATION  
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5098 WASHINGTON ST. W, STE 407  
FORT WORTH, TX 76107 CHARLESTON, WV 25313-1561

COUNTY NAME  
PERMIT

**BRECKENRIDGE S LEASE  
WELL 24HM  
TUG HILL OPERATING**

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	27.29'	88.61'	S 24°07' E	27.18'
C2	78.11'	295.22'	S 43°07' E	77.88'
C3	168.78'	1324.53'	S 54°33' E	168.66'
C4	94.37'	315.63'	S 46°52' E	94.02'
C5	177.48'	827.55'	S 31°29' E	177.14'
C6	329.95'	1725.19'	S 19°27' E	329.45'



12 Vanborn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5834  
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952  
 254 East Beckley Bypass | Beckley, WV 26601 | 304.255.8205  
 slsww.com

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
 NAD'83 S.P.C.(FT) N. 486,524.82 E. 1,852,040.74  
 NAD'83 GEO. LAT-(N) 39.830306 LONG-(W) 80.628859  
 NAD'83 UTM (M) N. 4,403,989.72 E. 531,929.95  
**LANDING POINT**  
 NAD'83 S.P.C.(FT) N. 484,913.8 E. 1,853,956.2  
 NAD'83 GEO. LAT-(N) 39.825950 LONG-(W) 80.619868  
 NAD'83 UTM (M) N. 4,408,508.7 E. 532,521.7  
**BOTTOM HOLE**  
 NAD'83 S.P.C.(FT) N. 476,213.2 E. 1,856,165.4  
 NAD'83 GEO. LAT-(N) 39.802141 LONG-(W) 80.617119  
 NAD'83 UTM (M) N. 4,405,869.3 E. 533,239.1



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 P.S. 677 *Gregory A. Smith*  
**LEGEND**  
 LEASE LINE  
 SURFACE LINE  
 WELL LATERAL  
 OFFSET LINE  
 TIE LINE  
 CREEK  
 ROAD  
 COUNTY ROUTE  
 PROPOSED WELL  
 EXISTING WELL  
 PERMITTED WELL  
 TAX MAP-PARCEL  
 SURFACE OWNER (SEE TABLE)  
 LEASE # (SEE WW-6A1)

SCALE 1" = 2000' FILE NO. 9026P24HM.dwg  
**BRECKENRIDGE S-24HM REV0**  
 DATE OCTOBER 13 20 21  
 REVISED 20 20  
 OPERATORS WELL NO. BRECKENRIDGE S-24HM  
 API WELL NO. 47-051-02431  
 STATE COUNTY PERMIT

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

COUNTY NAME PERMIT

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN - CT CORPORATION  
 ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5098 WASHINGTON ST. W, STE 407  
 FORT WORTH, TX 76107 CHARLESTON, WV 25313-1561

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6A, Section 5(a)(5)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
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\*See attached pages

**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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

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

Lease ID	TMP	Tag	Grantor, Lessor, Etc	Grantee, Lessee, Etc.	Royalty	Deed Book/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
10*31241	3-19-76	A	JAMES R. WAYT, CONVEYED ON 12/3/2013 TO MERIDIUS VENTURES, LLC AND HASAN'S VENTURES, LLC IN DB 811/494	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	729 40	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, LLC, Republic Partners 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, CONVEYED ON 12/3/2013 TO MERIDIUS VENTURES, LLC AND HASAN'S VENTURES, LLC IN DB 811/494	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	729 49	N/A	N/A	N/A	Trans Energy Inc to Republic Energy Ventures LLC: 24/260	Republic Energy Ventures LLC, Republic Partners VII, LP, Republic Partners VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to TH Exploration LLC: 48/21
10*31251	3-18-1	B	GOSHORN RIDGE LLC	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	723 192	Trans Energy Inc to Republic Energy Ventures LLC: 24/425	Trans Energy Inc to American Shale Development Inc: 27/172	Republic Energy Ventures LLC to Republic Partners VIII, LLC: 27/638 & 28/184	American Shale Development Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII, LLC, Republic Partners VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to TH Exploration LLC: 48/21
10*17925	3-18-1	B	BOUNTY MINERALS LLC	TH EXPLORATION LLC	1/8+	928 393	N/A	N/A	N/A	N/A	N/A	N/A
10*31251	3-18-2	C	GOSHORN RIDGE LLC	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	723 192	Trans Energy Inc to Republic Energy Ventures LLC: 24/425	Trans Energy Inc to American Shale Development Inc: 27/172	Republic Energy Ventures LLC to Republic Partners VIII, LLC: 27/638 & 28/184	American Shale Development Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII, LLC, Republic Partners VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to TH Exploration LLC: 48/21
10*17925	3-18-2	C	BOUNTY MINERALS LLC	TH EXPLORATION LLC	1/8+	928 393	N/A	N/A	N/A	N/A	N/A	N/A
10*31251	3-18-3.3	D	GOSHORN RIDGE LLC	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	723 192	Trans Energy Inc to Republic Energy Ventures LLC: 24/425	Trans Energy Inc to American Shale Development Inc: 27/172	Republic Energy Ventures LLC to Republic Partners VIII, LLC: 27/638 & 28/184	American Shale Development Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII, LLC, Republic Partners VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to TH Exploration LLC: 48/21
10*31251	7-1-13	E	GOSHORN RIDGE LLC	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	723 192	Trans Energy Inc to Republic Energy Ventures LLC: 24/425	Trans Energy Inc to American Shale Development Inc: 27/172	Republic Energy Ventures LLC to Republic Partners VIII, LLC: 27/638 & 28/184	American Shale Development Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII, LLC, Republic Partners VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to TH Exploration LLC: 48/21
10*17925	7-1-13	E	BOUNTY MINERALS LLC	TH EXPLORATION LLC	1/8+	928 393	N/A	N/A	N/A	N/A	N/A	N/A
10*31251	7-1-15	F	GOSHORN RIDGE LLC	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	723 192	Trans Energy Inc to Republic Energy Ventures LLC: 24/425	Trans Energy Inc to American Shale Development Inc: 27/172	Republic Energy Ventures LLC to Republic Partners VIII, LLC: 27/638 & 28/184	American Shale Development Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII, LLC, Republic Partners VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to TH Exploration LLC: 48/21
10*17925	7-1-15	F	BOUNTY MINERALS LLC	TH EXPLORATION LLC	1/8+	928 393	N/A	N/A	N/A	N/A	N/A	N/A
10*31251	7-1-16	G	GOSHORN RIDGE LLC	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	723 192	Trans Energy Inc to Republic Energy Ventures LLC: 24/425	Trans Energy Inc to American Shale Development Inc: 27/172	Republic Energy Ventures LLC to Republic Partners VIII, LLC: 27/638 & 28/184	American Shale Development Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII, LLC, Republic Partners VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to TH Exploration LLC: 48/21
10*17925	7-1-16	G	BOUNTY MINERALS LLC	TH EXPLORATION LLC	1/8+	928 393	N/A	N/A	N/A	N/A	N/A	N/A
10*17925	7-1-19	H	BOUNTY MINERALS LLC	TH EXPLORATION LLC	1/8+	928 393	N/A	N/A	N/A	N/A	N/A	N/A
10*31251	7-1-19	H	GOSHORN RIDGE LLC	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	723 192	Trans Energy Inc to Republic Energy Ventures LLC: 24/425	Trans Energy Inc to American Shale Development Inc: 27/172	Republic Energy Ventures LLC to Republic Partners VIII, LLC: 27/638 & 28/184	American Shale Development Inc to Republic Partners VIII LLC: 31/482	Republic Energy Ventures LLC, Republic Partners VI, LP, Republic Partners VII, LLC, Republic Partners VIII, LLC, and Republic Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to TH Exploration LLC: 48/21
10*28335	7-7-9	I	DENNIS H TEDROW AND LINDA S TEDROW	TH EXPLORATION LLC	1/8+	1070 442	N/A	N/A	N/A	N/A	N/A	N/A
10*28336	7-7-9	I	DUSTIN K TEDROW AND JENNIFER M TEDROW	TH EXPLORATION LLC	1/8+	1070 440	N/A	N/A	N/A	N/A	N/A	N/A
10*29038	7-7-9	I	CONSTANCE L LINT TRUST CONSTANCE LINT TRUSTEE	TH EXPLORATION LLC	1/8+	1083 369	N/A	N/A	N/A	N/A	N/A	N/A

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10*29069	7-7-9	I	CAROLYN A POSTLETHWAITE	TH EXPLORATION LLC	1/8+	1083	548	N/A			N/A	N/A	N/A	N/A
10*29114	7-7-9	I	TERRY WITHEROW AND JAY WITHEROW	TH EXPLORATION LLC	1/8+	1084	396	N/A			N/A	N/A	N/A	N/A
10*29138	7-7-9	I	DEBORAH ANN GORBY	TH EXPLORATION LLC	1/8+	1085	180	N/A			N/A	N/A	N/A	N/A
10*29513	7-7-9	I	TRACY J WEGENDT	TH EXPLORATION LLC	1/8+	1096	292	N/A			N/A	N/A	N/A	N/A
10*29766	7-7-9	I	STEWART TEDROW	TH EXPLORATION LLC	1/8+	1100	260	N/A			N/A	N/A	N/A	N/A
10*29939	7-7-9	I	DONALD E SHANOR AND BETSY SHANOR	TH EXPLORATION LLC	1/8+	1103	547	N/A			N/A	N/A	N/A	N/A
10*30154	7-7-9	I	MICHELLE ABRAMS AND DONALD A ABRAMS	TH EXPLORATION LLC	1/8+	1104	641	N/A			N/A	N/A	N/A	N/A
10*30155	7-7-9	I	CHARLES WAYNE 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
10*30156	7-7-9	I	RAYMOND L MITCHELL AND JANET L MITCHELL	TH EXPLORATION LLC	1/8+	1104	637	N/A			N/A	N/A	N/A	N/A
10*30157	7-7-9	I	EDISON K MITCHELL AND MARILEE J MITCHELL	TH EXPLORATION LLC	1/8+	1104	645	N/A			N/A	N/A	N/A	N/A
10*30483	7-7-9	I	DAVID W MITCHELL	TH EXPLORATION LLC	1/8+	1105	1	N/A			N/A	N/A	N/A	N/A
10*30604	7-7-9	I	JANICE CAROLYN HETRICK AND RICHARD HETRICK	TH EXPLORATION LLC	1/8+	1107	108	N/A			N/A	N/A	N/A	N/A
10*30605	7-7-9	I	CAMMIE WILSON AND CLINT A WILSON	TH EXPLORATION LLC	1/8+	1110	529	N/A			N/A	N/A	N/A	N/A
10*30606	7-7-9	I	NEIL EDWARD WILSON	TH EXPLORATION LLC	1/8+	1110	526	N/A			N/A	N/A	N/A	N/A
10*38536	7-7-9	I	JOHN SAMUEL TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	757	276	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/104	
10*38537	7-7-9	I	JAMES W RAYMOND	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	789	299	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/604	
10*30157	7-7-9	I	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	
10*38542	7-7-9	I	MARILYN D HOGAN	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	490	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/104	
10*38543	7-7-9	I	CHARLES ROBERT TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	757	277	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/104	
10*30156	7-7-9	I	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	
10*38549	7-7-9	I	ROBERT TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	491	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/104	
10*38551	7-7-9	I	BONNIE LOU SELLERS MURPHY	EQT PRODUCTION COMPANY	1/8+	961	572	N/A	N/A	N/A	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/604	
10*38553	7-7-9	I	THOMAS E MITCHELL	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	747	91	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/104	
10*38554	7-7-9	I	JACK E DILLE AND MELISSA DILLE	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	757	267	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/104	

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10*38557	7-7-9	I	DEBBIE DEGROFF	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	508	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/104
10*38571	7-7-9	I	EQT PRODUCTION COMPANY	SWN ENERGY COMPANY LLC & EQUINOR USA ONSHORE PROPERTIES INC	1/8+	1065	545	N/A	N/A	N/A	N/A	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38574	7-7-9	I	JANET L BURA AND MARK BURA	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	757	266	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/104
10*38578	7-7-9	I	LLOYD TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	754	18	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/104
10*38581	7-7-9	I	GUY DILLE AND DOROTHY DILLE	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	758	613	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38587	7-7-9	I	CAROLE A SIMMONS	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	759	596	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38599	7-7-9	I	MARY LOU HARRISON	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	759	598	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38601	7-7-9	I	KIMBERLY J DURENDA AND LARRY K DURENDA	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	754	10	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/104
10*38602	7-7-9	I	SUSAN L CLENNENING	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	761	290	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38612	7-7-9	I	CHARLES F MARTIN JR	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	777	592	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38617	7-7-9	I	GARY L TEDROW, JR.	TH EXPLORATION LLC	1/8+	1120	160	N/A	N/A	N/A	N/A	N/A	N/A
10*38621	7-7-9	I	BEVERLY L DILLE ET AL.	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	777	593	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinore USA Onshore Properties Inc to TH Exploration LLC: 49/604

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10*38630	7-7-9	I	MARJORIE HARTMAN	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	493	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104
10*38632	7-7-9	I	RHEA M TEDROW	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	784	189	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38636	7-7-9	I	KRISTINA KOLLER	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	787	131	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38648	7-7-9	I	BONNIE S MORRIS AND RONALD E MORRIS	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	577	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104
10*38649	7-7-9	I	B PAUL DILLE AND SHERRY DILLE	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	753	648	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104
10*38653	7-7-9	I	SANDRA LINT	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	787	130	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38658	7-7-9	I	KYLE OWENS	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	789	296	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38689	7-7-9	I	ROBERT J RAYMOND	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	789	295	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*39020	7-7-9	I	MARCIE WITHEROW	TH EXPLORATION LLC	1/8+	1110	515	N/A	N/A	N/A	N/A	N/A	N/A
10*39051	7-7-9	I	SUZANNE TAYLOR	TH EXPLORATION LLC	1/8+	1104	635	N/A	N/A	N/A	N/A	N/A	N/A
10*39054	7-7-9	I	CANDY SUE DELANEY AND LESLIE R DELANEY	TH EXPLORATION LLC	1/8+	1110	533	N/A	N/A	N/A	N/A	N/A	N/A
10*39057	7-7-9	I	CHARLES WAYNE VARNER	TH EXPLORATION LLC	1/8+	1110	536	N/A	N/A	N/A	N/A	N/A	N/A
10*39255	7-7-9	I	TRUDY D FERNANDEZ AND MICHAEL FERNANDEZ	TH EXPLORATION LLC	1/8+	1111	580	N/A	N/A	N/A	N/A	N/A	N/A
10*39283	7-7-9	I	ALICE FAYE VARNER	TH EXPLORATION LLC	1/8+	1114	38	N/A	N/A	N/A	N/A	N/A	N/A
10*39337	7-7-9	I	FAMILY TREE CORPORATION	TH EXPLORATION LLC	1/8+	1117	57	N/A	N/A	N/A	N/A	N/A	N/A
10*39338	7-7-9	I	FAMILY TREE CORPORATION	TH EXPLORATION LLC	1/8+	1117	55	N/A	N/A	N/A	N/A	N/A	N/A
10*39384	7-7-9	I	JOYCE LYNNE LOWRY AND STEVE LOWRY	TH EXPLORATION LLC	1/8+	1114	314	N/A	N/A	N/A	N/A	N/A	N/A
10*39403	7-7-9	I	JEFFREY LINN DILLE	TH EXPLORATION LLC	1/8+	1114	512	N/A	N/A	N/A	N/A	N/A	N/A
10*39408	7-7-9	I	WILLIAM GUY DILLE	TH EXPLORATION LLC	1/8+	1118	263	N/A	N/A	N/A	N/A	N/A	N/A
10*28335	7-7-9.1	J	DENNIS H TEDROW AND LINDA S TEDROW	TH EXPLORATION LLC	1/8+	1070	442	N/A	N/A	N/A	N/A	N/A	N/A
10*28336	7-7-9.1	J	DUSTIN K TEDROW AND JENNIFER M TEDROW	TH EXPLORATION LLC	1/8+	1070	440	N/A	N/A	N/A	N/A	N/A	N/A
10*29038	7-7-9.1	J	CONSTANCE L LINT TRUST CONSTANCE LINT TRUSTEE	TH EXPLORATION LLC	1/8+	1083	369	N/A	N/A	N/A	N/A	N/A	N/A
10*29069	7-7-9.1	J	CAROLYN A POSTLETHWAITE	TH EXPLORATION LLC	1/8+	1083	548	N/A	N/A	N/A	N/A	N/A	N/A
10*29114	7-7-9.1	J	TERRY WITHEROW AND JAY WITHEROW	TH EXPLORATION LLC	1/8+	1084	396	N/A	N/A	N/A	N/A	N/A	N/A

Well ID	Acquisition Date	Operator	Owner	Interest	Acres	Production	Reserves	Production	Reserves	Production	Reserves	Production	Reserves	Production	Reserves
10*29138	7-7-9.1	J	DEBORAH ANN GORBY	TH EXPLORATION LLC	1/8+	1085	180	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29513	7-7-9.1	J	TRACY J WEGENDT	TH EXPLORATION LLC	1/8+	1096	292	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29766	7-7-9.1	J	STEWART TEDROW	TH EXPLORATION LLC	1/8+	1100	260	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29939	7-7-9.1	J	DONALD E SHANOR AND BETSY SHANOR	TH EXPLORATION LLC	1/8+	1103	547	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30154	7-7-9.1	J	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	N/A
10*30155	7-7-9.1	J	CHARLES WAYNE 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	N/A
10*30156	7-7-9.1	J	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	N/A
10*30157	7-7-9.1	J	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	N/A
10*30483	7-7-9.1	J	DAVID W MITCHELL	TH EXPLORATION LLC	1/8+	1105	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30604	7-7-9.1	J	JANICE CAROLYN HETRICK AND RICHARD HETRICK	TH EXPLORATION LLC	1/8+	1107	108	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30605	7-7-9.1	J	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	N/A
10*30606	7-7-9.1	J	NEIL EDWARD WILSON	TH EXPLORATION LLC	1/8+	1110	526	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*38536	7-7-9.1	J	JOHN SAMUEL TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	757	276	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104		
10*38537	7-7-9.1	J	JAMES W RAYMOND	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	789	299	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604		
10*30157	7-7-9.1	J	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	N/A
10*38542	7-7-9.1	J	MARILYN D HOGAN	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	490	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104		
10*38543	7-7-9.1	J	CHARLES ROBERT TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	757	277	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104		
10*30156	7-7-9.1	J	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	N/A
10*38549	7-7-9.1	J	ROBERT TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	491	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104		
10*38551	7-7-9.1	J	BONNIE LOU SELLERS MURPHY	EQT PRODUCTION COMPANY	1/8+	961	572	N/A	N/A	N/A	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604		
10*38553	7-7-9.1	J	THOMAS E MITCHELL	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	747	91	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104		
10*38554	7-7-9.1	J	JACK E DILLE AND MELISSA DILLE	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	757	267	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104		

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10*38557	7-7-9.1	J	DEBBIE DEGROFF	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	508	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 Energy Operating LLC to EQT Production Company: 37/25	EQT Production Company to SWN Production Company & Equinor USA Onshore Properties Inc: 44/489	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104
10*38571	7-7-9.1	J	EQT PRODUCTION COMPANY	SWN ENERGY COMPANY LLC & EQUINOR USA ONSHORE PROPERTIES INC	1/8+	1065	545	N/A	N/A	N/A	N/A	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38574	7-7-9.1	J	JANET L BURA AND MARK BURA	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	757	266	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104
10*38578	7-7-9.1	J	LLOYD TEDROW	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	754	18	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104
10*38581	7-7-9.1	J	GUY DILLE AND DOROTHY DILLE	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	758	613	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38587	7-7-9.1	J	CAROLE A SIMMONS	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	759	596	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38599	7-7-9.1	J	MARY LOU HARRISON	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	759	598	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38601	7-7-9.1	J	KIMBERLY J DURENDA AND LARRY K DURENDA	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	754	10	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104
10*38602	7-7-9.1	J	SUSAN L CLENNENING	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	761	290	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38612	7-7-9.1	J	CHARLES F MARTIN JR	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	777	592	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38617	7-7-9.1	J	GARY L TEDROW, JR.	TH EXPLORATION LLC	1/8+	1120	160	N/A	N/A	N/A	N/A	N/A	N/A
10*38621	7-7-9.1	J	BEVERLY L DILLE ET AL.	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	777	593	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604

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10*38632	7-7-9.1	J	RHEA M TEDROW	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	784	189	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38636	7-7-9.1	J	KRISTINA KOLLER	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	787	131	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38648	7-7-9.1	J	BONNIE S MORRIS AND RONALD E MORRIS	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	750	577	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104
10*38649	7-7-9.1	J	B PAUL DILLE AND SHERRY DILLE	TRANS ENERGY INC AND REPUBLIC PARTNERS VI LP	1/8+	753	648	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	SWN Production Company LLC to TH Exploration LLC: 49/120	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/104
10*38653	7-7-9.1	J	SANDRA LINT	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	787	130	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38658	7-7-9.1	J	KYLE OWENS	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	789	296	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*38689	7-7-9.1	J	ROBERT J RAYMOND	AMERICAN SHALE DEVELOPMENT INC AND REPUBLIC ENERGY VENTURES LLC	1/8+	789	295	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	SWN Production Company LLC to TH Exploration LLC: 49/635	Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/604
10*39020	7-7-9.1	J	MARCIE WITHEROW	TH EXPLORATION LLC	1/8+	1110	515	N/A	N/A	N/A	N/A	N/A	N/A
10*39051	7-7-9.1	J	SUZANNE TAYLOR	TH EXPLORATION LLC	1/8+	1104	635	N/A	N/A	N/A	N/A	N/A	N/A
10*39054	7-7-9.1	J	CANDY SUE DELANEY AND LESLIE R DELANEY	TH EXPLORATION LLC	1/8+	1110	533	N/A	N/A	N/A	N/A	N/A	N/A
10*39057	7-7-9.1	J	CHARLES WAYNE VARNER	TH EXPLORATION LLC	1/8+	1110	536	N/A	N/A	N/A	N/A	N/A	N/A
10*39255	7-7-9.1	J	TRUDY D FERNANDEZ AND MICHAEL FERNANDEZ	TH EXPLORATION LLC	1/8+	1111	580	N/A	N/A	N/A	N/A	N/A	N/A
10*39283	7-7-9.1	J	ALICE FAYE VARNER	TH EXPLORATION LLC	1/8+	1114	38	N/A	N/A	N/A	N/A	N/A	N/A
10*39337	7-7-9.1	J	FAMILY TREE CORPORATION	TH EXPLORATION LLC	1/8+	1117	57	N/A	N/A	N/A	N/A	N/A	N/A
10*39338	7-7-9.1	J	FAMILY TREE CORPORATION	TH EXPLORATION LLC	1/8+	1117	55	N/A	N/A	N/A	N/A	N/A	N/A
10*39384	7-7-9.1	J	JOYCE LYNNE LOWRY AND STEVE LOWRY	TH EXPLORATION LLC	1/8+	1114	314	N/A	N/A	N/A	N/A	N/A	N/A
10*39403	7-7-9.1	J	JEFFREY LINN DILLE	TH EXPLORATION LLC	1/8+	1114	512	N/A	N/A	N/A	N/A	N/A	N/A
10*39408	7-7-9.1	J	WILLIAM GUY DILLE	TH EXPLORATION LLC	1/8+	1118	263	N/A	N/A	N/A	N/A	N/A	N/A

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 Environmental Protection

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 EQUINOR USA ONSHORE PROPERTIES, INC., a Delaware corporation ("*Assignor*"), to TH Exploration, LLC, a Texas limited liability company ("*Assignee*"), and is executed on October 18, 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 15, 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*") INSOFAR AND ONLY INSOFAR as they cover those lands described on Exhibit A and Exhibit A-1 (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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December 13, 2021

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

RE: Breckenridge S-24HM

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 62/1 in the area reflected on the Breckenridge S-24HM 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-hillop.com](mailto:amorris@tug-hillop.com).

Sincerely,

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

Amy L. Morris  
Permitting Specialist – Appalachia Region

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

Date of Notice Certification: 12/03/2021

API No. 47- 051 - \_\_\_\_\_  
Operator's Well No. Breckenridge S-24HM  
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	Eastings:	<u>531,929.91</u>
County:	<u>Marshall</u>		Northings:	<u>4,408,989.75</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) &amp; 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.

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:  *PLEASE CHECK ALL THAT APPLY		<b>OOG OFFICE USE ONLY</b>
<input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED		<input type="checkbox"/> RECEIVED/ NOT REQUIRED
<input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED		<input type="checkbox"/> RECEIVED
<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  <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)		<input type="checkbox"/> RECEIVED/ NOT REQUIRED
<input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION	RECEIVED Office of Oil and Gas  DEC 14 2021  WV Department of Environmental Protection	<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 5. PUBLIC NOTICE		<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		<input type="checkbox"/> RECEIVED

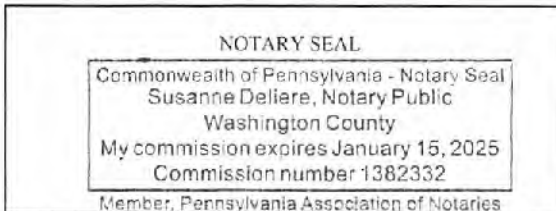
**Required Attachments:**

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:	<u>Tug Hill Operating, LLC</u>	Address:	<u>380 Southpointe Boulevard, Plaza II, Suite 200</u>
By:	<u>Amy L. Morris <i>Amy L. Morris</i></u>		<u>Canonsburg, PA 15317</u>
Its:	<u>Permitting Specialist - Appalachia Region</u>	Facsimile:	<u>724-338-2030</u>
Telephone:	<u>724-749-8388</u>	Email:	<u>amorris@tug-hillop.com</u>



Subscribed and sworn before me this 2<sup>nd</sup> day of December, 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 [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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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: 12/3/2021 Date Permit Application Filed: 12/6/2021

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

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**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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/Oil-and-Gas/pages/default.aspx](http://www.dep.wv.gov/Oil-and-Gas/pages/default.aspx).

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**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 one 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

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 57<sup>th</sup> 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 - 02431  
OPERATOR WELL NO. Breckenridge S-24HM  
Well Pad Name: Breckenridge

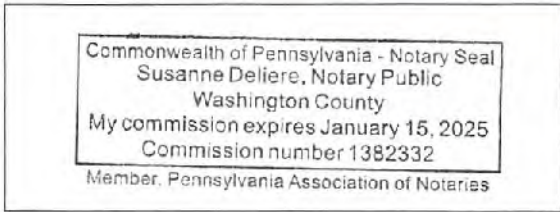
**Notice is hereby given by:**

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

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 [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).



Subscribed and sworn before me this 2nd day of December, 2021  
Susanne 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 – 24HM  
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><b>Residence (#1)</b> TM 3-19-78 CNX Land, LLC <b>Phone:</b> 724-485-4000 <b>Physical Address:</b> Unknown – Possible Unoccupied Home or Hunting Cabin <b>Tax Address:</b> 1000 Consol Energy DR Canonsburg, PA 15317-6506</p>
---

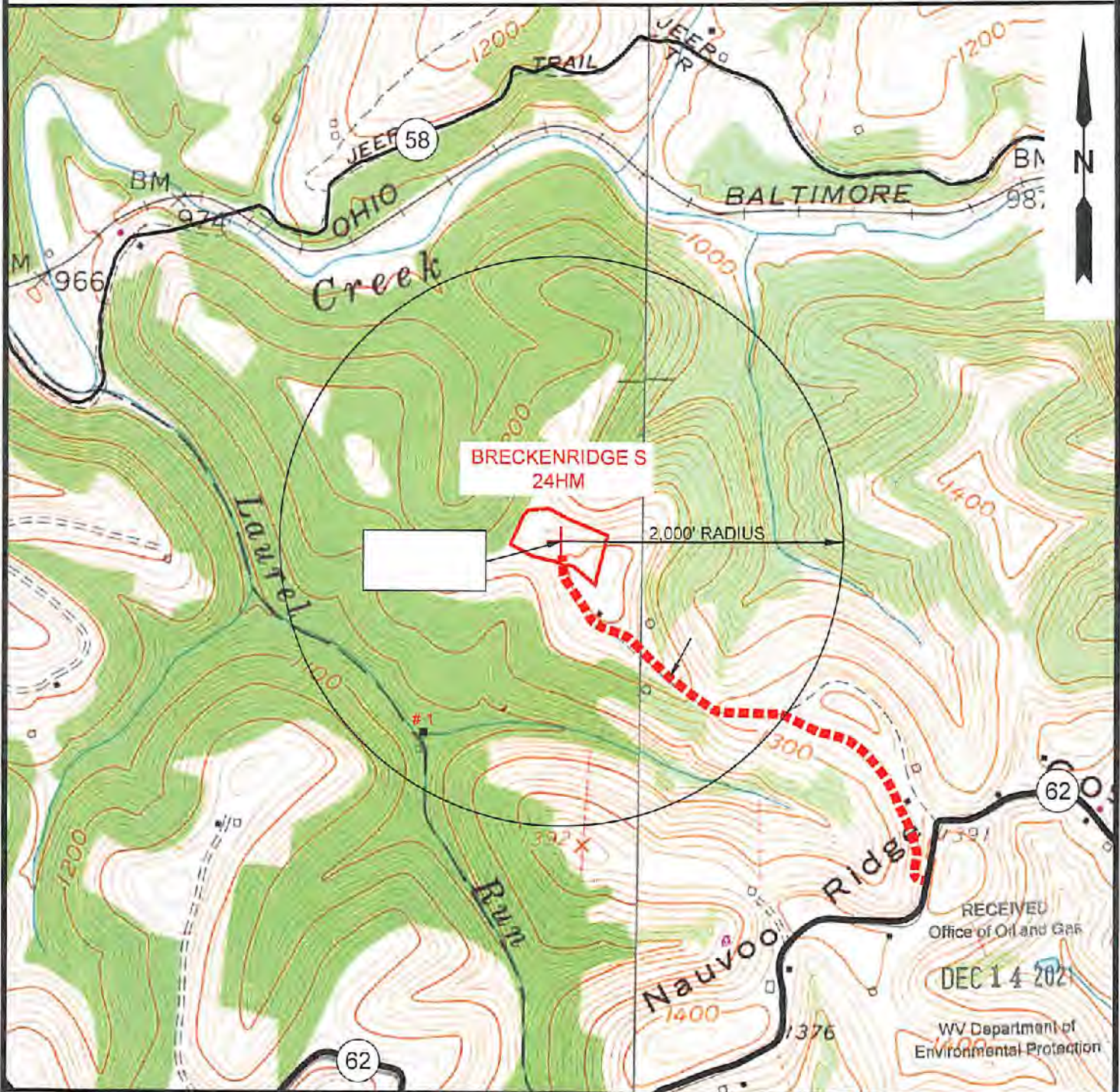
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# PROPOSED BRECKENRIDGE S - 24HM



**BRECKENRIDGE S  
24HM**

2,000' RADIUS

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



12 Vanhorn Drive | PO Box 150 | Glenville, WV 26351 | 304.462.5634  
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.546.3352  
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296  
slsw.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR:	
COUNTY	DISTRICT	TUG HILL OPERATING, LLC	
MARSHALL	CAMERON	390 SOUTHPOINTE BLVD	
		SUITE 200	
		CANONSBURG, PA 15317	
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	9026	09/23/2021	1" = 1000'



**TUG HILL  
OPERATING**

01/28/2022

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

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: West Virginia
County: Marshall
District: Cameron
Quadrangle: Glen Easton 7.5'
Approx. Latitude & Longitude: 39.83027651; -80.62665846
Public Road Access: County Route 62
Watershed: Grave Creek (HUC 10) and Laurel Run
Generally used farm name: CNX Land, LLC

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 5th 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.

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Notice is hereby given by:

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

Address: 380 Southpointe Boulevard, Plaza II, Suite 200
Canonsburg, PA 15317
Facsimile: 724-338-2020
WV Department of Environmental Protection

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.

01/28/2022

**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-24HM

**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:** 12/03/2021      **Date Permit Application Filed:** 12/06/2021

**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>531,929.91</u>
County:	<u>Marshall</u>		Northing:	<u>4,408,989.75</u>
District:	<u>Cameron</u>	Public Road Access:	<u>CR 62</u>	
Quadrangle:	<u>Glen Easton 7.5'</u>	Generally used farm name:	<u>CNX Land, LLC</u>	
Watershed:	<u>Grace Creek (Huc 10) &amp; Laurel Run</u>			

**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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

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

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

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**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](mailto:depprivacyofficer@wv.gov).

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**Additional Notice for WW-6A5**

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

D. Alan Reed, P.E.  
State Highway Engineer

Jimmy Wriston, P. E.  
Secretary of Transportation  
Commissioner of Highways

November 17, 2021

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

Subject: DOH Permit for the Breckenridge Pad, Marshall County  
Breckenridge S-24HM Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2020-0398 which has been issued to Tug Hill Operating LLC 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 STATEWIDE 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. This letter is valid for permitting purposes for one year from the date of this letter.

Very Truly Yours,

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

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

01/28/2022



TUG HILL

4705102431

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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# Breckenridge Coal Exhibit



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# Breckenridge Well Site

Site Design, Construction Plan, &  
Erosion and Sediment Control Plans

Tug Hill Operating  
Marshall County  
Cameron District

Latitude 39.83027651°  
Longitude -80.62685846°  
Middle Grave Creek Watershed

**Pertinent Site Information**  
Breckenridge Site  
Emergency Number: 304-845-1920  
Cameron District, Marshall County, WV  
Watershed: Middle Grave Creek Watershed  
Site 911 Address

Tug Hill Contact Number: 1-817-632-3400

WEST VIRGINIA  
COUNTY MAP

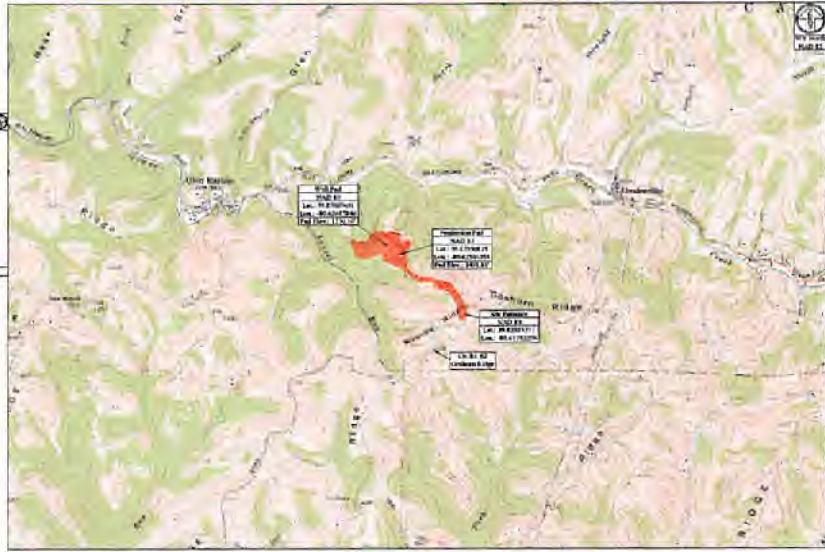


## Exhibit A: Final Design: Issue for Permitting

Owner	Acres	Area	Area	Area	Area	Area	Area
Land & Timber Holdings	24.5	24.5	0	0	0	0	24.5
Conry Farm	8.2	8.2	0	0	0	0	8.2
TKC Land, LLC	1.2	1.2	0	0	0	0	1.2
TKC Land, LLC	1.2	1.2	0	0	0	0	1.2
TKC Land, LLC	1.2	1.2	0	0	0	0	1.2
TKC Land, LLC	1.2	1.2	0	0	0	0	1.2
<b>Total</b>	<b>38.3</b>	<b>38.3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>38.3</b>

WV State Plane Cartesian System  
North Zone, NAD83  
Elevation based on NAVD83  
Established by Survey Instruments  
and GPS Processing

Access Road			
Station	WV Point	Point	Length
Station 1	WV 1000.000	Point 1	100.000
Station 2	WV 1000.000	Point 2	100.000
Station 3	WV 1000.000	Point 3	100.000
Station 4	WV 1000.000	Point 4	100.000
Station 5	WV 1000.000	Point 5	100.000
Station 6	WV 1000.000	Point 6	100.000
Station 7	WV 1000.000	Point 7	100.000
Station 8	WV 1000.000	Point 8	100.000
Station 9	WV 1000.000	Point 9	100.000
Station 10	WV 1000.000	Point 10	100.000
Station 11	WV 1000.000	Point 11	100.000
Station 12	WV 1000.000	Point 12	100.000
Station 13	WV 1000.000	Point 13	100.000
Station 14	WV 1000.000	Point 14	100.000
Station 15	WV 1000.000	Point 15	100.000
Station 16	WV 1000.000	Point 16	100.000
Station 17	WV 1000.000	Point 17	100.000
Station 18	WV 1000.000	Point 18	100.000
Station 19	WV 1000.000	Point 19	100.000
Station 20	WV 1000.000	Point 20	100.000
Station 21	WV 1000.000	Point 21	100.000
Station 22	WV 1000.000	Point 22	100.000
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Station 53	WV 1000.000	Point 53	100.000
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Station 55	WV 1000.000	Point 55	100.000
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Station 57	WV 1000.000	Point 57	100.000
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Station 86	WV 1000.000	Point 86	100.000
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Station 96	WV 1000.000	Point 96	100.000
Station 97	WV 1000.000	Point 97	100.000
Station 98	WV 1000.000	Point 98	100.000
Station 99	WV 1000.000	Point 99	100.000
Station 100	WV 1000.000	Point 100	100.000



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1/25/2021

Point	WV Point	Point	WV Point	Point	WV Point	Point	WV Point
Point 1	WV 1000.000	Point 2	WV 1000.000	Point 3	WV 1000.000	Point 4	WV 1000.000
Point 5	WV 1000.000	Point 6	WV 1000.000	Point 7	WV 1000.000	Point 8	WV 1000.000
Point 9	WV 1000.000	Point 10	WV 1000.000	Point 11	WV 1000.000	Point 12	WV 1000.000
Point 13	WV 1000.000	Point 14	WV 1000.000	Point 15	WV 1000.000	Point 16	WV 1000.000
Point 17	WV 1000.000	Point 18	WV 1000.000	Point 19	WV 1000.000	Point 20	WV 1000.000
Point 21	WV 1000.000	Point 22	WV 1000.000	Point 23	WV 1000.000	Point 24	WV 1000.000
Point 25	WV 1000.000	Point 26	WV 1000.000	Point 27	WV 1000.000	Point 28	WV 1000.000
Point 29	WV 1000.000	Point 30	WV 1000.000	Point 31	WV 1000.000	Point 32	WV 1000.000
Point 33	WV 1000.000	Point 34	WV 1000.000	Point 35	WV 1000.000	Point 36	WV 1000.000
Point 37	WV 1000.000	Point 38	WV 1000.000	Point 39	WV 1000.000	Point 40	WV 1000.000
Point 41	WV 1000.000	Point 42	WV 1000.000	Point 43	WV 1000.000	Point 44	WV 1000.000
Point 45	WV 1000.000	Point 46	WV 1000.000	Point 47	WV 1000.000	Point 48	WV 1000.000
Point 49	WV 1000.000	Point 50	WV 1000.000	Point 51	WV 1000.000	Point 52	WV 1000.000
Point 53	WV 1000.000	Point 54	WV 1000.000	Point 55	WV 1000.000	Point 56	WV 1000.000
Point 57	WV 1000.000	Point 58	WV 1000.000	Point 59	WV 1000.000	Point 60	WV 1000.000
Point 61	WV 1000.000	Point 62	WV 1000.000	Point 63	WV 1000.000	Point 64	WV 1000.000
Point 65	WV 1000.000	Point 66	WV 1000.000	Point 67	WV 1000.000	Point 68	WV 1000.000
Point 69	WV 1000.000	Point 70	WV 1000.000	Point 71	WV 1000.000	Point 72	WV 1000.000
Point 73	WV 1000.000	Point 74	WV 1000.000	Point 75	WV 1000.000	Point 76	WV 1000.000
Point 77	WV 1000.000	Point 78	WV 1000.000	Point 79	WV 1000.000	Point 80	WV 1000.000
Point 81	WV 1000.000	Point 82	WV 1000.000	Point 83	WV 1000.000	Point 84	WV 1000.000
Point 85	WV 1000.000	Point 86	WV 1000.000	Point 87	WV 1000.000	Point 88	WV 1000.000
Point 89	WV 1000.000	Point 90	WV 1000.000	Point 91	WV 1000.000	Point 92	WV 1000.000
Point 93	WV 1000.000	Point 94	WV 1000.000	Point 95	WV 1000.000	Point 96	WV 1000.000
Point 97	WV 1000.000	Point 98	WV 1000.000	Point 99	WV 1000.000	Point 100	WV 1000.000

**Project Contacts**

**TUG HILL OPERATING**  
Attention: Mike Amodeo/Asst. Mgr.  
254 833-2600 EXT. 304-845-1920

**JEFF KADON, P.E. PROJECT MANAGER**  
411-643-9300 EXT.

**PERMITTING CONTACTS**  
Cameron District  
254 845-4963 EXT.

**AGRICULTURE CONTACTS**  
Mike P. Van  
254 845-4963 EXT.

**CREW CONTACTS**  
Civil & Environmental  
254 845-4963 EXT.

**Workshop Dates:**  
Workshop dates as provided by West Virginia  
254 845-4963 EXT.

**Transportation Information**  
The responsible party must show how to reach the site through the State Highway map, State, WV

**MISS UTILITY OF WEST VIRGINIA**  
800 246-8468

**Know your utility. Call before you dig.**

The Tug Hill Operating will obtain an Erosion/Sediment Permit (Form MS-818) from the WV Department of Transportation, Division of Highways, prior to the commencement of any construction activities.

The WV Mine Waste was considered. Current mining activities are within the AUL.

WVDEP Vehicle files show that there are active and/or abandoned gas wells within the AUL.

**Approach Route:**

From the intersection of WV Rt 2 and US Rt 2 to New Martinsville, WV, Travel North on WV Rt 2 for 21.7 mi. Turn Right onto WV Rt 2 (Second Bottom Rd). Follow WV Rt 2 for 1.9 mi. Turn Right onto Co Rt 640 (Lindley Lane). Follow Co Rt 640 for 1.8 mi. Turn Right onto Co Rt 21 (Roberts Ridge). Follow Co Rt 21 for 9.1 mi. Turn Left onto Co Rt 8142 (Flow Branch). Follow Co Rt 8142 for 1.3 mi. The site entrance will be on the Left/West side of the road.

**Florida Conditions**

1. All construction activities shall be performed in accordance with the Florida Department of Transportation (FDOT) Standard Specifications for Highway Construction, 2004 Edition, Section 705.11, unless otherwise indicated.

2. All construction activities shall be performed in accordance with the Florida Department of Transportation (FDOT) Standard Specifications for Highway Construction, 2004 Edition, Section 705.12, unless otherwise indicated.

3. All construction activities shall be performed in accordance with the Florida Department of Transportation (FDOT) Standard Specifications for Highway Construction, 2004 Edition, Section 705.13, unless otherwise indicated.

4. All construction activities shall be performed in accordance with the Florida Department of Transportation (FDOT) Standard Specifications for Highway Construction, 2004 Edition, Section 705.14, unless otherwise indicated.

5. All construction activities shall be performed in accordance with the Florida Department of Transportation (FDOT) Standard Specifications for Highway Construction, 2004 Edition, Section 705.15, unless otherwise indicated.

6. All construction activities shall be performed in accordance with the Florida Department of Transportation (FDOT) Standard Specifications for Highway Construction, 2004 Edition, Section 705.16, unless otherwise indicated.

7. All construction activities shall be performed in accordance with the Florida Department of Transportation (FDOT) Standard Specifications for Highway Construction, 2004 Edition, Section 705.17, unless otherwise indicated.

8. All construction activities shall be performed in accordance with the Florida Department of Transportation (FDOT) Standard Specifications for Highway Construction, 2004 Edition, Section 705.18, unless otherwise indicated.

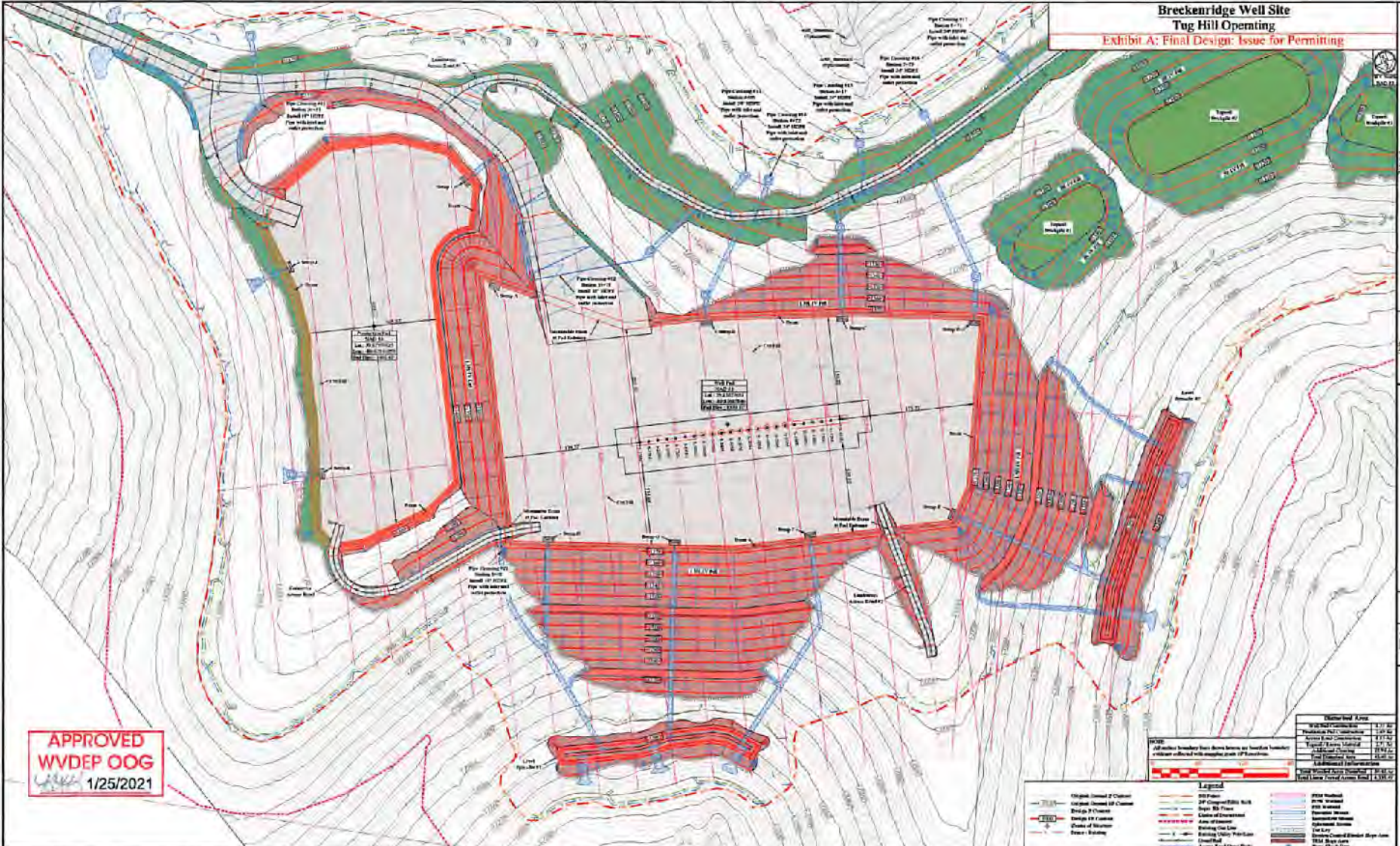
9. All construction activities shall be performed in accordance with the Florida Department of Transportation (FDOT) Standard Specifications for Highway Construction, 2004 Edition, Section 705.19, unless otherwise indicated.

10. All construction activities shall be performed in accordance with the Florida Department of Transportation (FDOT) Standard Specifications for Highway Construction, 2004 Edition, Section 705.20, unless otherwise indicated.

Site Location (NAD 83)				Site Location (NAD 83)			
Station	WV Point	Point	Length	Station	WV Point	Point	Length
Station 1	WV 1000.000	Point 1	100.000	Station 1	WV 1000.000	Point 1	100.000
Station 2	WV 1000.000	Point 2	100.000	Station 2	WV 1000.000	Point 2	100.000
Station 3	WV 1000.000	Point 3	100.000	Station 3	WV 1000.000	Point 3	100.000
Station 4	WV 1000.000	Point 4	100.000	Station 4	WV 1000.000	Point 4	100.000
Station 5	WV 1000.000	Point 5	100.000	Station 5	WV 1000.000	Point 5	100.000
Station 6	WV 1000.000	Point 6	100.000	Station 6	WV 1000.000	Point 6	100.000
Station 7	WV 1000.000	Point 7	100.000	Station 7	WV 1000.000	Point 7	100.000

**Breckenridge Well Site  
Tug Hill Opening**

**Exhibit A: Final Design: Issue for Permitting**



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WVDEP OOG  
1/25/2021**

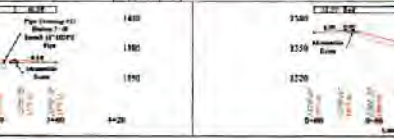
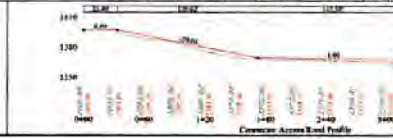
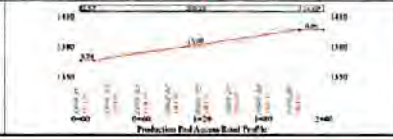
**Estimated Area**

Well Pad Construction	1.71 Ac
Access Road Construction	1.17 Ac
Production Pad Construction	1.17 Ac
Well Pad Area	1.71 Ac
Access Road Area	1.17 Ac
Production Pad Area	1.17 Ac
Well Pad Area	1.71 Ac
Access Road Area	1.17 Ac
Production Pad Area	1.17 Ac
Total Area	5.02 Ac

**Notes:**  
1. All well site boundary lines shown herein are based on landowner's records and field measurements.  
2. All well site boundary lines shown herein are based on landowner's records and field measurements.  
3. All well site boundary lines shown herein are based on landowner's records and field measurements.

**Legend**

Orange Dashed Line	Proposed 24" Diameter 24' Cover
Blue Dashed Line	Proposed 18" Diameter 18' Cover
Red Dashed Line	Proposed 12" Diameter 12' Cover
Black Dashed Line	Proposed 6" Diameter 6' Cover
Green Dashed Line	Proposed 4" Diameter 4' Cover
Yellow Dashed Line	Proposed 3" Diameter 3' Cover
Blue Solid Line	Proposed 24" Diameter 24' Cover
Blue Solid Line	Proposed 18" Diameter 18' Cover
Blue Solid Line	Proposed 12" Diameter 12' Cover
Blue Solid Line	Proposed 6" Diameter 6' Cover
Blue Solid Line	Proposed 4" Diameter 4' Cover
Blue Solid Line	Proposed 3" Diameter 3' Cover
Blue Solid Line	Proposed 24" Diameter 24' Cover
Blue Solid Line	Proposed 18" Diameter 18' Cover
Blue Solid Line	Proposed 12" Diameter 12' Cover
Blue Solid Line	Proposed 6" Diameter 6' Cover
Blue Solid Line	Proposed 4" Diameter 4' Cover
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Blue Solid Line	Proposed 18" Diameter 18' Cover
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Blue Solid Line	Proposed 6" Diameter 6' Cover
Blue Solid Line	Proposed 4" Diameter 4' Cover
Blue Solid Line	Proposed 3" Diameter 3' Cover
Blue Solid Line	Proposed 24" Diameter 24' Cover
Blue Solid Line	Proposed 18" Diameter 18' Cover
Blue Solid Line	Proposed 12" Diameter 12' Cover
Blue Solid Line	Proposed 6" Diameter 6' Cover
Blue Solid Line	Proposed 4" Diameter 4' Cover
Blue Solid Line	Proposed 3" Diameter 3' Cover



**TUG HILL**

**DRY DECLARATION PREPARED BY TUG HILL OPERATING**

**K&S**

**Breckenridge Well Site**  
Cameron District  
Marshall County, WV

**Date: 1/25/2021**  
**Scale: As Shown**  
**Revised By: JH**  
**Drawn By: JH**  
**Sheet 1 of 16**