



west virginia department of environmental protection

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

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

Friday, August 19, 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 PENDLETON N-10HU
47-051-02455-00-00

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: PENDLETON N-10HU
Farm Name: ALPINE FARM, LLC
U.S. WELL NUMBER: 47-051-02455-00-00
Horizontal 6A New Drill
Date Issued: 8/19/2022

Promoting a healthy environment.

08/19/2022



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-926-0499 Ext 41239

Randall M. Albert, Chairman
dep.wv.gov

August 5, 2022

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

RE: Application for Deep Well Permit – API #47-051-02455

COMPANY: Tug Hill Operating, LLC

FARM: Alpine Farm, LLC Pendleton N-10HU

COUNTY: Marshall DISTRICT: Franklin QUAD: Glen Easton

The deep well review of the application for the above company is Approved to drill to Trenton for Point Pleasant completion.

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

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

Sincerely,

A handwritten signature in blue ink that reads 'Susan Rose'.

Susan Rose
Administrator

**Old Crow N-18HU 47-051-02123; Old Crow N-17HU 47-051-02122; Old Crow N-19HU 47-051-02190 and 2270, Old Crow N-20HU 47-051-02191; Old Crow N-21HU 47-051-02335; Van Winkle N-16HU 47-051-02349; Van Winkle S-20HU 47-051-02353; Van Winkle N-17HU 47-051-02350; Van Winkle N-18HU 47-051-02351; Van Winkle S-21HU 47-051-02354; Pendleton N-16HU 47-051-02441; Pendleton N-8HU 47-051-02454; Pendleton N-11HU 47-051-02456; Pendleton S-12HU 47-051-02457; Pendleton S-13HU 47-051-02458; Pendleton S-14HU 47-051-02459; Pendleton S-15HU 47-051-02460

08/19/2022

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

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

API Number: _____

PERMIT CONDITIONS

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

08/19/2022

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 Franklin Glen Easton 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Pendleton N-10HU Well Pad Name: Pendleton

3) Farm Name/Surface Owner: Alpine Farm, LLC Public Road Access: Rines Ridge Road (County Route 76)

4) Elevation, current ground: 1,296' Elevation, proposed post-construction: 1,271.82'

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

(b) If Gas Shallow Deep
Horizontal

6) Existing Pad: Yes or No No

MDK 7/28/2022

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Point Pleasant is the target formation at a depth of 11,526' - 11,643', thickness of 117' and anticipated pressure of approx. 7,500 psi.

8) Proposed Total Vertical Depth: 11,793'

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 23,073'

11) Proposed Horizontal Leg Length: 10,964.28'

12) Approximate Fresh Water Strata Depths: 70; 914'

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

14) Approximate Saltwater Depths: 1,427'

15) Approximate Coal Seam Depths: Sewickley Coal - 816' and Pittsburgh Coal - 908'

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: _____
Depth: _____
Seam: _____
Owner: _____

18) **CASING AND TUBING PROGRAM**

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	30"	NEW	BW	BW	120'	120'	259FT^3(CTS)
Fresh Water/Coal	20"	NEW	J55	106.5#	1,040'	1,040'	1,674FT^3(CTS)
Intermediate 1	13 3/8"	NEW	J55	54.5#	2,800'	2,800'	1,974FT^3(CTS)
Intermediate 2	9 5/8"	NEW	HPP110	47#	10,522'	10,522'	3,434FT^3(CTS)
Production	5 1/2"	NEW	P110	23#	23,073'	23,073'	5,464FT^3(CTS)
Tubing	2 7/8"	NEW	P110	6.5#		11,252'	
Liners							

YDK 7/28/2022

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	30"	36"	1.0	2,333	1,866	CLASS A	1.2
Fresh Water/Coal	20"	26"	.5	2,410	1,928	SEE #24	1.2
Intermediate 1	13 3/8"	17 1/2"	.38	2,740	2,192	SEE #24	1.2
Intermediate 2	9 5/8"	12 1/4"	.472	10,730	6,968	SEE #24	1.33
Production	5 1/2"	8 1/2"	.415	16,510	13,208	SEE #24	1.17/1.19
Tubing	2 7/8"			14,530	11,624		
Liners							

PACKERS

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

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

Drill through the Point Pleasant and TD Pilot Hole 150' into the Trenton. Log vertical section and run a solid cement plug back to proposed KOP (10,752'). 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 27,500,000 lb. proppant and 500,000 bbl of water. Max rate = 80bpm; max psi = 9,000#.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 26.23 acres

22) Area to be disturbed for well pad only, less access road (acres): 6.88 acres

23) Describe centralizer placement for each casing string:

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

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

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

25) Proposed borehole conditioning procedures:

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

*Note: Attach additional sheets as needed.

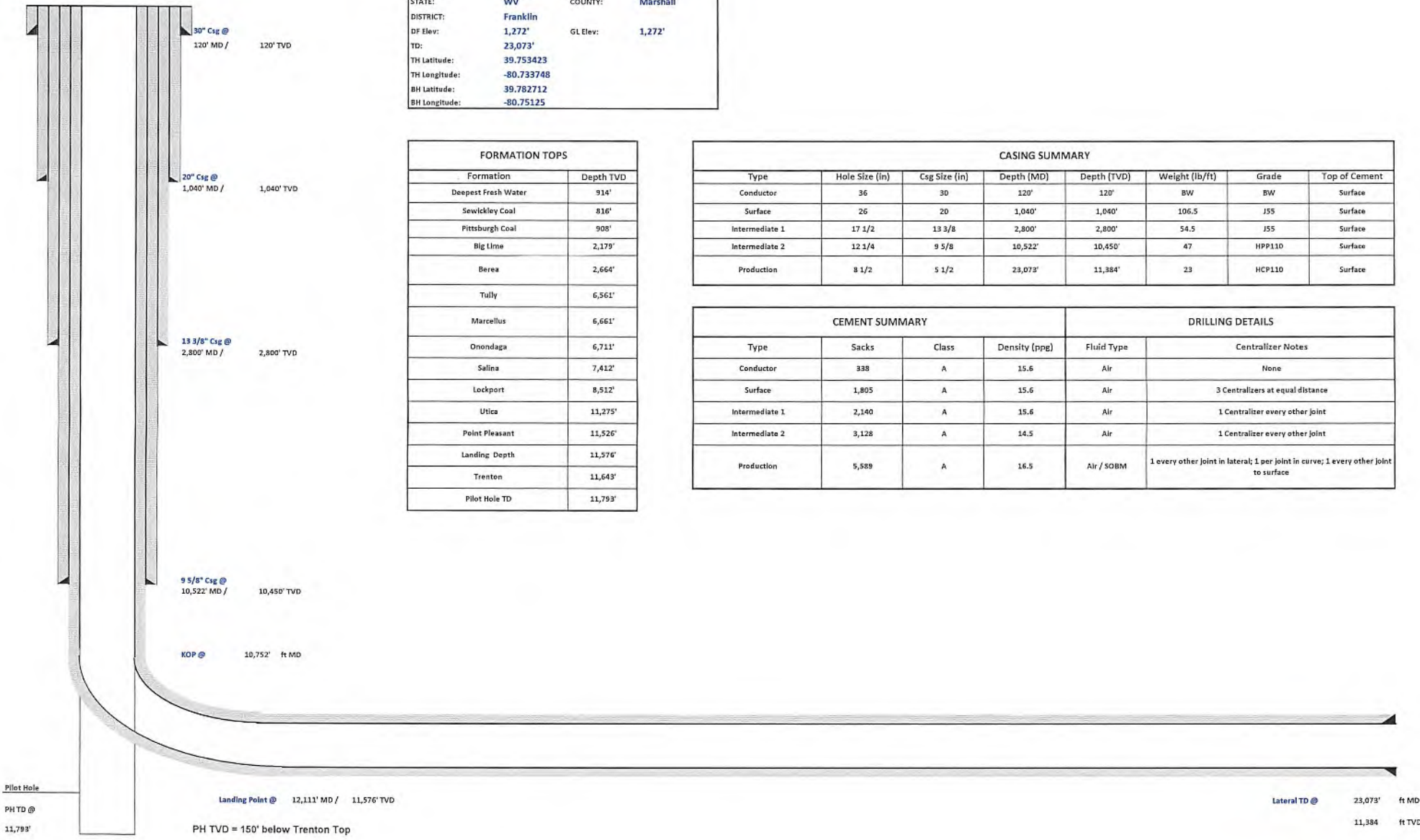


WELL NAME:	Pendleton N-10HU		
STATE:	WV	COUNTY:	Marshall
DISTRICT:	Franklin		
DF Elev:	1,272'	GL Elev:	1,272'
TD:	23,073'		
TH Latitude:	39.753423		
TH Longitude:	-80.733748		
BH Latitude:	39.782712		
BH Longitude:	-80.75125		

FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	914'
Sewickley Coal	816'
Pittsburgh Coal	908'
Big Lime	2,179'
Berea	2,664'
Tully	6,561'
Marcellus	6,661'
Onondaga	6,711'
Salina	7,412'
Lockport	8,512'
Utica	11,273'
Point Pleasant	11,526'
Landing Depth	11,576'
Trenton	11,643'
Pilot Hole TD	11,793'

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	26	20	1,040'	1,040'	106.5	J55	Surface
Intermediate 1	17 1/2	13 3/8	2,800'	2,800'	54.5	J55	Surface
Intermediate 2	12 1/4	9 5/8	10,522'	10,450'	47	HPP110	Surface
Production	8 1/2	5 1/2	23,073'	11,384'	23	HCP110	Surface

CEMENT SUMMARY				DRILLING DETAILS	
Type	Sacks	Class	Density (ppg)	Fluid Type	Centralizer Notes
Conductor	338	A	15.6	Air	None
Surface	1,805	A	15.6	Air	3 Centralizers at equal distance
Intermediate 1	2,140	A	15.6	Air	1 Centralizer every other joint
Intermediate 2	3,128	A	14.5	Air	1 Centralizer every other joint
Production	5,589	A	16.5	Air / SOBM	1 every other joint in lateral; 1 per joint in curve; 1 every other joint to surface



Pilot Hole
 PH TD @ 11,793'
 Landing Point @ 12,111' MD / 11,576' TVD
 PH TVD = 150' below Trenton Top

Lateral TD @ 23,073' ft MD
 11,384' ft TVD



Tug Hill Operating, LLC Casing and Cement Program

Pendleton N-10HU

Casing

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	20"	J55	26"	1,040'	CTS
Intermediate 1	13 3/8"	J55	17 1/2"	2,800'	CTS
Intermediate 2	9 5/8"	HPP110	12 1/4"	10,522'	CTS
Production	5 1/2"	HCP110	8 1/2"	23,073'	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 1:	Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 15.6 ppg, Y=1.2
Intermediate 2:	Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 14.5 ppg, Y=1.35
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 16.5 ppg, Y = 1.03

08/19/2022

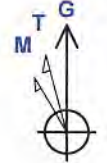


Well: Pendleton N-10 HU (slot H)
 Site: Pendleton
 Project: Marshall County, West Virginia NAD83 UTM 17N
 Design: rev1
 Rig:

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	3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 2°/100' build
3	3550.00	5.00	64.39	3549.68	4.71	9.83	2.00	64.390	0.13	Begin 5.00° tangent
4	7013.50	5.00	64.39	7000.00	135.19	282.04	0.00	0.000	3.76	Begin 2°/100' build
5	7296.63	10.66	64.39	7280.38	151.86	316.81	2.00	-0.009	4.23	Begin 10.66° tangent
6	10751.15	10.66	64.39	10675.25	428.18	893.17	0.00	0.000	11.97	Begin 6°/100' build/turn
7	11591.84	50.00	336.48	11406.37	780.09	830.71	6.00	-96.809	357.42	Begin 8°/100' build/turn
8	12110.50	91.00	329.52	11576.00	1204.43	610.20	8.00	-10.530	835.16	Begin 91.00° lateral
	23072.78	91.00	329.52	11384.00	10650.78	-4948.67	0.00	0.000	11744.30	PBHL/TD 23072.78 MD 11384.00 TVD

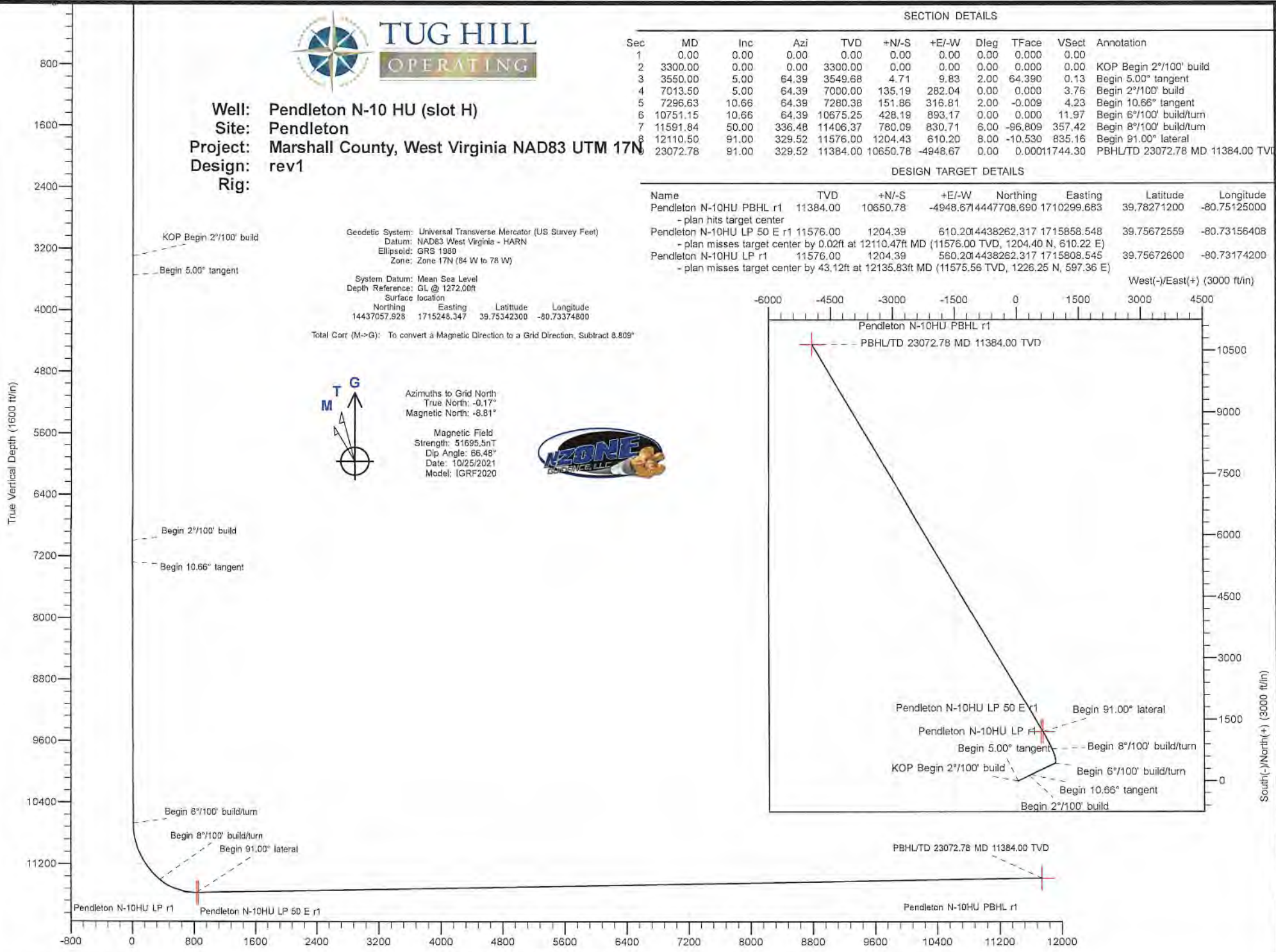
DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	West(-)/East(+) (3000 ft/in)	
Pendleton N-10HU PBHL r1	11384.00	10650.78	-4948.67	4447708.690	1710299.683	39.78271200	-80.75125000		
- plan hits target center									
Pendleton N-10HU LP 50 E r1	11576.00	1204.39	610.20	4438262.317	1715858.548	39.75672559	-80.73156408		
- plan misses target center by 0.02ft at 12110.47ft MD (11576.00 TVD, 1204.40 N, 610.22 E)									
Pendleton N-10HU LP r1	11576.00	1204.39	560.20	4438262.317	1715808.545	39.75672600	-80.73174200		
- plan misses target center by 43.12ft at 12135.83ft MD (11575.56 TVD, 1226.25 N, 597.36 E)									

Geodetic 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 @ 1272.00ft
 Surface location
 Northing Easting Latitude Longitude
 14437057.828 1715248.347 39.75342300 -80.73374800
 Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.809°



Azimuths to Grid North
 True North: -0.17°
 Magnetic North: -8.81°

Magnetic Field
 Strength: 51699.5nT
 Dip Angle: 66.48°
 Date: 10/25/2021
 Model: IGRF2020





Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Pendleton N-10 HU (slot H)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-10 HU (slot H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

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

Site	Pendleton				
Site Position:		Northing:	14,437,088.243 usft	Latitude:	39.75350685
From:	Lat/Long	Easting:	1,715,175.249 usft	Longitude:	-80.73400776
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Pendleton N-10 HU (slot H)					
Well Position	+N/-S	0.00 ft	Northing:	14,437,057.928 usft	Latitude:	39.75342300
	+E/-W	0.00 ft	Easting:	1,715,248.347 usft	Longitude:	-80.73374800
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level:	1,272.00 ft	
Grid Convergence:						

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	10/25/2021	-8.638	66.480	51,695.52487346

Design	rev1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	335.08	

Plan Survey Tool Program	Date				
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	23,072.78 rev1 (Original Hole)			



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Pendleton N-10 HU (slot H)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-10 HU (slot H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.000	
3,550.00	5.00	64.39	3,549.68	4.71	9.83	2.00	2.00	0.00	64.390	
7,013.50	5.00	64.39	7,000.00	135.19	282.04	0.00	0.00	0.00	0.000	
7,296.63	10.66	64.39	7,280.38	151.86	316.81	2.00	2.00	0.00	-0.009	
10,751.15	10.66	64.39	10,675.25	428.19	893.17	0.00	0.00	0.00	0.000	
11,591.84	50.00	336.48	11,406.37	780.09	830.71	6.00	4.68	-10.46	-96.809	
12,110.50	91.00	329.52	11,576.00	1,204.43	610.20	8.00	7.91	-1.34	-10.530	
23,072.78	91.00	329.52	11,384.00	10,650.78	-4,948.67	0.00	0.00	0.00	0.000	Pendleton N-10HU PE



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Pendleton N-10 HU (slot H)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-10 HU (slot H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

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	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
100.00	0.00	0.00	100.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
200.00	0.00	0.00	200.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
300.00	0.00	0.00	300.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
400.00	0.00	0.00	400.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
500.00	0.00	0.00	500.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
600.00	0.00	0.00	600.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
700.00	0.00	0.00	700.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
800.00	0.00	0.00	800.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
900.00	0.00	0.00	900.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
3,100.00	0.00	0.00	3,100.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
3,200.00	0.00	0.00	3,200.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
3,300.00	0.00	0.00	3,300.00	0.00	0.00	14,437,057.928	1,715,248.347	39.75342300	-80.73374800
KOP Begin 2°/100' build									
3,400.00	2.00	64.39	3,399.98	0.75	1.57	14,437,058.683	1,715,249.920	39.75342506	-80.73374239
3,500.00	4.00	64.39	3,499.84	3.02	6.29	14,437,060.945	1,715,254.639	39.75343123	-80.73372558
3,550.00	5.00	64.39	3,549.68	4.71	9.83	14,437,062.640	1,715,258.177	39.75343586	-80.73371297
Begin 5.00° tangent									
3,600.00	5.00	64.39	3,599.49	6.60	13.76	14,437,064.524	1,715,262.107	39.75344100	-80.73369897
3,700.00	5.00	64.39	3,699.11	10.36	21.62	14,437,068.291	1,715,269.966	39.75345128	-80.73367097
3,800.00	5.00	64.39	3,798.73	14.13	29.48	14,437,072.058	1,715,277.825	39.75346157	-80.73364297
3,900.00	5.00	64.39	3,898.35	17.90	37.34	14,437,075.826	1,715,285.685	39.75347185	-80.73361496
4,000.00	5.00	64.39	3,997.97	21.66	45.20	14,437,079.593	1,715,293.544	39.75348213	-80.73358696
4,100.00	5.00	64.39	4,097.59	25.43	53.06	14,437,083.360	1,715,301.403	39.75349241	-80.73355896
4,200.00	5.00	64.39	4,197.21	29.20	60.92	14,437,087.127	1,715,309.262	39.75350269	-80.73353095
4,300.00	5.00	64.39	4,296.83	32.97	68.78	14,437,090.895	1,715,317.122	39.75351297	-80.73350295
4,400.00	5.00	64.39	4,396.45	36.73	76.63	14,437,094.662	1,715,324.981	39.75352326	-80.73347495
4,500.00	5.00	64.39	4,496.07	40.50	84.49	14,437,098.429	1,715,332.840	39.75353354	-80.73344694
4,600.00	5.00	64.39	4,595.69	44.27	92.35	14,437,102.196	1,715,340.700	39.75354382	-80.73341894
4,700.00	5.00	64.39	4,695.31	48.04	100.21	14,437,105.964	1,715,348.559	39.75355410	-80.73339094
4,800.00	5.00	64.39	4,794.93	51.80	108.07	14,437,109.731	1,715,356.418	39.75356438	-80.73336294
4,900.00	5.00	64.39	4,894.55	55.57	115.93	14,437,113.498	1,715,364.278	39.75357466	-80.73333493

Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Pendleton N-10 HU (slot H)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-10 HU (slot H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,000.00	5.00	64.39	4,994.17	59.34	123.79	14,437,117.265	1,715,372.137	39.75358495	-80.73330693	
5,100.00	5.00	64.39	5,093.78	63.10	131.65	14,437,121.032	1,715,379.996	39.75359523	-80.73327893	
5,200.00	5.00	64.39	5,193.40	66.87	139.51	14,437,124.800	1,715,387.856	39.75360551	-80.73325092	
5,300.00	5.00	64.39	5,293.02	70.64	147.37	14,437,128.567	1,715,395.715	39.75361579	-80.73322292	
5,400.00	5.00	64.39	5,392.64	74.41	155.23	14,437,132.334	1,715,403.574	39.75362607	-80.73319492	
5,500.00	5.00	64.39	5,492.26	78.17	163.09	14,437,136.101	1,715,411.434	39.75363635	-80.73316691	
5,600.00	5.00	64.39	5,591.88	81.94	170.95	14,437,139.869	1,715,419.293	39.75364664	-80.73313891	
5,700.00	5.00	64.39	5,691.50	85.71	178.81	14,437,143.636	1,715,427.152	39.75365692	-80.73311091	
5,800.00	5.00	64.39	5,791.12	89.48	186.67	14,437,147.403	1,715,435.012	39.75366720	-80.73308290	
5,900.00	5.00	64.39	5,890.74	93.24	194.52	14,437,151.170	1,715,442.871	39.75367748	-80.73305490	
6,000.00	5.00	64.39	5,990.36	97.01	202.38	14,437,154.938	1,715,450.730	39.75368776	-80.73302690	
6,100.00	5.00	64.39	6,089.98	100.78	210.24	14,437,158.705	1,715,458.589	39.75369804	-80.73299889	
6,200.00	5.00	64.39	6,189.60	104.54	218.10	14,437,162.472	1,715,466.449	39.75370833	-80.73297089	
6,300.00	5.00	64.39	6,289.22	108.31	225.96	14,437,166.239	1,715,474.308	39.75371861	-80.73294289	
6,400.00	5.00	64.39	6,388.84	112.08	233.82	14,437,170.007	1,715,482.167	39.75372889	-80.73291488	
6,500.00	5.00	64.39	6,488.46	115.85	241.68	14,437,173.774	1,715,490.027	39.75373917	-80.73288688	
6,600.00	5.00	64.39	6,588.08	119.61	249.54	14,437,177.541	1,715,497.886	39.75374945	-80.73285888	
6,700.00	5.00	64.39	6,687.70	123.38	257.40	14,437,181.308	1,715,505.745	39.75375973	-80.73283087	
6,800.00	5.00	64.39	6,787.32	127.15	265.26	14,437,185.076	1,715,513.605	39.75377002	-80.73280287	
6,900.00	5.00	64.39	6,886.94	130.91	273.12	14,437,188.843	1,715,521.464	39.75378030	-80.73277487	
7,000.00	5.00	64.39	6,986.55	134.68	280.98	14,437,192.610	1,715,529.323	39.75379058	-80.73274686	
7,013.50	5.00	64.39	7,000.00	135.19	282.04	14,437,193.118	1,715,530.384	39.75379197	-80.73274308	
Begin 2°/100' build										
7,100.00	6.73	64.39	7,086.05	139.01	290.01	14,437,196.939	1,715,538.355	39.75380239	-80.73271468	
7,200.00	8.73	64.39	7,185.13	144.83	302.14	14,437,202.754	1,715,550.483	39.75381826	-80.73267147	
7,296.63	10.66	64.39	7,280.38	151.86	316.81	14,437,209.789	1,715,565.157	39.75383746	-80.73261918	
7,296.67	10.66	64.39	7,280.41	151.86	316.82	14,437,209.792	1,715,565.164	39.75383747	-80.73261916	
Begin 10.66° tangent										
7,300.00	10.66	64.39	7,283.69	152.13	317.37	14,437,210.059	1,715,565.720	39.75383820	-80.73261718	
7,400.00	10.66	64.39	7,381.96	160.13	334.06	14,437,218.058	1,715,582.404	39.75386003	-80.73255773	
7,500.00	10.66	64.39	7,480.24	168.13	350.74	14,437,226.057	1,715,599.088	39.75388186	-80.73249828	
7,600.00	10.66	64.39	7,578.51	176.13	367.43	14,437,234.056	1,715,615.772	39.75390369	-80.73243884	
7,700.00	10.66	64.39	7,676.78	184.13	384.11	14,437,242.055	1,715,632.456	39.75392552	-80.73237939	
7,800.00	10.66	64.39	7,775.06	192.13	400.79	14,437,250.054	1,715,649.140	39.75394735	-80.73231994	
7,900.00	10.66	64.39	7,873.33	200.13	417.48	14,437,258.053	1,715,665.824	39.75396918	-80.73226050	
8,000.00	10.66	64.39	7,971.60	208.12	434.16	14,437,266.052	1,715,682.508	39.75399101	-80.73220105	
8,100.00	10.66	64.39	8,069.88	216.12	450.85	14,437,274.051	1,715,699.192	39.75401284	-80.73214160	
8,200.00	10.66	64.39	8,168.15	224.12	467.53	14,437,282.050	1,715,715.877	39.75403468	-80.73208216	
8,300.00	10.66	64.39	8,266.42	232.12	484.22	14,437,290.049	1,715,732.561	39.75405651	-80.73202271	
8,400.00	10.66	64.39	8,364.70	240.12	500.90	14,437,298.048	1,715,749.245	39.75407834	-80.73196326	
8,500.00	10.66	64.39	8,462.97	248.12	517.58	14,437,306.047	1,715,765.929	39.75410017	-80.73190381	
8,600.00	10.66	64.39	8,561.24	256.12	534.27	14,437,314.046	1,715,782.613	39.75412200	-80.73184437	
8,700.00	10.66	64.39	8,659.52	264.12	550.95	14,437,322.045	1,715,799.297	39.75414383	-80.73178492	
8,800.00	10.66	64.39	8,757.79	272.12	567.64	14,437,330.044	1,715,815.981	39.75416566	-80.73172547	
8,900.00	10.66	64.39	8,856.06	280.12	584.32	14,437,338.043	1,715,832.665	39.75418749	-80.73166602	
9,000.00	10.66	64.39	8,954.34	288.11	601.00	14,437,346.042	1,715,849.349	39.75420932	-80.73160658	
9,100.00	10.66	64.39	9,052.61	296.11	617.69	14,437,354.041	1,715,866.033	39.75423115	-80.73154713	
9,200.00	10.66	64.39	9,150.88	304.11	634.37	14,437,362.040	1,715,882.718	39.75425298	-80.73148768	
9,300.00	10.66	64.39	9,249.16	312.11	651.06	14,437,370.039	1,715,899.402	39.75427481	-80.73142824	
9,400.00	10.66	64.39	9,347.43	320.11	667.74	14,437,378.038	1,715,916.086	39.75429664	-80.73136879	
9,500.00	10.66	64.39	9,445.70	328.11	684.42	14,437,386.037	1,715,932.770	39.75431847	-80.73130934	
9,600.00	10.66	64.39	9,543.98	336.11	701.11	14,437,394.036	1,715,949.454	39.75434030	-80.73124989	
9,700.00	10.66	64.39	9,642.25	344.11	717.79	14,437,402.035	1,715,966.139	39.75436213	-80.73119044	



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Pendleton N-10 HU (slot H)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-10 HU (slot H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,800.00	10.66	64.39	9,740.52	352.11	734.48	14,437,410.034	1,715,982.823	39.75438396	-80.73113100
9,900.00	10.66	64.39	9,838.80	360.11	751.16	14,437,418.033	1,715,999.507	39.75440579	-80.73107155
10,000.00	10.66	64.39	9,937.07	368.10	767.84	14,437,426.032	1,716,016.191	39.75442762	-80.73101210
10,100.00	10.66	64.39	10,035.34	376.10	784.53	14,437,434.031	1,716,032.875	39.75444945	-80.73095265
10,200.00	10.66	64.39	10,133.62	384.10	801.21	14,437,442.030	1,716,049.559	39.75447128	-80.73089321
10,300.00	10.66	64.39	10,231.89	392.10	817.90	14,437,450.029	1,716,066.243	39.75449311	-80.73083376
10,400.00	10.66	64.39	10,330.17	400.10	834.58	14,437,458.028	1,716,082.927	39.75451494	-80.73077431
10,500.00	10.66	64.39	10,428.44	408.10	851.27	14,437,466.027	1,716,099.611	39.75453677	-80.73071486
10,600.00	10.66	64.39	10,526.71	416.10	867.95	14,437,474.026	1,716,116.295	39.75455860	-80.73065541
10,700.00	10.66	64.39	10,624.99	424.10	884.63	14,437,482.025	1,716,132.979	39.75458043	-80.73059597
10,751.15	10.66	64.39	10,675.25	428.19	893.17	14,437,486.117	1,716,141.513	39.75459160	-80.73056556
10,752.02	10.66	64.10	10,676.11	428.26	893.31	14,437,486.187	1,716,141.658	39.75459179	-80.73056504
Begin 6°/100' build/turn									
10,800.00	10.71	48.53	10,723.26	433.15	900.65	14,437,491.078	1,716,148.992	39.75460516	-80.73053889
10,850.00	11.55	33.57	10,772.33	440.40	906.90	14,437,498.329	1,716,155.245	39.75462502	-80.73051657
10,900.00	13.04	21.28	10,821.19	449.83	911.71	14,437,507.758	1,716,160.061	39.75465087	-80.73049933
10,950.00	14.97	11.78	10,869.71	461.41	915.08	14,437,519.340	1,716,163.427	39.75468265	-80.73048723
11,000.00	17.21	4.56	10,917.75	475.11	916.99	14,437,533.042	1,716,165.335	39.75472027	-80.73048030
11,050.00	19.65	359.02	10,965.19	490.90	917.43	14,437,548.827	1,716,165.779	39.75476361	-80.73047855
11,100.00	22.22	354.68	11,011.89	508.72	916.41	14,437,566.651	1,716,164.758	39.75481257	-80.73048199
11,150.00	24.89	351.22	11,057.72	528.54	913.93	14,437,586.467	1,716,162.275	39.75486701	-80.73049061
11,200.00	27.61	348.39	11,102.56	550.29	909.99	14,437,608.219	1,716,158.336	39.75492678	-80.73050439
11,250.00	30.39	346.04	11,148.29	573.92	904.61	14,437,631.848	1,716,152.953	39.75499172	-80.73052330
11,300.00	33.20	344.05	11,188.78	599.36	897.79	14,437,657.290	1,716,146.140	39.75506165	-80.73054727
11,350.00	36.04	342.34	11,229.93	626.55	889.57	14,437,684.474	1,716,137.915	39.75513637	-80.73057624
11,400.00	38.90	340.85	11,269.61	655.40	879.96	14,437,713.326	1,716,128.302	39.75521568	-80.73061013
11,450.00	41.78	339.53	11,307.72	685.84	868.98	14,437,743.767	1,716,117.326	39.75529937	-80.73064886
11,500.00	44.67	338.36	11,344.15	717.79	856.67	14,437,775.713	1,716,105.018	39.75538721	-80.73069231
11,550.00	47.57	337.30	11,378.81	751.15	843.07	14,437,809.077	1,716,091.411	39.75547895	-80.73074037
11,591.84	50.00	336.48	11,406.37	780.09	830.71	14,437,838.020	1,716,079.054	39.75555853	-80.73078403
Begin 8°/100' build/turn									
11,600.00	50.64	336.33	11,411.58	785.85	828.19	14,437,843.775	1,716,076.541	39.75557436	-80.73079291
11,650.00	54.58	335.44	11,441.94	822.10	811.96	14,437,880.022	1,716,060.303	39.75567404	-80.73085029
11,700.00	58.52	334.63	11,469.49	859.91	794.35	14,437,917.832	1,716,042.693	39.75577802	-80.73091255
11,750.00	62.47	333.89	11,494.11	899.09	775.45	14,437,957.021	1,716,023.795	39.75588580	-80.73097937
11,800.00	66.42	333.20	11,515.68	939.47	755.36	14,437,997.397	1,716,003.702	39.75599685	-80.73105043
11,850.00	70.38	332.56	11,534.08	980.84	734.17	14,438,038.764	1,715,982.511	39.75611063	-80.73112539
11,900.00	74.33	331.94	11,549.23	1,022.99	711.98	14,438,080.921	1,715,960.326	39.75622659	-80.73120388
11,950.00	78.29	331.35	11,561.06	1,065.74	688.91	14,438,123.661	1,715,937.255	39.75634416	-80.73128551
12,000.00	82.25	330.77	11,569.51	1,108.85	665.06	14,438,166.778	1,715,913.409	39.75646276	-80.73136990
12,050.00	86.21	330.20	11,574.53	1,152.13	640.56	14,438,210.060	1,715,888.907	39.75658183	-80.73145662
12,100.00	90.17	329.64	11,576.11	1,195.37	615.52	14,438,253.297	1,715,863.865	39.75670077	-80.73154526
12,110.51	91.00	329.52	11,576.00	1,204.43	610.20	14,438,262.358	1,715,858.545	39.75672570	-80.73156409
Begin 91.00° lateral									
12,200.00	91.00	329.52	11,574.44	1,281.55	564.82	14,438,339.474	1,715,813.164	39.75693786	-80.73172474
12,300.00	91.00	329.52	11,572.69	1,367.72	514.11	14,438,425.646	1,715,762.455	39.75717493	-80.73190425
12,400.00	91.00	329.52	11,570.93	1,453.89	463.40	14,438,511.817	1,715,711.746	39.75741199	-80.73208377
12,500.00	91.00	329.52	11,569.18	1,540.06	412.69	14,438,597.988	1,715,661.037	39.75764906	-80.73226328
12,600.00	91.00	329.52	11,567.43	1,626.23	361.98	14,438,684.159	1,715,610.328	39.75788613	-80.73244280
12,700.00	91.00	329.52	11,565.68	1,712.41	311.27	14,438,770.331	1,715,559.619	39.75812319	-80.73262232
12,800.00	91.00	329.52	11,563.93	1,798.58	260.56	14,438,856.502	1,715,508.910	39.75836026	-80.73280184
12,900.00	91.00	329.52	11,562.18	1,884.75	209.86	14,438,942.673	1,715,458.201	39.75859732	-80.73298136
13,000.00	91.00	329.52	11,560.42	1,970.92	159.15	14,439,028.844	1,715,407.492	39.75883439	-80.73316088

Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Pendleton N-10 HU (slot H)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-10 HU (slot H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
13,100.00	91.00	329.52	11,558.67	2,057.09	108.44	14,439,115.016	1,715,356.783	39.75907145	-80.73334040	
13,200.00	91.00	329.52	11,556.92	2,143.26	57.73	14,439,201.187	1,715,306.074	39.75930852	-80.73351993	
13,300.00	91.00	329.52	11,555.17	2,229.43	7.02	14,439,287.358	1,715,255.365	39.75954558	-80.73369945	
13,400.00	91.00	329.52	11,553.42	2,315.61	-43.69	14,439,373.529	1,715,204.656	39.75978265	-80.73387898	
13,500.00	91.00	329.52	11,551.67	2,401.78	-94.40	14,439,459.701	1,715,153.947	39.76001971	-80.73405850	
13,600.00	91.00	329.52	11,549.92	2,487.95	-145.11	14,439,545.872	1,715,103.238	39.76025677	-80.73423803	
13,700.00	91.00	329.52	11,548.16	2,574.12	-195.82	14,439,632.043	1,715,052.529	39.76049384	-80.73441756	
13,800.00	91.00	329.52	11,546.41	2,660.29	-246.53	14,439,718.215	1,715,001.820	39.76073090	-80.73459710	
13,900.00	91.00	329.52	11,544.66	2,746.46	-297.24	14,439,804.386	1,714,951.111	39.76096796	-80.73477663	
14,000.00	91.00	329.52	11,542.91	2,832.63	-347.95	14,439,890.557	1,714,900.402	39.76120502	-80.73495616	
14,100.00	91.00	329.52	11,541.16	2,918.81	-398.65	14,439,976.728	1,714,849.693	39.76144209	-80.73513570	
14,200.00	91.00	329.52	11,539.41	3,004.98	-449.36	14,440,062.900	1,714,798.984	39.76167915	-80.73531523	
14,300.00	91.00	329.52	11,537.66	3,091.15	-500.07	14,440,149.071	1,714,748.275	39.76191621	-80.73549477	
14,400.00	91.00	329.52	11,535.90	3,177.32	-550.78	14,440,235.242	1,714,697.566	39.76215327	-80.73567431	
14,500.00	91.00	329.52	11,534.15	3,263.49	-601.49	14,440,321.413	1,714,646.857	39.76239033	-80.73585385	
14,600.00	91.00	329.52	11,532.40	3,349.66	-652.20	14,440,407.585	1,714,596.148	39.76262739	-80.73603339	
14,700.00	91.00	329.52	11,530.65	3,435.83	-702.91	14,440,493.756	1,714,545.439	39.76286445	-80.73621293	
14,800.00	91.00	329.52	11,528.90	3,522.01	-753.62	14,440,579.927	1,714,494.730	39.76310151	-80.73639248	
14,900.00	91.00	329.52	11,527.15	3,608.18	-804.33	14,440,666.098	1,714,444.021	39.76333857	-80.73657202	
15,000.00	91.00	329.52	11,525.39	3,694.35	-855.04	14,440,752.270	1,714,393.312	39.76357563	-80.73675157	
15,100.00	91.00	329.52	11,523.64	3,780.52	-905.75	14,440,838.441	1,714,342.603	39.76381269	-80.73693112	
15,200.00	91.00	329.52	11,521.89	3,866.69	-956.45	14,440,924.612	1,714,291.894	39.76404975	-80.73711067	
15,300.00	91.00	329.52	11,520.14	3,952.86	-1,007.16	14,441,010.784	1,714,241.185	39.76428681	-80.73729022	
15,400.00	91.00	329.52	11,518.39	4,039.03	-1,057.87	14,441,096.955	1,714,190.476	39.76452387	-80.73746977	
15,500.00	91.00	329.52	11,516.64	4,125.21	-1,108.58	14,441,183.126	1,714,139.767	39.76476093	-80.73764932	
15,600.00	91.00	329.52	11,514.89	4,211.38	-1,159.29	14,441,269.297	1,714,089.058	39.76499798	-80.73782887	
15,700.00	91.00	329.52	11,513.13	4,297.55	-1,210.00	14,441,355.469	1,714,038.349	39.76523504	-80.73800843	
15,800.00	91.00	329.52	11,511.38	4,383.72	-1,260.71	14,441,441.640	1,713,987.640	39.76547210	-80.73818798	
15,900.00	91.00	329.52	11,509.63	4,469.89	-1,311.42	14,441,527.811	1,713,936.931	39.76570916	-80.73836754	
16,000.00	91.00	329.52	11,507.88	4,556.06	-1,362.13	14,441,613.982	1,713,886.222	39.76594621	-80.73854710	
16,100.00	91.00	329.52	11,506.13	4,642.24	-1,412.84	14,441,700.154	1,713,835.513	39.76618327	-80.73872666	
16,200.00	91.00	329.52	11,504.38	4,728.41	-1,463.55	14,441,786.325	1,713,784.804	39.76642033	-80.73890622	
16,300.00	91.00	329.52	11,502.63	4,814.58	-1,514.25	14,441,872.496	1,713,734.095	39.76665738	-80.73908578	
16,400.00	91.00	329.52	11,500.87	4,900.75	-1,564.96	14,441,958.667	1,713,683.386	39.76689444	-80.73926535	
16,500.00	91.00	329.52	11,499.12	4,986.92	-1,615.67	14,442,044.839	1,713,632.677	39.76713149	-80.73944491	
16,600.00	91.00	329.52	11,497.37	5,073.09	-1,666.38	14,442,131.010	1,713,581.968	39.76736855	-80.73962448	
16,700.00	91.00	329.52	11,495.62	5,159.26	-1,717.09	14,442,217.181	1,713,531.259	39.76760560	-80.73980404	
16,800.00	91.00	329.52	11,493.87	5,245.44	-1,767.80	14,442,303.353	1,713,480.550	39.76784266	-80.73998361	
16,900.00	91.00	329.52	11,492.12	5,331.61	-1,818.51	14,442,389.524	1,713,429.841	39.76807971	-80.74016318	
17,000.00	91.00	329.52	11,490.36	5,417.78	-1,869.22	14,442,475.695	1,713,379.132	39.76831676	-80.74034275	
17,100.00	91.00	329.52	11,488.61	5,503.95	-1,919.93	14,442,561.866	1,713,328.423	39.76855382	-80.74052232	
17,200.00	91.00	329.52	11,486.86	5,590.12	-1,970.64	14,442,648.038	1,713,277.714	39.76879087	-80.74070190	
17,300.00	91.00	329.52	11,485.11	5,676.29	-2,021.35	14,442,734.209	1,713,227.005	39.76902792	-80.74088147	
17,400.00	91.00	329.52	11,483.36	5,762.46	-2,072.06	14,442,820.380	1,713,176.296	39.76926498	-80.74106105	
17,500.00	91.00	329.52	11,481.61	5,848.64	-2,122.76	14,442,906.551	1,713,125.587	39.76950203	-80.74124062	
17,600.00	91.00	329.52	11,479.86	5,934.81	-2,173.47	14,442,992.723	1,713,074.878	39.76973908	-80.74142020	
17,700.00	91.00	329.52	11,478.10	6,020.98	-2,224.18	14,443,078.894	1,713,024.169	39.76997613	-80.74159978	
17,800.00	91.00	329.52	11,476.35	6,107.15	-2,274.89	14,443,165.065	1,712,973.460	39.77021319	-80.74177936	
17,900.00	91.00	329.52	11,474.60	6,193.32	-2,325.60	14,443,251.236	1,712,922.750	39.77045024	-80.74195894	
18,000.00	91.00	329.52	11,472.85	6,279.49	-2,376.31	14,443,337.408	1,712,872.041	39.77068729	-80.74213853	
18,100.00	91.00	329.52	11,471.10	6,365.66	-2,427.02	14,443,423.579	1,712,821.332	39.77092434	-80.74231811	
18,200.00	91.00	329.52	11,469.35	6,451.84	-2,477.73	14,443,509.750	1,712,770.623	39.77116139	-80.74249770	
18,300.00	91.00	329.52	11,467.60	6,538.01	-2,528.44	14,443,595.922	1,712,719.914	39.77139844	-80.74267728	
18,400.00	91.00	329.52	11,465.84	6,624.18	-2,579.15	14,443,682.093	1,712,669.205	39.77163549	-80.74285687	



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Pendleton N-10 HU (slot H)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-10 HU (slot H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
18,500.00	91.00	329.52	11,464.09	6,710.35	-2,629.86	14,443,768.264	1,712,618.496	39.77187254	-80.74303646
18,600.00	91.00	329.52	11,462.34	6,796.52	-2,680.56	14,443,854.435	1,712,567.787	39.77210959	-80.74321605
18,700.00	91.00	329.52	11,460.59	6,882.69	-2,731.27	14,443,940.607	1,712,517.078	39.77234664	-80.74339564
18,800.00	91.00	329.52	11,458.84	6,968.86	-2,781.98	14,444,026.778	1,712,466.369	39.77258369	-80.74357524
18,900.00	91.00	329.52	11,457.09	7,055.04	-2,832.69	14,444,112.949	1,712,415.660	39.77282073	-80.74375483
19,000.00	91.00	329.52	11,455.33	7,141.21	-2,883.40	14,444,199.120	1,712,364.951	39.77305778	-80.74393443
19,100.00	91.00	329.52	11,453.58	7,227.38	-2,934.11	14,444,285.292	1,712,314.242	39.77329483	-80.74411402
19,200.00	91.00	329.52	11,451.83	7,313.55	-2,984.82	14,444,371.463	1,712,263.533	39.77353188	-80.74429362
19,300.00	91.00	329.52	11,450.08	7,399.72	-3,035.53	14,444,457.634	1,712,212.824	39.77376893	-80.74447322
19,400.00	91.00	329.52	11,448.33	7,485.89	-3,086.24	14,444,543.805	1,712,162.115	39.77400597	-80.74465282
19,500.00	91.00	329.52	11,446.58	7,572.06	-3,136.95	14,444,629.977	1,712,111.406	39.77424302	-80.74483242
19,600.00	91.00	329.52	11,444.83	7,658.24	-3,187.66	14,444,716.148	1,712,060.697	39.77448007	-80.74501202
19,700.00	91.00	329.52	11,443.07	7,744.41	-3,238.37	14,444,802.319	1,712,009.988	39.77471711	-80.74519163
19,800.00	91.00	329.52	11,441.32	7,830.58	-3,289.07	14,444,888.491	1,711,959.279	39.77495416	-80.74537123
19,900.00	91.00	329.52	11,439.57	7,916.75	-3,339.78	14,444,974.662	1,711,908.570	39.77519120	-80.74555084
20,000.00	91.00	329.52	11,437.82	8,002.92	-3,390.49	14,445,060.833	1,711,857.861	39.77542825	-80.74573045
20,100.00	91.00	329.52	11,436.07	8,089.09	-3,441.20	14,445,147.004	1,711,807.152	39.77566529	-80.74591006
20,200.00	91.00	329.52	11,434.32	8,175.26	-3,491.91	14,445,233.176	1,711,756.443	39.77590234	-80.74608967
20,300.00	91.00	329.52	11,432.57	8,261.44	-3,542.62	14,445,319.347	1,711,705.734	39.77613938	-80.74626928
20,400.00	91.00	329.52	11,430.81	8,347.61	-3,593.33	14,445,405.518	1,711,655.025	39.77637643	-80.74644889
20,500.00	91.00	329.52	11,429.06	8,433.78	-3,644.04	14,445,491.689	1,711,604.316	39.77661347	-80.74662850
20,600.00	91.00	329.52	11,427.31	8,519.95	-3,694.75	14,445,577.861	1,711,553.607	39.77685052	-80.74680812
20,700.00	91.00	329.52	11,425.56	8,606.12	-3,745.46	14,445,664.032	1,711,502.898	39.77708756	-80.74698773
20,800.00	91.00	329.52	11,423.81	8,692.29	-3,796.17	14,445,750.203	1,711,452.189	39.77732460	-80.74716735
20,900.00	91.00	329.52	11,422.06	8,778.46	-3,846.87	14,445,836.374	1,711,401.480	39.77756164	-80.74734697
21,000.00	91.00	329.52	11,420.30	8,864.64	-3,897.58	14,445,922.546	1,711,350.771	39.77779869	-80.74752659
21,100.00	91.00	329.52	11,418.55	8,950.81	-3,948.29	14,446,008.717	1,711,300.062	39.77803573	-80.74770621
21,200.00	91.00	329.52	11,416.80	9,036.98	-3,999.00	14,446,094.888	1,711,249.353	39.77827277	-80.74788583
21,300.00	91.00	329.52	11,415.05	9,123.15	-4,049.71	14,446,181.060	1,711,198.644	39.77850981	-80.74806546
21,400.00	91.00	329.52	11,413.30	9,209.32	-4,100.42	14,446,267.231	1,711,147.935	39.77874685	-80.74824508
21,500.00	91.00	329.52	11,411.55	9,295.49	-4,151.13	14,446,353.402	1,711,097.226	39.77898390	-80.74842471
21,600.00	91.00	329.52	11,409.80	9,381.66	-4,201.84	14,446,439.573	1,711,046.517	39.77922094	-80.74860434
21,700.00	91.00	329.52	11,408.04	9,467.84	-4,252.55	14,446,525.745	1,710,995.808	39.77945798	-80.74878397
21,800.00	91.00	329.52	11,406.29	9,554.01	-4,303.26	14,446,611.916	1,710,945.099	39.77969502	-80.74896360
21,900.00	91.00	329.52	11,404.54	9,640.18	-4,353.97	14,446,698.087	1,710,894.390	39.77993206	-80.74914323
22,000.00	91.00	329.52	11,402.79	9,726.35	-4,404.67	14,446,784.258	1,710,843.681	39.78016910	-80.74932286
22,100.00	91.00	329.52	11,401.04	9,812.52	-4,455.38	14,446,870.430	1,710,792.972	39.78040614	-80.74950249
22,200.00	91.00	329.52	11,399.29	9,898.69	-4,506.09	14,446,956.601	1,710,742.263	39.78064318	-80.74968213
22,300.00	91.00	329.52	11,397.54	9,984.86	-4,556.80	14,447,042.772	1,710,691.554	39.78088021	-80.74986176
22,400.00	91.00	329.52	11,395.78	10,071.04	-4,607.51	14,447,128.943	1,710,640.845	39.78111725	-80.75004140
22,500.00	91.00	329.52	11,394.03	10,157.21	-4,658.22	14,447,215.115	1,710,590.136	39.78135429	-80.75022104
22,600.00	91.00	329.52	11,392.28	10,243.38	-4,708.93	14,447,301.286	1,710,539.427	39.78159133	-80.75040068
22,700.00	91.00	329.52	11,390.53	10,329.55	-4,759.64	14,447,387.457	1,710,488.718	39.78182837	-80.75058032
22,800.00	91.00	329.52	11,388.78	10,415.72	-4,810.35	14,447,473.629	1,710,438.009	39.78206540	-80.75075996
22,900.00	91.00	329.52	11,387.03	10,501.89	-4,861.06	14,447,559.800	1,710,387.300	39.78230244	-80.75093960
23,000.00	91.00	329.52	11,385.28	10,588.06	-4,911.77	14,447,645.971	1,710,336.591	39.78253948	-80.75111925
23,072.78	91.00	329.52	11,384.00	10,650.78	-4,948.67	14,447,708.689	1,710,299.683	39.78271200	-80.75125000

PBHL/TD 23072.78 MD 11384.00 TVD - 20" Casing



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Pendleton N-10 HU (slot H)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-10 HU (slot H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Pendleton N-10HU PBH - plan hits target center - Point	0.00	0.00	11,384.00	10,650.78	-4,948.67	14,447,708.689	1,710,299.683	39.78271200	-80.75125000
Pendleton N-10HU LP r - plan misses target center by 43.12ft at 12135.83ft MD (11575.56 TVD, 1226.25 N, 597.36 E) - Point	0.00	0.00	11,576.00	1,204.39	560.20	14,438,262.317	1,715,808.544	39.75672600	-80.73174200
Pendleton N-10HU LP 5 - plan misses target center by 0.02ft at 12110.47ft MD (11576.00 TVD, 1204.40 N, 610.22 E) - Point	0.00	0.00	11,576.00	1,204.39	610.20	14,438,262.317	1,715,858.548	39.75672559	-80.73156408

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter	
(ft)	(ft)		(")	(")	
23,072.78	11,384.00	20" Casing	20	24	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)		
3,300.00	3,300.00	0.00	0.00	KOP Begin 2°/100' build	
3,550.00	3,549.68	4.71	9.83	Begin 5.00° tangent	
7,013.50	7,000.00	135.19	282.04	Begin 2°/100' build	
7,296.67	7,280.41	151.86	316.82	Begin 10.66° tangent	
10,752.02	10,676.11	428.26	893.31	Begin 6°/100' build/turn	
11,591.84	11,406.37	780.09	830.71	Begin 8°/100' build/turn	
12,110.51	11,576.00	1,204.43	610.20	Begin 91.00° lateral	
23,072.78	11,384.00	10,650.78	-4,948.67	PBHL/TD 23072.78 MD 11384.00 TVD	

WW-9
(4/16)

API Number 47 - 051 - _____

Operator's Well No. Pendleton N-10HU

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) Middle Fish Creek 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.? ASTs with proper containment

Proposed Disposal Method For Treated Pit Wastes:

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

Will closed loop system be used? If so, describe: Yes - For vertical 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 Landfill

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

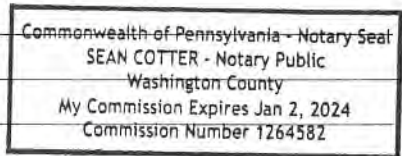
-Landfill or offsite name/permit number? Wetzel County Sanitary Landfill (SWF-1021/WV0109165) and Westmoreland Sanitary Landfill, LLC (SAN1405/PADEP EC#1356426), Chestnut Valley Landfill (100419)

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) James Pancake
Company Official Title Vice President - Geosciences



Subscribed and sworn before me this 1 day of June, 2024

Notary Public

My commission expires 11/2/2024

08/19/2022

Tug Hill Operating, LLC

Proposed Revegetation Treatment: Acres Disturbed 6.88 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
Annual Ryegrass	40
Spring Oats	96

Seed Type	lbs/acre
Orchard Grass	12
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: *Justin Gann* *mgk*

Comments: _____

Title: Oil and Gas Inspector

Date: 5/26/22

Field Reviewed? () Yes () No

DRAWING NOT TO SCALE

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.

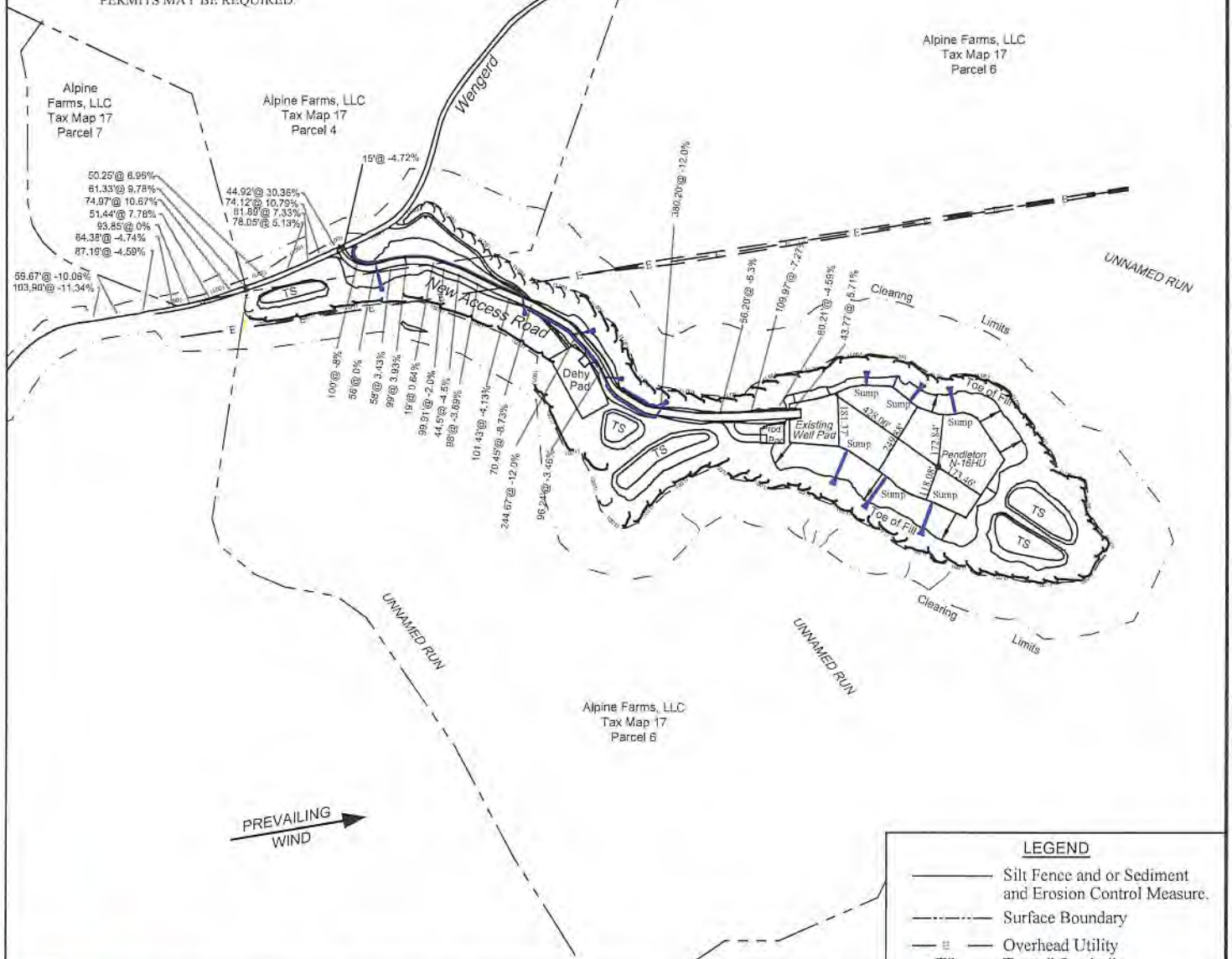
INSTALL CULVERTS AS SHOWN ON RECLAMATION PLAN OR AS FIELD CONDITIONS REQUIRE.

ENTRANCES ONTO PUBLIC ROADS SHALL BE CONSTRUCTED OR MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATIONS. ADDITIONAL PERMITS MAY BE REQUIRED.

TEMPORARILY SEED AND MULCH ALL SLOPES UPON CONSTRUCTION OF LOCATION.

ALL CUT AND FILL SLOPES ARE 2H : 1V SLOPE.

ALL TREES 6-INCHES AND ABOVE ARE TO BE CUT AND STACKED. BRUSH SLASHINGS ARE TO UTILIZED DOWN SLOPE OF SITE AND STRUCTURES TO ACT AS A CONTROL BARRIER IF AVAILABLE.



LEGEND	
	Silt Fence and or Sediment and Erosion Control Measure.
	Surface Boundary
	Overhead Utility
	Topsoil Stockpile

Jackson Surveying Inc.
 2418 E. Pike St.
 Clarksburg, WV 26301
 Phone: 304-623-6851

TOPO SECTION:	
GLEN EASTON 7.5'	
COUNTY	DISTRICT
MARSHALL	FRANKLIN
DRAWN BY:	JOB NO.
J.D.C	494510B51

OPERATOR:	
PREPARED FOR:	
TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317	
DATE	SCALE
03-16-2022	NONE

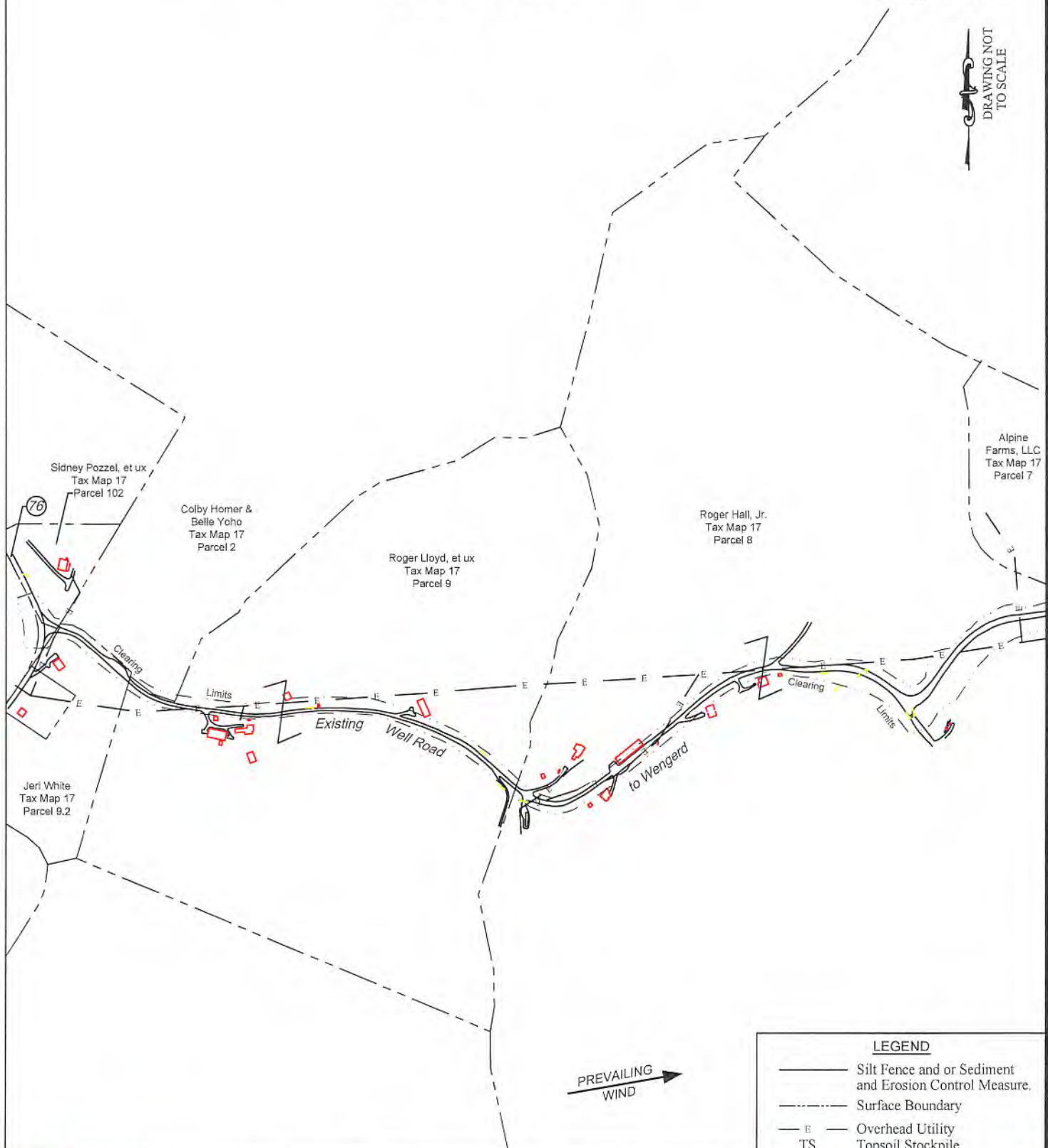
TUG HILL OPERATING

08/19/2022

PROPOSED PENDLETON N16-HU

Exhibit 1
Page 2 of 2

DRAWING NOT
TO SCALE



LEGEND

- Silt Fence and or Sediment and Erosion Control Measure.
- - - Surface Boundary
- E - Overhead Utility
- TS Topsoil Stockpile



Jackson Surveying Inc.
2418 E. Pike St.
Clarksburg, WV 26301
Phone: 304-623-6861

TOPO SECTION:	
GLEN EASTON 7.5'	
COUNTY	DISTRICT
MARSHALL	FRANKLIN
DRAWN BY	JOB NO.
J.D.C	494510851

OPERATOR:	
PREPARED FOR:	
TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317	
DATE	SCALE
03-16-2022	NONE



08/19/2022



TUG HILL
OPERATING

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

Well Name: Pendleton N-10HU

Pad Name: Pendleton

County: Marshall

Signature
5/26/22
MJK

UTM (meters), NAD83, Zone 17

Northing: 4,400,424.02

Easting: 522,808.73

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

Jerry V. DeRosa, Director EH&S Affairs

(724) 338-2029 (office)

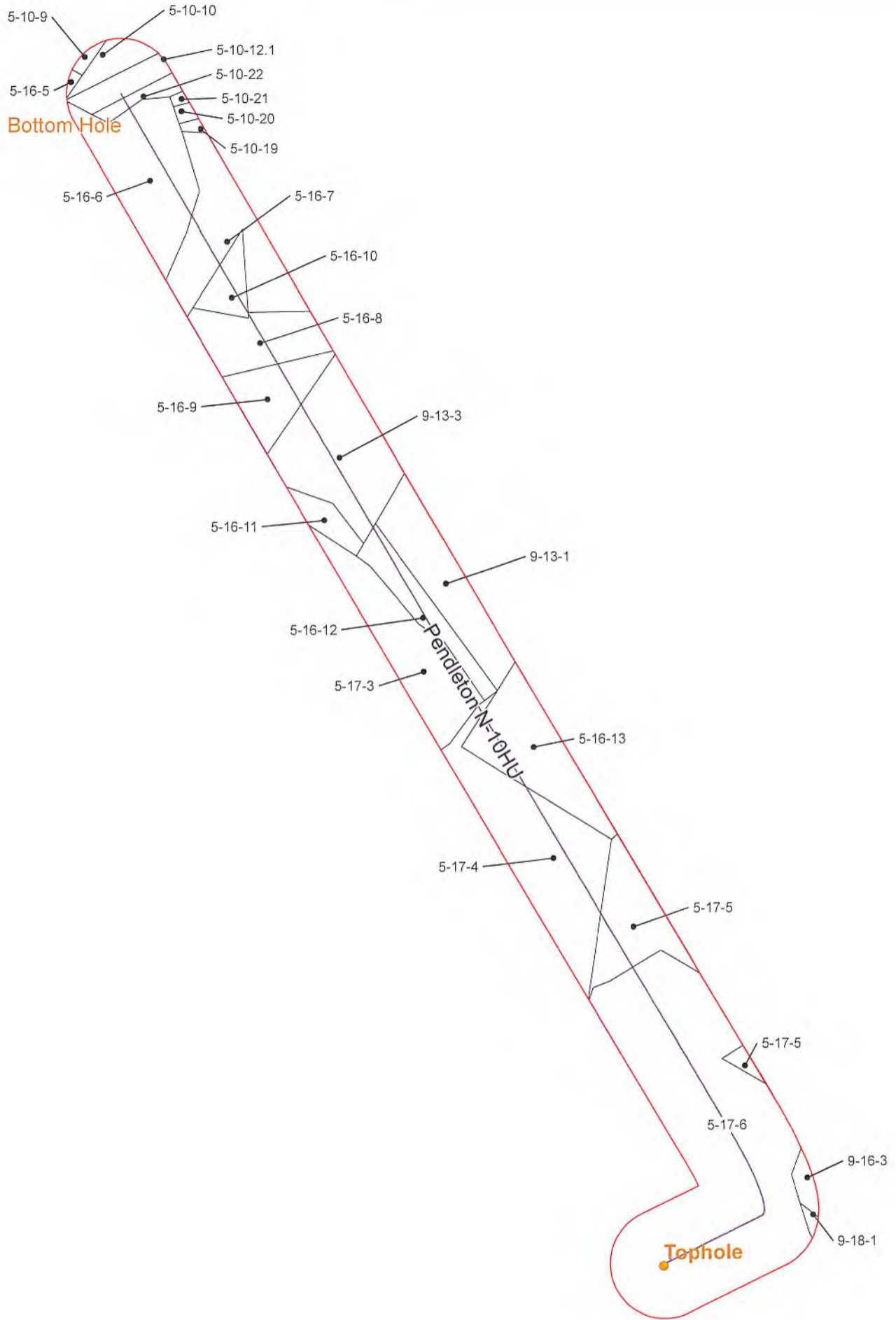
(412) 736-5767 (cellular)

24-HOUR EMERGENCY PHONE NUMBER

(800) 921-9745

08/19/2022

Pendleton N-10HU



Coordinate System: NAD 1983 UTM Zone 17N
 Projection: Transverse Mercator
 Datum: North American 1983
 False Easting: 1640000.000
 False Northing: 100000.000
 Central Meridian: -81.0000
 Scale Factor: 0.9999
 Latitude Of Origin: 0.0000
 Units: Feet US

CONFIDENTIAL



— Utica Well
 □ 500' Buffer

Pendleton N-10HU
 Operators within 500 Feet of Well Borehole



**Operators within 500' of Well Bores
Pendleton N-10HU**

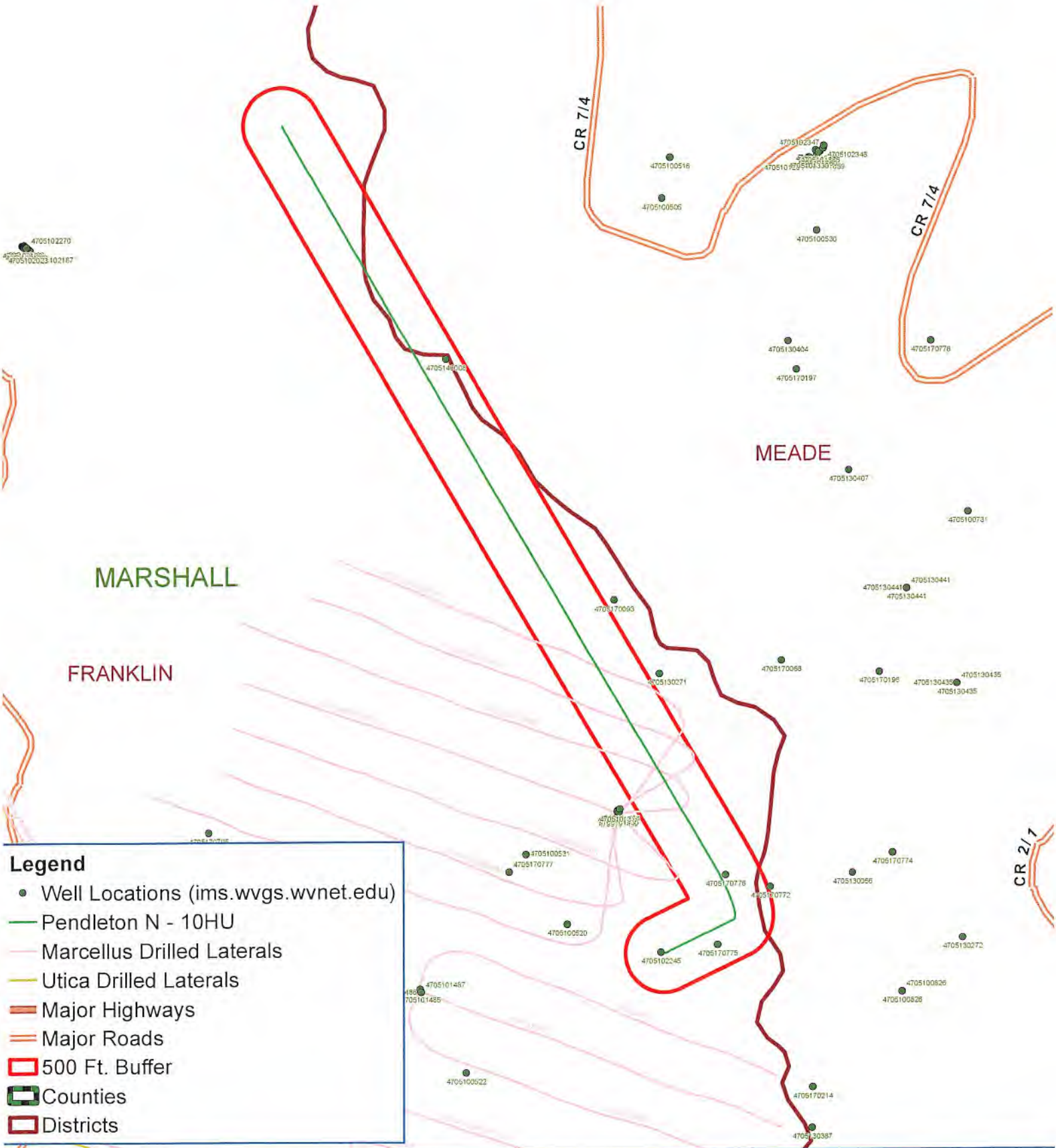
COUNTY	DISTRICT	TMP	MINERAL OWNER/LESSEE	ADDRESS
MARSHALL	FRANKLIN	5-10-10	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-10-12.1	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-10-19	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-10-20	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-10-21	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-10-22	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-10-9	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-16-10	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-16-11	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-16-12	TH EXPLORATION II, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-16-13	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-16-5	TH EXPLORATION II, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-16-6	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-16-7	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-16-8	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-16-9	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-17-3	TH EXPLORATION II, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107
MARSHALL	FRANKLIN	5-17-4	TH EXPLORATION II, LLC	1320 S. University Dr. Suite 500 FT Worth,TX 76107

08/19/2022

**Operators within 500' of Well Bores
Pendleton N-10HU**

MARSHALL	FRANKLIN	5-17-5	SWN PRODUCTION COMPANY	10000 Energy Drive Spring, TX 77389
MARSHALL	FRANKLIN	5-17-5	EQUINOR USA ONSHORE PROPERTIES INC	2107 City West Blvd. Suite 100 Houston, TX 77042
MARSHALL	FRANKLIN	5-17-5	TH EXPLORATION II, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-17-5	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-17-6	TH EXPLORATION II, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	MEADE	9-13-1	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	MEADE	9-13-3	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	MEADE	9-16-3	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	MEADE	9-18-1	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107

08/19/2022



Legend

- Well Locations (ims.wvgs.wvnet.edu)
- Pendleton N - 10HU
- Marcellus Drilled Laterals
- Utica Drilled Laterals
- Major Highways
- Major Roads
- ▭ 500 Ft. Buffer
- ▭ Counties
- ▭ Districts



Pendleton N - 10HU Franklin District Marshall County, WV



Notes:
All locations are approximate and are for visualization purposes only.



Map Prepared by:

 08/19/2022

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, DPS GIS (5/24/2022) 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

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
4705170775	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing of the proposed Point Pleasant well.	State records are incomplete.
4705102245	Tug Hill Operating, LLC.	11787' TVD (proposed)	none	none	No, this well will not be drilled to the proposed depth or perforated. This is a canceled permit.	Permit canceled by Tug Hill Operating, LLC.
4705170776	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing of the proposed Point Pleasant well.	State records are incomplete.
4705140008	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing of the proposed Point Pleasant well.	State records are incomplete.

WV Geological & Economic Survey:

Well: County = 51 Permit = 70775

Report Time: Thursday, May 26, 2022 11:45:19 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170775	Marshall	70775	Franklin	Glen Easton	Cameron	39.753718	-80.73127	523020.9	4400457.5

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
4705170775	-/-		unknown	Prpty Map Herbert Kelley						----- 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
4705170775	-/-	-/-						unclassified	unclassified	not available	unknown	unknown							

WV Geological & Economic Survey:

Well: County = 51 Permit = 02245

Report Time: Thursday, May 26, 2022 11:47:36 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102245	Marshall	2245	Franklin	Glen Easton	Cameron	39.753455	-80.733697	522795.9	4400427.6

Bottom Hole Location Information:

API	EP	FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102245	1	As Proposed	520896.4	4403611.2	-80.755969	39.782188

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
4705102245	-/-		Dvtd Orgnl Loc Cancelled	Alpine Farm LLC			N-9HU Pendleton		Eli A & Fannie Mae Wengerd et al	Tug Hill Operating, LLC		11787 Pt Pleasant 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	O_AF
4705102245	-/-	-/-		1272 Ground Level																

WV Geological & Economic Survey:

Well: County = 51 Permit = 70776

Report Time: Thursday, May 26, 2022 11:47:59 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170776	Marshall	70776	Franklin	Glen Easton	Cameron	39.756185	-80.730894	523052.3	4400731.4

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170776	-/-		unknown	Prpty Map Herbert Alley		1262				----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_AFT	O_BEFO
4705170776	-/-	-/-						unclassified	unclassified	not available	unknown	unknown							

WV Geological & Economic Survey:

Well: County = 51 Permit = 40008

Report Time: Thursday, May 26, 2022 11:48:23 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705140008	Marshall	40008	Meade	Glen Easton	Cameron	39.774488	-80.74366	521952.9	4402759.5

There is no Bottom Hole Location data for this well

There is no Owner/Completion data for this well

There is no Owner/Completion data for this well

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

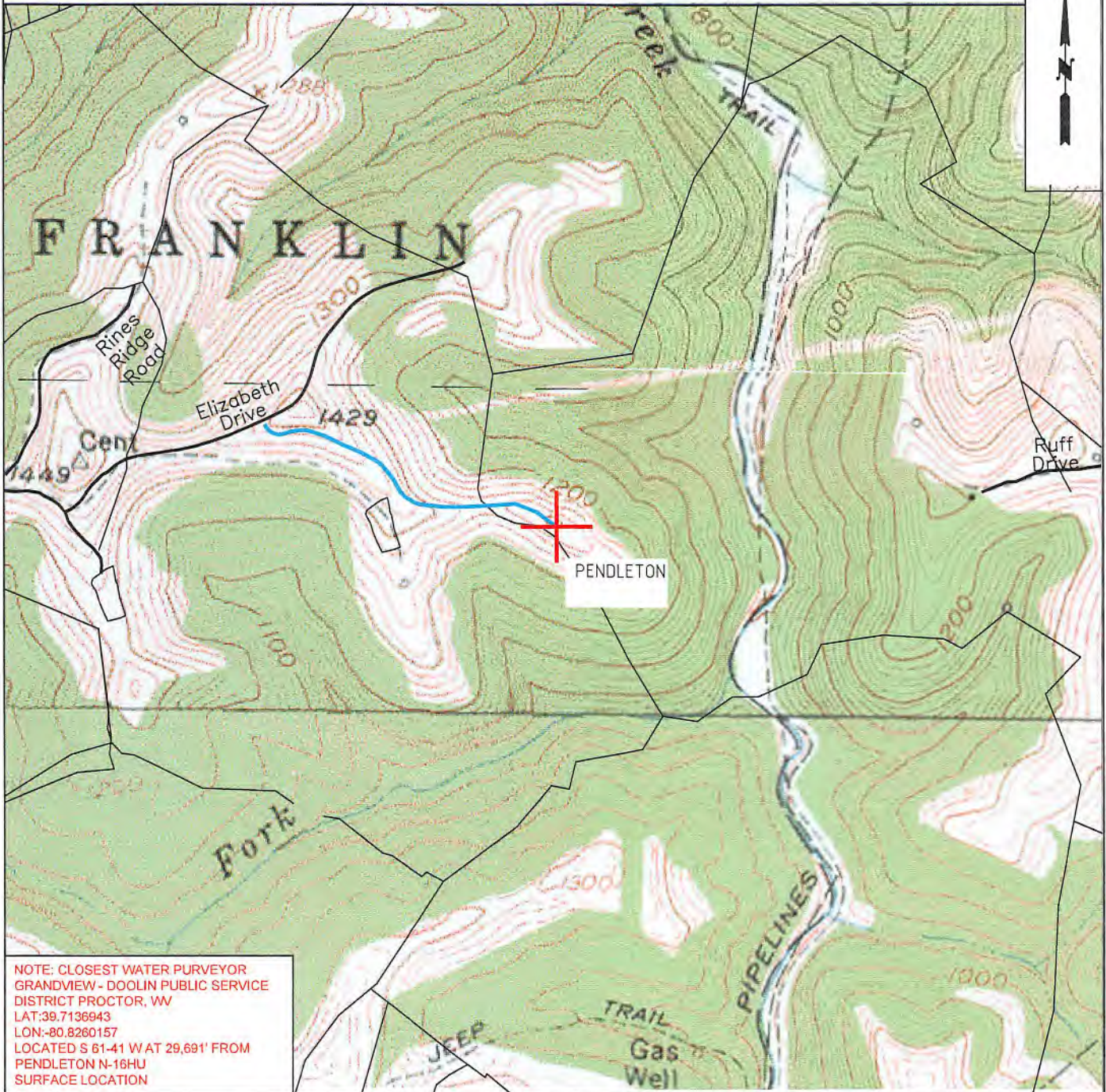
There is no Production Water data for this well

Stratigraphy Information:


API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4705140008	Original Loc	Pittsburgh coal	CBM: Drill Hole	324	Reasonable	5	Reasonable	702	unknown

Pendleton Pad

THERE APPEAR TO BE NO (O) RESIDENCES WITHIN 2,000'.

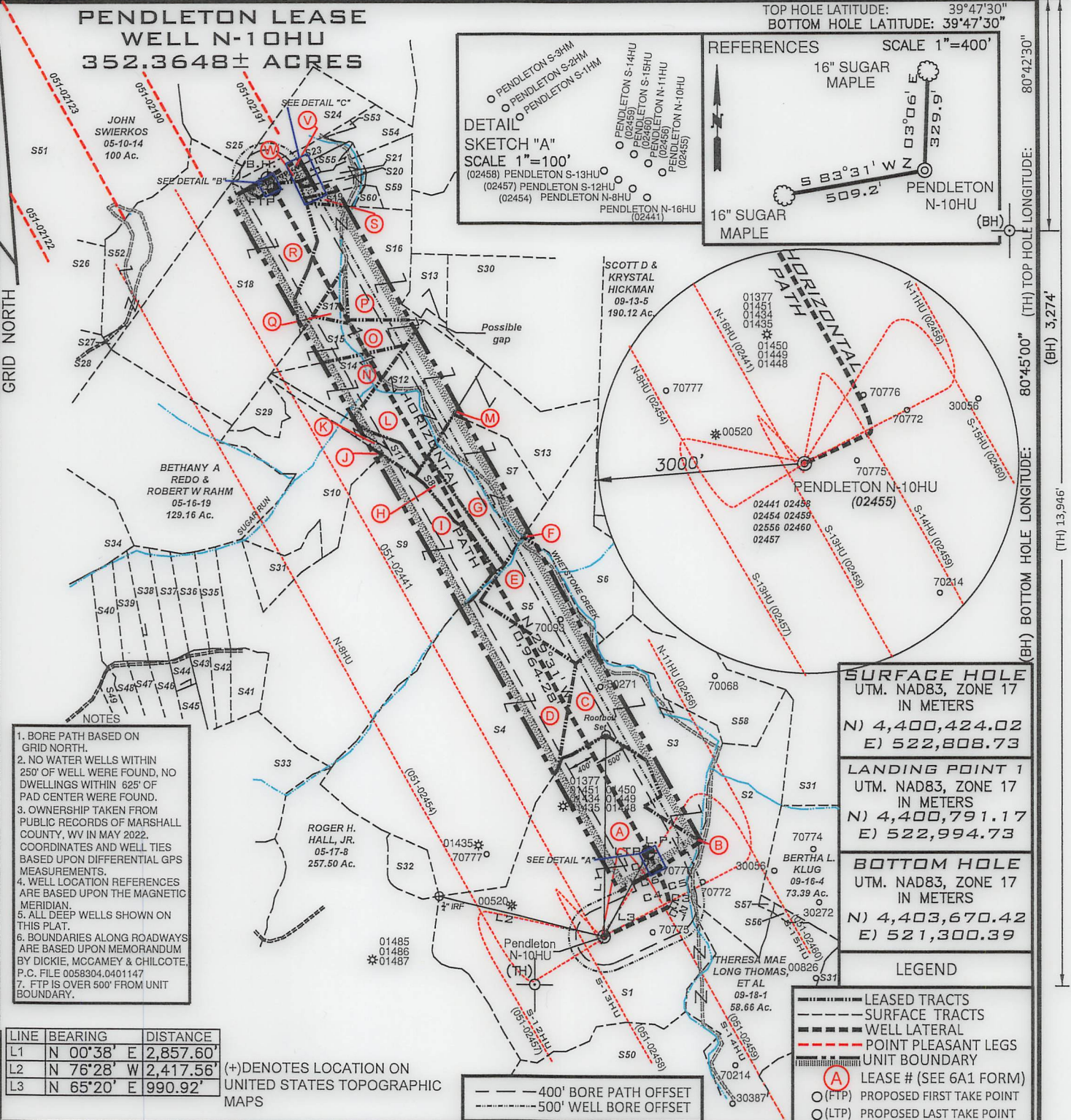


NOTE: CLOSEST WATER PURVEYOR
 GRANDVIEW - DOOLIN PUBLIC SERVICE
 DISTRICT PROCTOR, WV
 LAT:39.7136943
 LON:-80.8260157
 LOCATED S 61-41 W AT 29,691' FROM
 PENDLETON N-16HU
 SURFACE LOCATION

 TUG HILL OPERATING	OPERATOR 494510851	TOPO SECTION	LEASE NAME
	TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317	GLEN EASTON 7.5'	PENDLETON
	SCALE: 1" = 1000'	DATE: DATE: 03-16-2022	

PENDLETON LEASE WELL N-10HU 352.3648± ACRES

TOP HOLE LATITUDE: 39°47'30"
BOTTOM HOLE LATITUDE: 39°47'30"



SURFACE HOLE UTM. NAD83, ZONE 17 IN METERS N) 4,400,424.02 E) 522,808.73
LANDING POINT 1 UTM. NAD83, ZONE 17 IN METERS N) 4,400,791.17 E) 522,994.73
BOTTOM HOLE UTM. NAD83, ZONE 17 IN METERS N) 4,403,670.42 E) 521,300.39

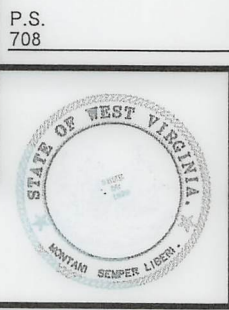
LINE	BEARING	DISTANCE
L1	N 00°38' E	2,857.60'
L2	N 76°28' W	2,417.56'
L3	N 65°20' E	990.92'

(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

- - - 400' BORE PATH OFFSET
- - - 500' WELL BORE OFFSET

FILE NUMBER _____
DRAWING NUMBER: **PENDLETON N-10HU REV1**
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE OF ELEVATION: **SUBMETER MAPPING**
GRADE GPS

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION



David L Jackson

JACKSON SURVEYING INC.
P.O. Box 1460
Clarksburg, WV 26302
304-623-5851



WVDEP
OFFICE OF OIL & GAS
601 57TH STREET, SE
CHARLESTON, WV 25304

DATE: AUGUST 3, 2022
OPERATORS WELL NO. PENDLETON N-10HU
API WELL NO. 47-051-02455
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP X SHALLOW ___
LOCATION ELEVATION 1271.82' WATERSHED (HUC 10) FISH CREEK
DISTRICT FRANKLIN COUNTY MARSHALL
QUADRANGLE GLEN EASTON 7.5' LEASE NUMBER SEE WW-6A1 Form

SURFACE OWNER ALPINE FARM, LLC ACREAGE 249.07
OIL & GAS ROYALTY OWNER ELI A. & FANNIE MAE WENGERD, ET AL LEASE ACREAGE 249.07
PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___
PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE (SPECIFY) _____
TARGET FORMATION POINT PLEASANT ESTIMATED DEPTH TVD: 11,793' TMD: 23,073'
WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN, CT CORP
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 ADDRESS 5098 WASHINGTON STREET WEST, SUITE 407 CHARLESTON, WV 25313-1561

08/19/2022

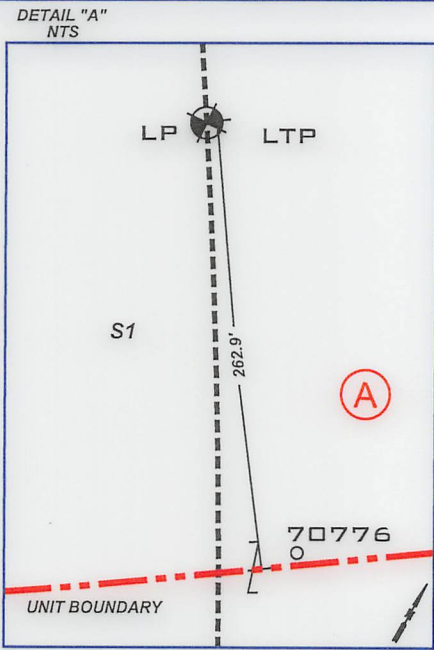
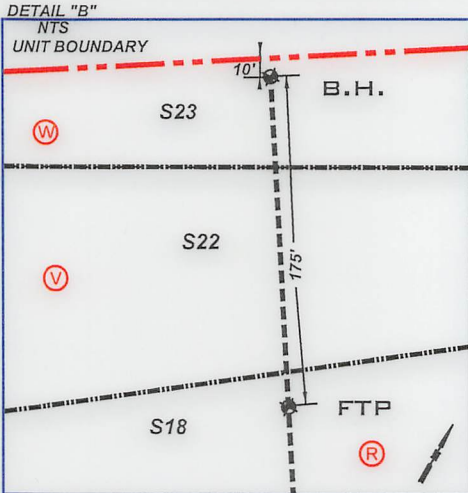
COUNTY NAME
PERMIT

form ww6

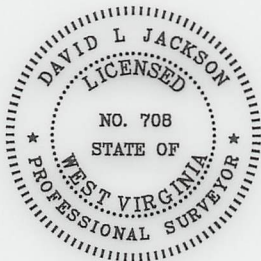
PENDLETON LEASE WELL N-10HU 352.3648± ACRES

Deep Wells Within 2400' of Proposed
Well's Surface Location and/or 500' of Well Lateral

API	OPERATOR
47-051-02441	Tug Hill Operating, LLC
47-051-02454	Tug Hill Operating, LLC
47-051-02456	Tug Hill Operating, LLC
47-051-02457	Tug Hill Operating, LLC
47-051-02458	Tug Hill Operating, LLC
47-051-02459	Tug Hill Operating, LLC
47-051-02460	Tug Hill Operating, LLC



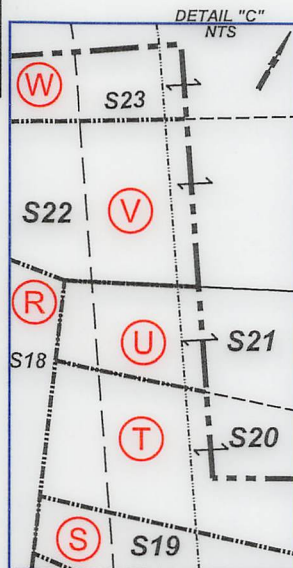
CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH
C1	N 41°33' E	28.51'	39.25'	29.18'
C2	N 08°53' E	41.48'	117.41'	41.70'
C3	N 07°50' W	84.03'	383.51'	84.20'
C4	N 16°42' W	117.49'	1053.24'	117.55'
C5	N 21°09' W	101.76'	1971.64'	101.77'
C6	N 24°21' W	176.35'	3132.70'	176.38'
C7	N 27°46' W	302.22'	4689.13'	302.27'



P.S. 708 *David L Jackson*

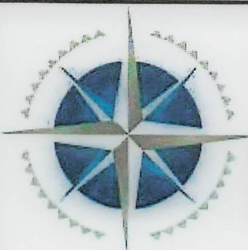
Parcels within Unit Boundary				
Tags	Number	Tax Map -Parcel	Surface Owner	Acres
A	S1	05-17-06	ALPINE FARM LLC	249.07
B	S2	09-16-03	BERTHA L KLUG	71
C	S3	05-17-05	ALPINE FARM LLC	76.96
D	S4	05-17-04	ALPINE FARM LLC	212
E	S5	05-16-13	DAVID ALAN RUBCICH ET AL	33.31
F	S6	09-16-01	ROBERT M & NANCY R MCCARDLE	46.80
G	S7	09-13-01	LOUIS VAN SCYOC	46.81
H	S8	05-16-12	LOUIS VAN SCYOC	10.80
I	S9	05-17-03	SOUTHERN COUNTRY FARMS, INC	190.132
J	S10	05-16-17	RICHARD D & JULIA M REPASKY; BRIAN L TESLOVICH & CARA C DAVIS	55.34
K	S11	05-16-11	GERTRUDE HOLTZ	9.93
L	S12	09-13-03	LOUIS VAN SCYOC	52.40
M	S13	09-13-02	SYLVIA VAN SCYOC, REBECCA KAY JOHNSON, & WONETTA V & NORMAN G JOHNSON (LIFE)	41.5
N	S14	05-16-09	LOUIS AULENBACHER	20.0
O	S15	05-16-8	LOUIS AULENBACHER	21.0
P	S16	05-16-07	LOUIS AULENBACHER	50.0
Q	S17	05-16-10	FRANK P LAUTAR, EST.	5.0
R	S18	05-16-06	JOHN SWIERKOS	134.05
S	S19	05-10-19	LOUIS AULENBACHER	3.209
T	S20	05-10-20	LOUIS AULENBACHER	3.554
U	S21	05-10-21	LOUIS AULENBACHER	3.677
V	S22	05-10-22	LOUIS AULENBACHER	4.276
W	S23	05-10-12.1	JOHN PAUL SMITH, JR ET AL	8.86

Adjoining Parcels Ownership Table				
Tags	Number	Tax Map -Parcel	Surface Owner	Acres
	S24	05-10-10	LOUIS DELBERT VAN SCYOC	24.50
	S25	05-10-09	HERBERT M AULENBACHER, JR	141.43
	S26	05-16-03	DONNA VIVIAN YOHO	71.205
	S27	05-16-04	JOHN SWIERKOS	0.96
	S28	05-16-25	JOHN SWIERKOS	79.04
	S29	05-16-18	JOHN SWIERKOS	10.0
	S30	09-13-04	LOUIS AULENBACHER	100.191
	S31	09-16-05	ROBERT M & NANCY R MCCARDLE	133.0
	S32	05-17-07	ALPINE FARM LLC	10.8
	S33	05-17-02	COLBY HOMER & BELLE M YOHO	104.08
	S34	05-16-21	JAMES M RUCKMAN ET UX	60.75
	S35	05-17-16	GLEN A GUNTO	9.702
	S36	05-16-15.1	GLEN A GUNTO	10.17
	S37	05-17-15	GLEN A GUNTO	10.220
	S38	05-18-13	SOUTHERN COUNTRY FARMS, INC	11.054
	S39	05-18-13.9	ROY & RENEE BUTLER (LIFE)	9.603
	S40	05-18-13.4	RENEE D STREIGHT BUTLER (LIFE)	9.938
	S41	05-17-3.1	WILBUR L RIDDLE, ET UX	10.148
	S42	05-17-1.6	LOLA M SLAUGHTER	6.347
	S43	05-17-1.5	DONNIE R & LOLA M SLAUGHTER	5.607
	S44	05-17-1.2	DONNIE R & LOLA M SLAUGHTER	5.073
	S45	05-17-1.3	JODY & MICHELLE ANDERSON	5.00
	S46	05-17-1.1	DONNIE R & LOLA M SLAUGHTER	8.076
	S47	05-17-1.4	DONNIE R & LOLA M SLAUGHTER	8.844
	S48	05-17-14	SOUTHERN COUNTRY FARMS, INC	7.314
	S49	05-17-13	ROY E & RENEE D BUTLER	5.433
	S50	05-24-01	LUNDA L HENDRICKSON	175.0
	S51	05-10-15	TERRY A & JODI L HARDING	120.805
	S52	05-16-5	JOHN SWIERKOS	52.07
	S53	05-10-11	JOSEPH LEE CROW	1
	S54	05-10-12	JOSEPH LEE CROW	11.279
	S55	05-10-22.1	BRADLEY L & CONNIE L HUBBARD	2.305
	S56	09-18-03	BERTHA L KLUG	1.33
	S57	09-18-04	BERTHA L KLUG	1.0
	S58	09-16-02	ROBERT & NANCY MCCARDLE	53.40
	S59	05-10-13	JOSEPH LEE CROW	12.18
	S60	05-10-13.1	DAVID LEE QUIGLEY, JR	2.88



LEGEND	
	LEASED TRACTS
	SURFACE TRACTS
	WELL LATERAL
	POINT PLEASANT LEGS
	UNIT BOUNDARY
	LEASE # (SEE 6A1 FORM)
	PROPOSED FIRST TAKE POINT
	PROPOSED LAST TAKE POINT

08/19/2022



TUG HILL OPERATING

OPERATOR'S
WELL #: PENDLETON N-10HU
DISTRICT: Franklin
COUNTY: Marshall
STATE: WV
API: 47-051-02455

WELL PLAT
PAGE 2 OF 3
DATE: 08/03/2022

**PENDLETON LEASE
WELL N-10HU
352.3648± ACRES**

LEASE ID	TMP	TAG	GRANTOR, LESSOR, ETC.	DEED BOOK/PAGE	
10*14114	5-17-6	A	ELI & FANNIE MAE WENGERD	671	323 ✓
10*19638	9-16-3	B	GREGORY J HALL, ET AL	944	461 ✓
10*14114	5-17-5	C	ELI & FANNIE MAE WENGERD, ET AL	671	323 ✓
10*14125	5-17-4	D	SHIBEN ESTATES INC	695	460 ✓
10*18666	5-16-13	E	LESLIE A RUBCICH, ET AL	936	83 ✓
10*21131	9-16-1	F	ROBERT M MCCARDLE & NANCY R MCCARDLE, ET AL	951	621 ✓
10*18526	9-13-1	G	ANN TURNER YOUNG SHRIVER, ET AL	933	591 ✓
10*14099	5-16-12	H	SOUTHERN COUNTRY FARMS INC	666	489 ✓
10*14099	5-17-3	I	SOUTHERN COUNTRY FARMS INC	666	489 ✓
10*18126	5-16-17	J	BARBARA ANN ADKINS JOHNSON, ET AL	929	556 ✓
10*22310	5-16-11	K	ROMAN CATHOLIC DIOCESE OF WHEELING MARK E BRENNAN BISHOP	964	520 ✓
10*18526	9-13-3	L	ANN TURNER YOUNG SHRIVER, ET AL	933	591 ✓
10*19256	9-13-2	M	RACHEL B OSTRANDER, ET AL	915	516 ✓
10*18339	5-16-9	N	RESOURCE MINERALS HEADWATER I LP, ET AL	940	448 ✓
10*18339	5-16-8	O	RESOURCE MINERALS HEADWATER I LP, ET AL	940	448 ✓
10*18339	5-16-7	P	RESOURCE MINERALS HEADWATER I LP, ET AL	940	448 ✓
10*19551	5-16-10	Q	KAREN A JOSEPH, ET AL	937	359 ✓
10*21468	5-16-6	R	JOHN A SWIERKOS	953	317 ✓
10*21468	5-10-19	S	JOHN A SWIERKOS, ET AL	953	317 ✓
10*18396	5-10-20	T	LOUIS AULENBACHER, ET AL	932	468 ✓
10*18396	5-10-21	U	LOUIS AULENBACHER, ET AL	932	468 ✓
10*18396	5-10-22	V	LOUIS AULENBACHER, ET AL	932	468 ✓
10*21468	5-10-12.1	W	JOHN A SWIERKOS, ET AL	953	317 ✓



P.S. 708 *David L Jackson*

08/19/2022



TUG HILL
OPERATING

OPERATOR'S
WELL #: PENDLETON N-10HU
DISTRICT: Franklin
COUNTY: Marshall
STATE: WV
API: 47-051-02455

WELL PLAT
PAGE 3 OF 3
DATE: 08/03/2022

**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

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	D	BOOK/PAGE	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT		
10*14114	5-17-6	A	ELI & FANNIE MAE WENGERD	GASTAR EXPLORATION USA INC	1/8+	671	323	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Merger of Gastar Exploration USA Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14114	5-17-5	C	ELI & FANNIE MAE WENGERD	GASTAR EXPLORATION USA INC	1/8+	671	323	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Merger of Gastar Exploration USA Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*19845	5-17-5	C	MICHAEL WESLEY HALL	TH EXPLORATION LLC	1/8+	946	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19846	5-17-5	C	SHARON L SCHULER AND JOSEPH A SCHULER	TH EXPLORATION LLC	1/8+	946	7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1287845-001	5-17-5	C	KENNETH EUGENE DAKAN AKA GENE & MARGARET E. DAKAN	CHESAPEAKE APPALACHIA LLC	1/8+	690	192	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 22/646	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67		
1287845-002	5-17-5	C	DOROTHY SEDOSKY	CHESAPEAKE APPALACHIA LLC	1/8+	690	156	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 22/646	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67		
1287845-003	5-17-5	C	DOLLYE LEE GUZEK A/K/A DOLLY GUZEK	CHESAPEAKE APPALACHIA LLC	1/8+	690	153	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 22/646	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67		
1287845-004	5-17-5	C	GEORGE WILLIAM MCCAIN	CHESAPEAKE APPALACHIA LLC	1/8+	692	342	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67		
1287845-005	5-17-5	C	RITA RAE STEPHENS	CHESAPEAKE APPALACHIA LLC	1/8+	690	229	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67		
1287845-006	5-17-5	C	MICHAEL EARL RICHARDS	CHESAPEAKE APPALACHIA LLC	1/8+	690	257	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67		

LEASE ID	TMP	TAG	GRANTOR, LESSOR, ETC.	GRANTEE, LESSEE, ETC.	ROYALTY	D	BOOK/PAGE	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	
1287845-007	5-17-5	C	VIRGINIA MAE SELMON	CHESAPEAKE APPALACHIA LLC	1/8+	690	239	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-008	5-17-5	C	LESTER M. MERCER AND HELEN J. MERCER	CHESAPEAKE APPALACHIA LLC	1/8+	690	220	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-009	5-17-5	C	LEROY EUGENE RICHARDS	CHESAPEAKE APPALACHIA LLC	1/8+	690	254	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-010	5-17-5	C	BETTY ANN STROSNIDER	CHESAPEAKE APPALACHIA LLC	1/8+	690	147	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-011	5-17-5	C	HILDA IOLA MCCAIN	CHESAPEAKE APPALACHIA LLC	1/8+	692	369	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-012	5-17-5	C	VICTORIA MURPHY	CHESAPEAKE APPALACHIA LLC	1/8+	692	310	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-013	5-17-5	C	HELEN LOUISE MCCAIN GATTS	CHESAPEAKE APPALACHIA LLC	1/8+	690	180	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67

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1287845-014	5-17-5	C	MICHELLE LEE CUSANO PALMER	CHESAPEAKE APPALACHIA LLC	1/8+	692	314	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-015	5-17-5	C	VERONICA DEMELLO	CHESAPEAKE APPALACHIA LLC	1/8+	693	276	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-016	5-17-5	C	LINDSEY R. THOMAS	CHESAPEAKE APPALACHIA LLC	1/8+	692	231	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-017	5-17-5	C	NANCY D. RACKLEY	CHESAPEAKE APPALACHIA LLC	1/8+	692	227	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-018	5-17-5	C	BECKY ANN ROSS	CHESAPEAKE APPALACHIA LLC	1/8+	692	306	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-019	5-17-5	C	CHRISTY JO ROSS WHITE	CHESAPEAKE APPALACHIA LLC	1/8+	692	349	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-020	5-17-5	C	JENNIFER M. FOSTER	CHESAPEAKE APPALACHIA LLC	1/8+	692	318	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67

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1287845-021	5-17-5	C	RONNIE CUSANO AND MELISSA CUSANO	CHESAPEAKE APPALACHIA LLC	1/8+	692	322	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-022	5-17-5	C	JENNIFER LYNN FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	692	218	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/84	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-023	5-17-5	C	JAMES L. FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	693	581	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/84	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-024	5-17-5	C	TAMMY SUE FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	693	585	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/84	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-025	5-17-5	C	KATHY WILLIAMS	CHESAPEAKE APPALACHIA LLC	1/8+	694	56	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-026	5-17-5	C	LARRY WAYNE FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	694	143	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-027	5-17-5	C	SHARON L. SCHULER AND JOSEPH A. SCHULER	CHESAPEAKE APPALACHIA LLC	1/8+	694	29	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67

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1287845-028	5-17-5	C	MICHAEL WESLEY HALL	CHEESAPEAKE APPALACHIA LLC	1/8+	694	34	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-029	5-17-5	C	CHARLES EDWARD FOOCE AND MARY A. FOOCE	CHEESAPEAKE APPALACHIA LLC	1/8+	694	481	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-030	5-17-5	C	GEORGE DAVID FOOCE	CHEESAPEAKE APPALACHIA LLC	1/8+	694	485	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-031	5-17-5	C	MARK A. FOOCE	CHEESAPEAKE APPALACHIA LLC	1/8+	695	375	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 23/479	Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14125	5-17-4	D	SHIBEN ESTATES INC	GASTAR EXPLORATION USA INC	1/8+	695	460	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Merger of Gastar Exploration Inc & Gastar Exploration USA Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*18666	5-16-13	E	LESLIE A RUBCICH	TH EXPLORATION LLC	1/8+	936	83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18745	5-16-13	E	MARTA J RUBCICH	TH EXPLORATION LLC	1/8+	938	454	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19472	5-16-13	E	DAVID RUBCICH AND CYNTHIA Y RUBCICH	TH EXPLORATION LLC	1/8+	933	83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*14099	5-16-12	H	SOUTHERN COUNTRY FARMS INC	GASTAR EXPLORATION USA INC	1/8+	666	489	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Merger of Gastar Exploration Inc & Gastar Exploration USA Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14099	5-17-3	I	SOUTHERN COUNTRY FARMS INC	GASTAR EXPLORATION USA INC	1/8+	666	489	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Merger of Gastar Exploration Inc & Gastar Exploration USA Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*18526	9-13-3	L	ANN TURNER YOUNG SHRIVER	TH EXPLORATION LLC	1/8+	933	591	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18597	9-13-3	L	MARK ALLEN LENENBERG	TH EXPLORATION LLC	1/8+	934	638	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18636	9-13-3	L	CHERYL STEFFEN AND GREGORY STEFFEN	TH EXPLORATION LLC	1/8+	936	240	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18637	9-13-3	L	THOMAS RICHMOND YOUNG ANITA A YOUNG	TH EXPLORATION LLC	1/8+	936	244	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19467	9-13-3	L	ROBERT R FISHER AND AUDREY L IRVIN	TH EXPLORATION LLC	1/8+	942	592	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19788	9-13-3	L	REX B FISHER AND DEBORAH FISHER	TH EXPLORATION LLC	1/8+	948	295	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21014	9-13-3	L	JAMES P MCLAUGHLIN & ALICE W MCLAUGHLIN	TH EXPLORATION LLC	1/8+	946	29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21015	9-13-3	L	ROBERT L MCLAUGHLIN	TH EXPLORATION LLC	1/8+	946	339	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21189	9-13-3	L	NATALIE GIBBS	TH EXPLORATION LLC	1/8+	941	261	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21267	9-13-3	L	JAMES E NICHOLAS AND BEVERLY D NICHOLAS	TH EXPLORATION LLC	1/8+	943	513	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21504	9-13-3	L	PAULETA LINDA CHEATHAM AND CARL WOHLERS	TH EXPLORATION LLC	1/8+	951	142	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21638	9-13-3	L	THE MILDRED Y MILLS TRUST JULY 5TH 2007	TH EXPLORATION LLC	1/8+	956	172	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21709	9-13-3	L	THOMAS YOUNG AND JANE CLAIRE YOUNG	TH EXPLORATION LLC	1/8+	959	350	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21710	9-13-3	L	PENELOPE A JONES	TH EXPLORATION LLC	1/8+	959	355	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22865	9-13-3	L	JAMES H CAMPBELL	TH EXPLORATION LLC	1/8+	977	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22866	9-13-3	L	MARGARET R DONOFRIO	TH EXPLORATION LLC	1/8+	977	57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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10*26004	9-13-3	L	LOUIS VAN SCYOC AND PATRICIA VAN SCYOC	AB RESOURCES LLC	1/8+	697	461	N/A	N/A	N/A	AB Resources LLC to Chief Exploration & Development LL & Radler 2000 Limited Partnership: 24/382	AB Resources LLC & NPAR LLC to Chief Exploration & Development LL & Radler 2000 Limited Partnership: 24/490	Chief Expi & Devel LL, Chiel O&G LLC, Radler 2000 Ltd P'ship & Enerplus Resc. (USA) Corp to Chevron USA Inc: 25/1 & 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA Inc: 756/332	Chevron USA Inc to TH Exploration LLC: 43/164
10*18339	5-16-9	N	RESOURCE MINERALS HEADWATER I LP	TH EXPLORATION LLC	1/8+	940	448	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18526	5-16-9	N	ANN TURNER YOUNG SHRIVER	TH EXPLORATION LLC	1/8+	933	591	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18597	5-16-9	N	MARK ALLEN LENENBERG	TH EXPLORATION LLC	1/8+	934	638	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18636	5-16-9	N	CHERYL STEFFEN AND GREGORY STEFFEN	TH EXPLORATION LLC	1/8+	936	240	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18637	5-16-9	N	THOMAS RICHMOND YOUNG ANITA A YOUNG	TH EXPLORATION LLC	1/8+	936	244	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19467	5-16-9	N	ROBERT R FISHER AND AUDREY L IRVIN	TH EXPLORATION LLC	1/8+	942	592	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19788	5-16-9	N	REX B FISHER AND DEBORAH FISHER	TH EXPLORATION LLC	1/8+	948	295	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21014	5-16-9	N	JAMES P MCLAUGHLIN & ALICE W MCLAUGHLIN	TH EXPLORATION LLC	1/8+	946	29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21015	5-16-9	N	ROBERT L MCLAUGHLIN	TH EXPLORATION LLC	1/8+	946	339	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21189	5-16-9	N	NATALIE GIBBS	TH EXPLORATION LLC	1/8+	941	261	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21267	5-16-9	N	JAMES E NICHOLAS AND BEVERLY D NICHOLAS	TH EXPLORATION LLC	1/8+	943	513	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21504	5-16-9	N	PAULETA LINDA CHEATHAM AND CARL WOHLERS	TH EXPLORATION LLC	1/8+	951	142	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21638	5-16-9	N	THE MILDRED Y MILLS TRUST JULY 5TH 2007	TH EXPLORATION LLC	1/8+	956	172	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21709	5-16-9	N	THOMAS YOUNG AND JANE CLAIRE YOUNG	TH EXPLORATION LLC	1/8+	959	350	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21710	5-16-9	N	PENELOPE A JONES	TH EXPLORATION LLC	1/8+	959	355	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22295	5-16-9	N	RACHEL B OSTRANDER	FOSSIL CREEK OHIO, LLC	1/8+	822	210	N/A	N/A	N/A	N/A	N/A	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/54	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 34/266	Fossil Creek Ohio LLC & Gulfport Energy Corporation to American Petroleum Partners Operating LLC: 36/588	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109
10*22319	5-16-9	N	SHARON G VAN SCYOC	FOSSIL CREEK OHIO, LLC	1/8+	822	204	N/A	N/A	N/A	N/A	N/A	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/54	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 34/266	Fossil Creek Ohio LLC & Gulfport Energy Corporation to American Petroleum Partners Operating LLC: 36/588	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109
10*22865	5-16-9	N	JAMES H CAMPBELL	TH EXPLORATION LLC	1/8+	977	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22866	5-16-9	N	MARGARET R DONOFRIO	TH EXPLORATION LLC	1/8+	977	57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27946	5-16-9	N	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1063	591	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18339	5-16-8	O	RESOURCE MINERALS HEADWATER I LP	TH EXPLORATION LLC	1/8+	940	448	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18526	5-16-8	O	ANN TURNER YOUNG SHRIVER	TH EXPLORATION LLC	1/8+	933	591	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18597	5-16-8	O	MARK ALLEN LENENBERG	TH EXPLORATION LLC	1/8+	934	638	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18636	5-16-8	O	CHERYL STEFFEN AND GREGORY STEFFEN	TH EXPLORATION LLC	1/8+	936	240	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18637	5-16-8	O	THOMAS RICHMOND YOUNG ANITA A YOUNG	TH EXPLORATION LLC	1/8+	936	244	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19467	5-16-8	O	ROBERT R FISHER AND AUDREY L IRVIN	TH EXPLORATION LLC	1/8+	942	592	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19788	5-16-8	O	REX B FISHER AND DEBORAH FISHER	TH EXPLORATION LLC	1/8+	948	295	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21014	5-16-8	O	JAMES P MCLAUGHLIN & ALICE W MCLAUGHLIN	TH EXPLORATION LLC	1/8+	946	29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21015	5-16-8	O	ROBERT L MCLAUGHLIN	TH EXPLORATION LLC	1/8+	946	339	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21189	5-16-8	O	NATALIE GIBBS	TH EXPLORATION LLC	1/8+	941	261	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21267	5-16-8	O	JAMES E NICHOLAS AND BEVERLY D NICHOLAS	TH EXPLORATION LLC	1/8+	943	513	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21504	5-16-8	O	PAULETA LINDA CHEATHAM AND CARL WOHLERS	TH EXPLORATION LLC	1/8+	951	142	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21638	5-16-8	O	THE MILDRED Y MILLS TRUST JULY 5TH 2007	TH EXPLORATION LLC	1/8+	956	172	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21709	5-16-8	O	THOMAS YOUNG AND JANE CLAIRE YOUNG	TH EXPLORATION LLC	1/8+	959	350	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21710	5-16-8	O	PENELOPE A JONES	TH EXPLORATION LLC	1/8+	959	355	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22295	5-16-8	O	RACHEL B OSTRANDER	FOSSIL CREEK OHIO, LLC	1/8+	822	210	N/A	N/A	N/A	N/A	N/A	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/54	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 34/266	Fossil Creek Ohio LLC & Gulfport Energy Corporation to American Petroleum Partners Operating LLC: 36/588	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109
10*22319	5-16-8	O	SHARON G VAN SCYOC	FOSSIL CREEK OHIO, LLC	1/8+	822	204	N/A	N/A	N/A	N/A	N/A	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/54	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 34/266	Fossil Creek Ohio LLC & Gulfport Energy Corporation to American Petroleum Partners Operating LLC: 36/588	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109
10*22865	5-16-8	O	JAMES H CAMPBELL	TH EXPLORATION LLC	1/8+	977	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22866	5-16-8	O	MARGARET R DONOFRIO	TH EXPLORATION LLC	1/8+	977	57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27946	5-16-8	O	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1063	591	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18339	5-16-7	P	RESOURCE MINERALS HEADWATER I LP	TH EXPLORATION LLC	1/8+	940	448	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18526	5-16-7	P	ANN TURNER YOUNG SHRIVER	TH EXPLORATION LLC	1/8+	933	591	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

LEASE ID	TMP	TAG	GRANTOR, LESSOR, ETC.	GRANTEE, LESSEE, ETC.	ROYALTY	D BOOK/PAGE		ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	
10*18597	5-16-7	P	MARK ALLEN LENENBERG	TH EXPLORATION LLC	1/8+	934	638	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18636	5-16-7	P	CHERYL STEFFEN AND GREGORY STEFFEN	TH EXPLORATION LLC	1/8+	936	240	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18637	5-16-7	P	THOMAS RICHMOND YOUNG ANITA A YOUNG	TH EXPLORATION LLC	1/8+	936	244	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*19467	5-16-7	P	ROBERT R FISHER AND AUDREY L IRVIN	TH EXPLORATION LLC	1/8+	942	592	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*19788	5-16-7	P	REX B FISHER AND DEBORAH FISHER	TH EXPLORATION LLC	1/8+	948	295	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21014	5-16-7	P	JAMES P MCLAUGHLIN & ALICE W MCLAUGHLIN	TH EXPLORATION LLC	1/8+	946	29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21015	5-16-7	P	ROBERT L MCLAUGHLIN	TH EXPLORATION LLC	1/8+	946	339	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21189	5-16-7	P	NATALIE GIBBS	TH EXPLORATION LLC	1/8+	941	261	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21267	5-16-7	P	JAMES E NICHOLAS AND BEVERLY D NICHOLAS	TH EXPLORATION LLC	1/8+	943	513	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21468	5-16-7	P	JOHN A SWIERKOS	TH EXPLORATION LLC	1/8+	953	317	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21504	5-16-7	P	PAULETA LINDA CHEATHAM AND CARL WOHLERS	TH EXPLORATION LLC	1/8+	951	142	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21638	5-16-7	P	THE MILDRED Y MILLS TRUST JULY 5TH 2007	TH EXPLORATION LLC	1/8+	956	172	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21709	5-16-7	P	THOMAS YOUNG AND JANE CLAIRE YOUNG	TH EXPLORATION LLC	1/8+	959	350	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21710	5-16-7	P	PENELOPE A JONES	TH EXPLORATION LLC	1/8+	959	355	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22295	5-16-7	P	RACHEL B OSTRANDER	FOSSIL CREEK OHIO, LLC	1/8+	822	210	N/A	N/A	N/A	N/A	N/A	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/54	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 34/266	Fossil Creek Ohio LLC & Gulfport Energy Corporation to American Petroleum Partners Operating LLC: 36/588	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109
10*22319	5-16-7	P	SHARON G VAN SCYOC	FOSSIL CREEK OHIO, LLC	1/8+	822	204	N/A	N/A	N/A	N/A	N/A	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/54	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 34/266	Fossil Creek Ohio LLC & Gulfport Energy Corporation to American Petroleum Partners Operating LLC: 36/588	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109
10*22865	5-16-7	P	JAMES H CAMPBELL	TH EXPLORATION LLC	1/8+	977	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22866	5-16-7	P	MARGARET R DONOFRIO	TH EXPLORATION LLC	1/8+	977	57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27946	5-16-7	P	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1063	591	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19551	5-16-10	Q	KAREN A JOSEPH	TH EXPLORATION LLC	1/8+	937	359	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19552	5-16-10	Q	LISA ANN JACKSON	TH EXPLORATION LLC	1/8+	937	362	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19553	5-16-10	Q	PAUL D LAUTAR AND JUDY B LAUTAR	TH EXPLORATION LLC	1/8+	937	356	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19554	5-16-10	Q	LESLIE KAYE HARCLERODE	TH EXPLORATION LLC	1/8+	945	205	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21468	5-16-6	R	JOHN A SWIERKOS	TH EXPLORATION LLC	1/8+	953	317	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

STATE OF WEST VIRGINIA §
§
COUNTY OF MARSHALL §

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "**Assignment**") is made and entered into this 18th day of May, 2018, and made effective December 12, 2017 (the "**Effective Date**"), by and between AMERICAN PETROLEUM PARTNERS OPERATING, LLC, (hereinafter "**Assignor**") and TH EXPLORATION, LLC (hereinafter "**Assignee**") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated December 12, 2017 (the "**Acreage Trade Agreement**"). Capitalized terms used but not defined herein and defined in the Acreage Trade Agreement shall have the meanings given to such terms in the Acreage Trade Agreement.

WITNESSETH:

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

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

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

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

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

2. **Special Warranty.** Assignor represents and warrants that Assignor has not conveyed or otherwise encumbered (other than Permitted Encumbrances) its interest in the

Marshall County
Jan Pest, Clerk
Instrument 1440860
05/25/2018 @ 02:36:09 PM
ASSIGNMENTS
Book 42 @ Page 109
Pages Recorded 9
Recording Cost \$ 15.00

WI-AG-12-0009

08/19/2022

STATE OF WEST VIRGINIA §
 §
COUNTY OF MARSHALL §

ASSIGNMENT, BILL OF SALE AND CONVEYANCE

THIS ASSIGNMENT, BILL OF SALE AND CONVEYANCE (this "*Assignment*"), dated effective as of 7:00 A.M., local time, where the respective Assets are located, on July 1, 2020 (the "*Effective Time*"), is between **Atinum Marcellus I, LLC**, a Delaware limited liability company ("*Assignor*"), whose mailing address is One Riverway, Suite 710, Houston, TX 77056-1988, and **TH Exploration II, LLC**, a Texas limited liability company, whose mailing address is 1320 S. University Drive, Suite 500, Fort Worth, Texas 76107 ("*Assignee*"). Assignor and Assignee are each, individually, referred to herein as a "*Party*" and, collectively, as the "*Parties*."

Capitalized terms used but not defined herein shall have the respective meanings set forth in that certain Asset Purchase Agreement dated as of November 13, 2020, by and among Assignor and Assignee (the "*Purchase Agreement*").

Section 1. Assignment. The conveyance and assignment herein shall be deemed effective as of the Effective Time.

For Ten Dollars (\$10.00) and other good and valuable consideration (the receipt and sufficiency of which are hereby acknowledged), Assignor does hereby forever GRANT, BARGAIN, SELL, CONVEY, ASSIGN, TRANSFER, SET OVER AND DELIVER unto Assignee, and Assignee does hereby acquire, the undivided interests in the Leases (as defined below) set forth on Exhibit A-1, and all other of Assignor's right, title and interest in and to the interests and properties described in subsections (a) through (k) of this Section 1 (without duplication) (such right, title and interest, less and except the Excluded Assets, collectively, the "*Assets*");

(a) The oil and gas leases, mineral leases and Royalties located in the Covered Counties (which Covered Counties include, for the avoidance of doubt, the county in which this Assignment is filed of record), including those described on Exhibit A-1 together with any and all other right, title and interest in and to the leasehold estates created thereby, subject to the terms, conditions, covenants and obligations set forth in such leases or other instrument creating such rights or interests or on Exhibit A-1 (such leases, Royalties, and mineral interests, collectively, the "*Leases*"), together with any related interest in the lands covered by the Leases or lands unitized, pooled, communitized or consolidated therewith (the "*Lands*");

(b) All of the oil and/or gas wells identified on Exhibit A-2 hereto (the "*Wells*"), and any other oil, gas, or other wells located on any of the Leases or the Lands, in each case, whether producing, non-producing, shut-in, temporarily or permanently abandoned or otherwise;

(c) All rights, titles and interests arising under any unitization, pooling and/or communitization agreements, declarations or designations for drilling, spacing and/or production units related to any of the Leases, Wells or Lands, including the units described on Exhibit A-4;

STATE OF WEST VIRGINIA §
§
COUNTY OF MARSHALL §

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "Assignment") is made and entered into this 7th day of February, 2019 (the "Effective Date"), by and between CHEVRON U.S.A. INC. (hereinafter "Assignor") and TH EXPLORATION, LLC (hereinafter "Assignee") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated the 1st day of February, 2019 (the "Acreage Trade Agreement"). Capitalized terms used but not defined herein and defined in the Acreage Trade Agreement shall have the meanings given to such terms in the Acreage Trade Agreement.

WITNESSETH:

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

WHEREAS, Assignor desires to assign, set over, and transfer to Assignee all of Assignor's right, title, and interest in and to the Leases as described below, subject to certain overriding royalty interests and less and except certain exclusions.

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

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

A. The Chevron ORRI previously conveyed to Assignor and as described in that certain Memorandum of Assignment of Oil and Gas Lease Interests dated November 6, 2012 by and between Cornell Holdings Incorporated and Chevron U.S.A. Inc., which is recorded at Book 0028, Page 0239 in the Office of the County Clerk of Marshall County, West Virginia, and

B. Any portion of the Leases set forth in the column entitled "Less and Except" on Exhibit A.

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

CERTIFICATE OF CONSENT AND EASEMENT

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

Executed this 1 day of July, 2019.

Marshall County
Jan Pest, Clerk
Instrument 1456384
07/12/2019 @ 12:25:33 PM

ALPINE FARM, LLC.

By: Eli A Wengerd
Name: Eli A. Wengerd
Title: Member

STATE OF OHIO
COUNTY OF HOLMES

SS:

RIGHT OF WAY W/O CONSIDERATION
Book 1052 @ Page 490
Pages Recorded 2
Recording Cost \$ 11.00

On this, the 1st day of July, 2019, before me, a notary public, the undersigned officer, personally appeared Eli A. Wengerd, who acknowledged himself/herself to be the Owner of Alpine Farm, LLC and that he/she as such, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the company by himself/herself as Owner.

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

My Commission Expires: July 14, 2019
Signature/Notary Public: Amber K Sramek
Name/Notary Public (print): Amber K Sramek

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



AMBER K SRAMEK
Notary Public, State of Ohio
My Comm. Expires 07/14/2019

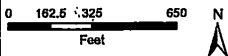


BOOK 1052 PAGE 0491

5-17-6
ALPINE
FARM, LLC

1 inch: 550 feet

Pad Area Boundary



NOTE: THE APPROXIMATE LOCATION FOR THE SURFACE USE, ACCESS ROAD, BURN OF TRAIL AND THE LOCATION OF THE PAD FOOTING HAS BEEN INDICATED AS AN INDICATION OF GENERAL LOCATION. THE ACTUAL LOCATIONS MAY VARY AS THE EXISTING SURFACE USE, ACCESS ROAD, BURN OF TRAIL AND THE PAD FOOTING SHALL BE AS SHOWN AND DESCRIBED IN THE DEED AS FILED IN THE COUNTY RECORD AND THE APPROVED SITE LOCATIONS FOR THE SURFACE USE, ACCESS ROAD AND BURN OF TRAIL SHALL BE AS SHOWN AS ACTUALLY CONSTRUCTED.

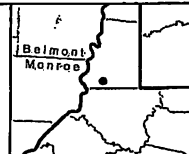
"PLAT"

ALPINE FARM, LLC
Marshall, WV

Date: 7-1-19

Name: Elite Energy

Name: Fannie Mae Mortgage



STATE OF WEST VIRGINIA, MARSHALL COUNTY, SCT.:

I, JAN PEST, Clerk of the County Commission of said County, do hereby certify that the annexed writing, bearing date on the 1st day of July, 2019, was presented for and by me, admitted to record in my office upon the above certificate as to the parties therein named this 12th day of July, 2019 at 12:25 o'clock P M.

TESTE: Jan Pest Clerk



June 1, 2022

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

RE: Pendleton N-10HU

Subject: Road Crossing Letter

Dear Taylor:

Tug Hill Operating, LLC will not be drilling, extracting or producing any minerals under any WV County or State Routes in the area reflected on the Pendleton N-10HU well plat.

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.

Sincerely,

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

Amy L. Morris
Permitting Specialist – Appalachia Region

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

Date of Notice Certification: 06/01/2022

API No. 47- 051 - _____

Operator's Well No. Pendleton N-10HU

Well Pad Name: Pendleton

Notice has been given:

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>522,808.73</u>
County:	<u>Marshall</u>		Northing:	<u>4,400,424.02</u>
District:	<u>Franklin</u>	Public Road Access:	<u>Rines Ridge Road (County Route 76)</u>	
Quadrangle:	<u>Glen Easton 7.5'</u>	Generally used farm name:	<u>Alpine Farm, LLC</u>	
Watershed:	<u>Middle Fish Creek</u>			

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

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 100px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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Required Attachments:

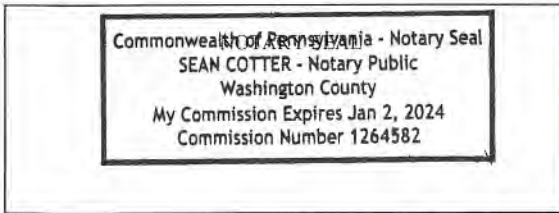
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication 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.

08/19/2022

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-hilop.com</u>



Subscribed and sworn before me this 1 day of June.

[Signature] Notary Public

My Commission Expires 1/2/2024

Oil and Gas Privacy Notice:

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

WW-6A
(9-13)

API NO. 47- 051 -
OPERATOR WELL NO. Pendleton N-10HU
Well Pad Name: Pendleton

**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: 6/2/2022 **Date Permit Application Filed:** 6/5/2022

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: Alpine Farm, LLC (Well Pad and Access Road)
Address: 7932 TWP Road 662
Dundee, OH 44624-9602
Name: _____
Address: _____

COAL OWNER OR LESSEE /
Name: Consol Energy, LLC Attn: Casey Saunders
Address: 275 Technology Drive, Suite 101
Canonsburg, PA 15317-9565
 COAL OPERATOR
Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: Ray J. Miller
Address: 1538 Township Road 660
Dundee, OH 44624
Name: _____
Address: _____

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: No water purveyors within 2000'
Address: _____

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

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

*Please attach additional forms if necessary

08/19/2022

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

Well Location Restrictions

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

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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.**

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.

WW-6A
(8-13)

API NO. 47- 051 -
OPERATOR WELL NO. Pendleton N-10HU
Well Pad Name: Pendleton

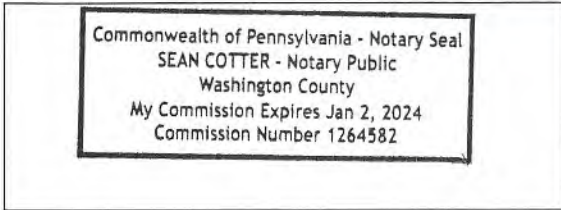
Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

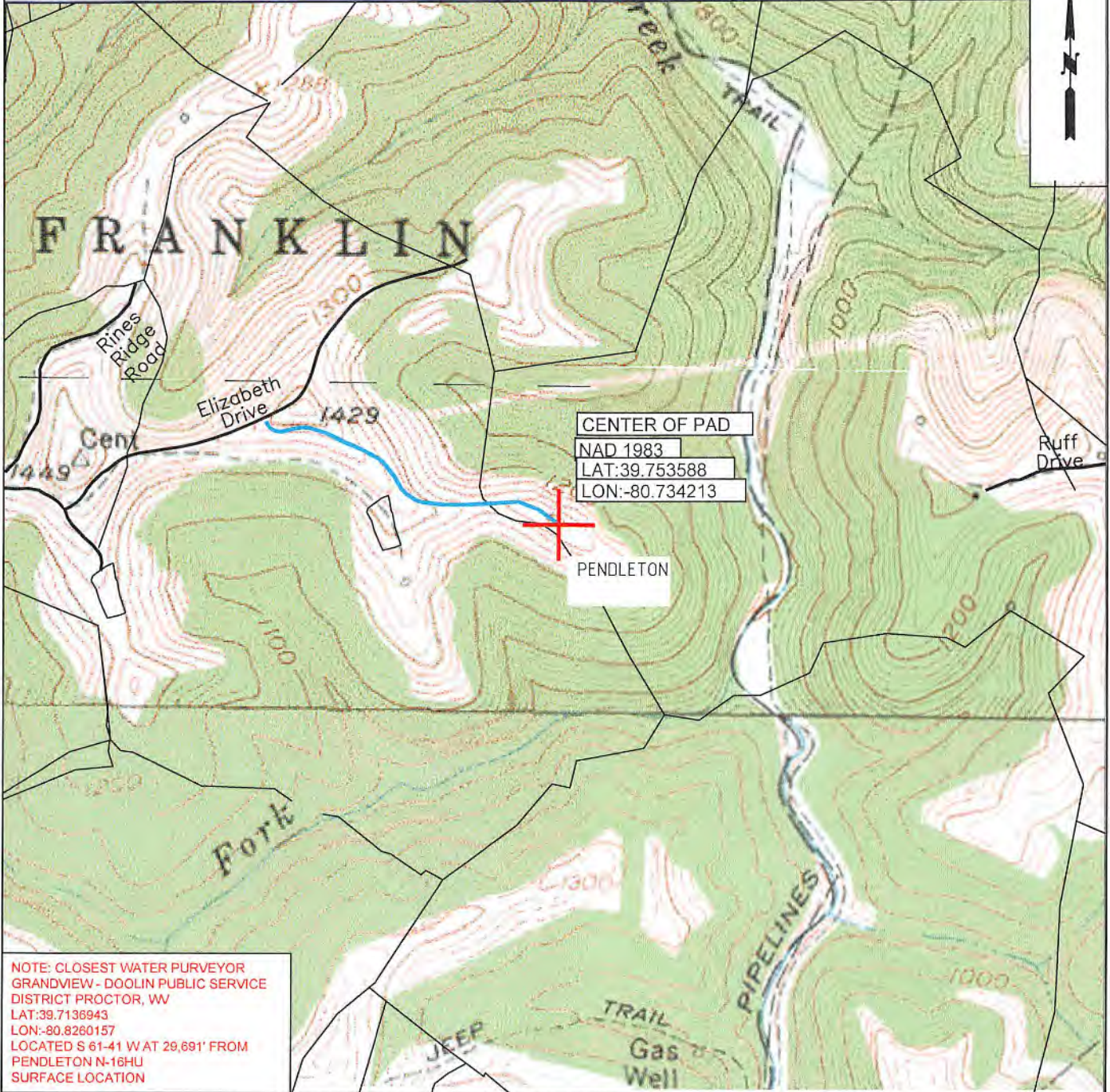
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory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




Subscribed and sworn before me this 1 day of June, 2022.
[Signature] Notary Public
My Commission Expires 1/2/2024

Pendleton Pad

THERE APPEAR TO BE NO (O) RESIDENCES WITHIN 2,000'.



NOTE: CLOSEST WATER PURVEYOR
 GRANDVIEW - DOOLIN PUBLIC SERVICE
 DISTRICT PROCTOR, WV
 LAT: 39.7138943
 LON: -80.8260157
 LOCATED S 61-41 W AT 29,691' FROM
 PENDLETON N-16HU
 SURFACE LOCATION

 TUG HILL OPERATING	OPERATOR	494510851	TOPO SECTION	LEASE NAME
	TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317		GLEN EASTON 7.5'	PENDLETON
			SCALE:	DATE:
			1" = 1000'	DATE: 03-15-2022

08/19/2022

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: 1/28/2019 **Date of Planned Entry:** 2/8/2019

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: Eli and Fannie Mae Wengerd (Well Pad and Access Road)
Address: 7932 TWP Road 662
Dundee, OH 44624-9602

Name: Ray J. Miller (Access Road)
Address: 1538 Township Road 660
Dundee, OH 44624

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: CONSOL Energy, LLC Attn: Casey Saunders
Address: 1000 CONSOL Energy Drive
Canonsburg, PA 15317

MINERAL OWNER(S)

Name: Eli and Fannie Mae Wengerd
Address: 7932 TWP Road 662
Dundee, OH 44624-9602

*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: <u>West Virginia</u>	Approx. Latitude & Longitude: <u>39.75344; -80.73397</u>
County: <u>Marshall</u>	Public Road Access: <u>Rines Ridge Road (County Route 76)</u>
District: <u>Franklin</u>	Watershed: <u>Fish Creek</u>
Quadrangle: <u>Glen Easton 7.5'</u>	Generally used farm name: <u>Eli and Fannie Mae Wengerd</u>

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

Notice is hereby given by:

Well Operator: <u>Tug Hill Operating, LLC</u>	Address: <u>380 Southpointe Boulevard, Plaza II, Suite 200</u>
Telephone: <u>724-749-8388</u>	<u>Canonsburg, PA 15317</u>
Email: <u>amiller@tug-hill.com</u>	Facsimile: <u>724-338-2030</u>

Oil and Gas Privacy Notice:

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

08/19/2022

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: 06/02/2022 **Date Permit Application Filed:** 06/08/2022

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: Alpine Farm, LLC (Well Pad and Access Road)
Address: 7932 TWP Road 662
Dundee, OH 44624-9602

Name: Ray J. Miller (Access Road)
Address: 1538 Township Road 660
Dundee, OH 44624

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>522,808.73</u>
County:	<u>Marshall</u>		Northing:	<u>4,400,424.02</u>
District:	<u>Franklin</u>	Public Road Access:	<u>Rines Ridge Road (County Route 76)</u>	
Quadrangle:	<u>Glen Easton 7.5'</u>	Generally used farm name:	<u>Alpine Farm, LLC</u>	
Watershed:	<u>Fish Creek</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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

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

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

Oil and Gas Privacy Notice:

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



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 22, 2021 ✓

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

Subject: DOH Permit for the Pendleton Pad, Marshall County
Pendleton N-10HU Well Site ✓

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2010-0110 which has been transferred to Tug Hill Operating LLC for access to the State Road for a well site located off Marshall County Route 76 SLS MP 1.91.

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

Very Truly Yours,

A handwritten signature in blue ink that reads "Gary K. Clayton".

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

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



PLANNED ADDITIVES TO BE USED IN FRACTURING OR STIMULATION

Pendleton 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

Pendleton Well Site

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

Tug Hill Operating Marshall County Franklin District

Latitude 39.75358810° Longitude -80.73421256° Middle Fish Creek Watershed

Pertinent Site Information Pendleton Site Emergency Number: 304-843-1130 Franklin District, Marshall County, WV Watershed: Middle Fish Creek Watershed Site #11 Address:

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

Property Owner Information - Pendleton Well Site Table with columns for Owner, Acreage, and other details.

Exhibit A: Final Design: Issue for Permitting



Access Road and Disturbed Area tables providing technical specifications for road construction and land disturbance.

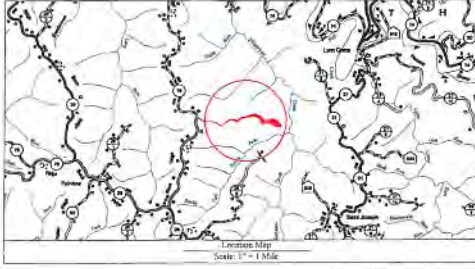
Position Well Site Quantities table detailing construction metrics such as excavation, backfill, and erosion control.

APPROVED WVDEP OOG Updated 4/13/2022

Project Contacts, West Virginia Department of Environmental Protection, and MISS UTILITY OF WEST VIRGINIA contact information.

Approach Routes, Floodplain Conditions, and Environmental notes detailing site access and regulatory compliance.

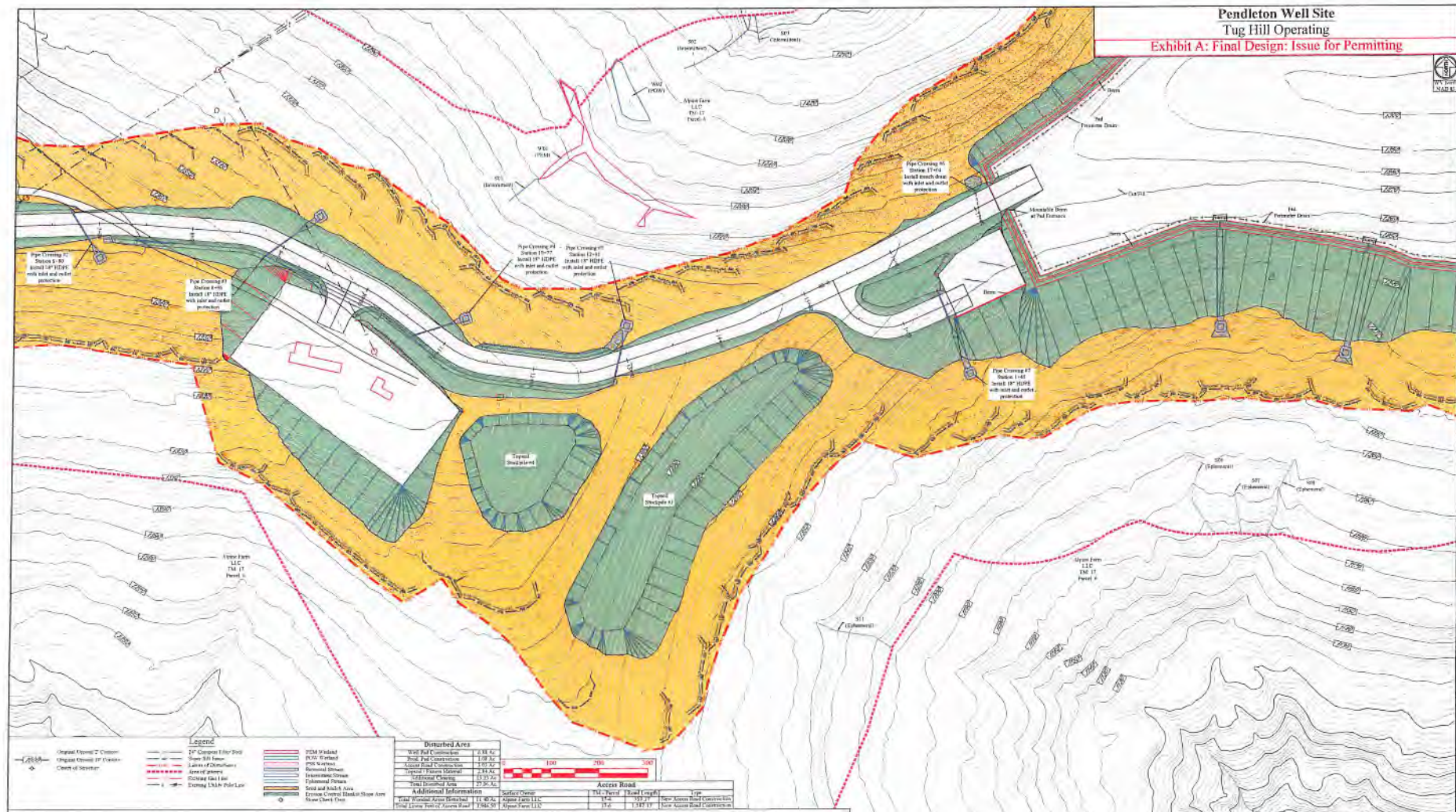
Site Locations (NAD 83) table listing coordinates for various site locations.



RECEIVED Office of Oil and Gas JUN 6 2022, WV Department of Environmental Protection, and Project Details including sheet descriptions and a regulatory seal.

Vertical sidebar containing TUG HILL OPERATIONS logo, a compass rose, project title 'Pendleton Well Site', and sheet identification 'Sheet #1 of 20'.

Pendleton Well Site Tug Hill Operating Exhibit A: Final Design: Issue for Permitting



Legend

Original Proposed Flow Line	12" Concrete 10' Hard Shell	250' W/Adopt
Original Proposed 10" Concrete	8" Poly 10' Hard Shell	500' W/Adopt
Original 10" Concrete	8" Poly 15' Hard Shell	750' W/Adopt
Flow Line	Line of Disturbance	Removal of Disturbance
Flow Line	Line of Disturbance	Removal of Disturbance
Flow Line	Line of Disturbance	Removal of Disturbance
Flow Line	Line of Disturbance	Removal of Disturbance
Flow Line	Line of Disturbance	Removal of Disturbance
Flow Line	Line of Disturbance	Removal of Disturbance

Disturbed Area

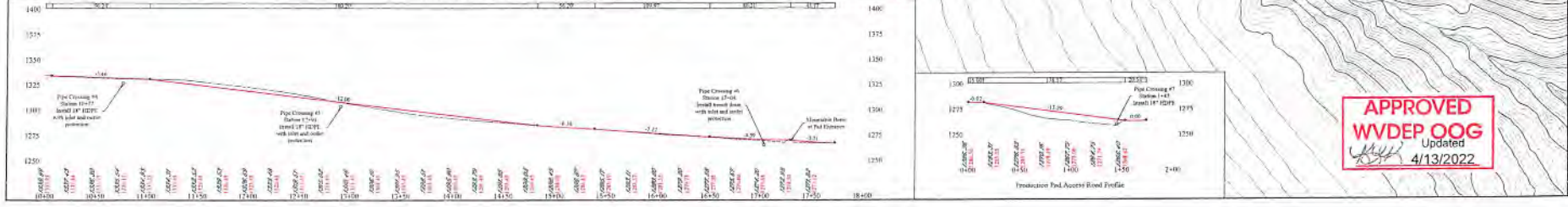
Category	Area (sq. ft.)
Well Pad Construction	8,333 sq. ft.
Flow Line Construction	1,333 sq. ft.
Access Road Construction	1,000 sq. ft.
Flow Line Construction	1,000 sq. ft.
Flow Line Construction	1,000 sq. ft.
Flow Line Construction	1,000 sq. ft.
Flow Line Construction	1,000 sq. ft.
Flow Line Construction	1,000 sq. ft.
Flow Line Construction	1,000 sq. ft.
Flow Line Construction	1,000 sq. ft.
Flow Line Construction	1,000 sq. ft.

Additional Information

Category	Value
Flow Line Construction	11,000 sq. ft.
Flow Line Construction	1,000 sq. ft.
Flow Line Construction	1,000 sq. ft.

Access Road

Type	Length (ft.)
Flow Line Construction	100
Flow Line Construction	100
Flow Line Construction	100



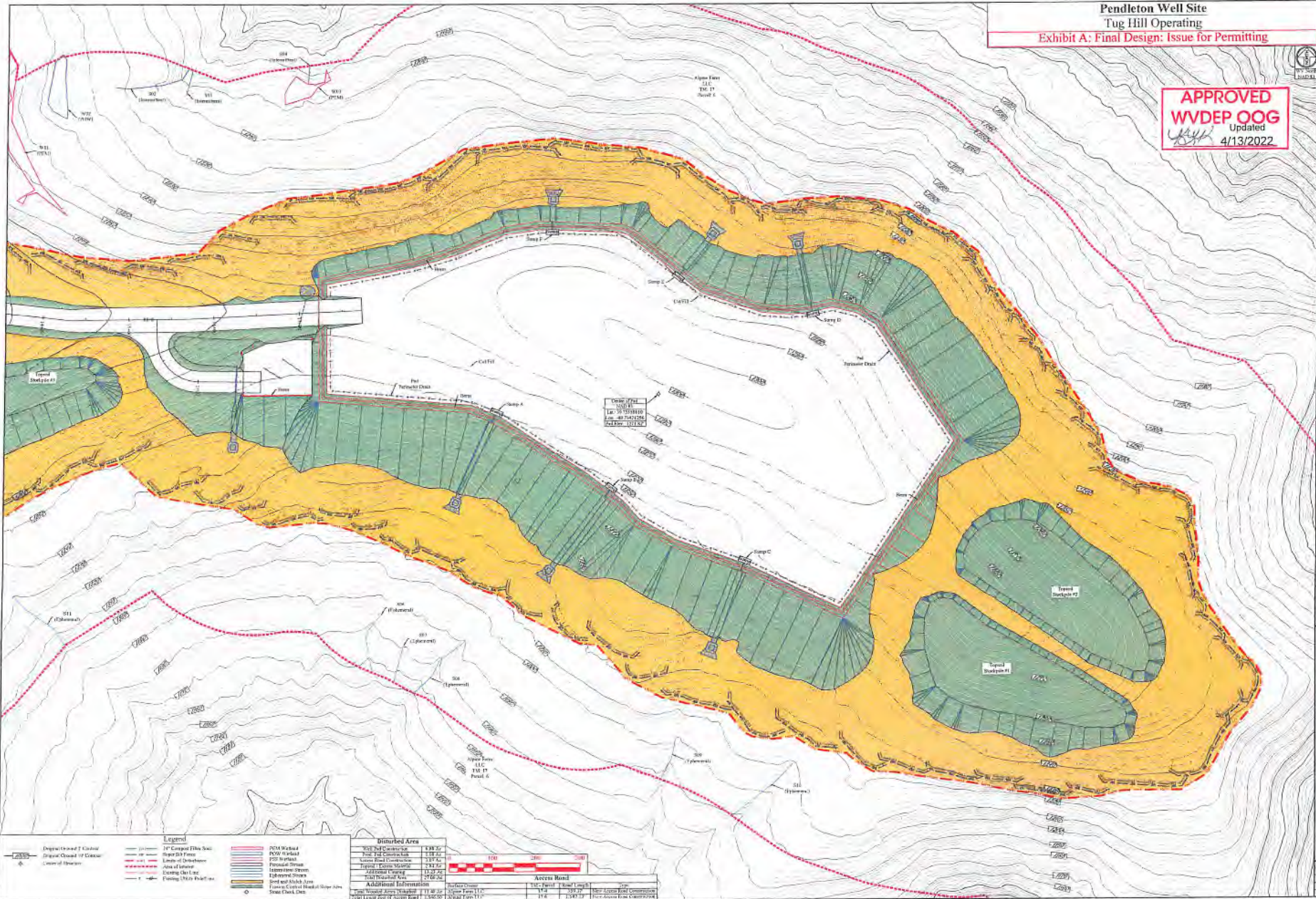
APPROVED
WVDEP OOG
Updated
4/13/2022

THIS DOCUMENT
PREPARED FOR:
TUG HILL
OPERATING

Envision and Sediment Control Plan
Pendleton Well Site
Pendleton District,
Marshall County, WV

Scale: As Shown
Designed by: ZS
Map by:
Sheet 7 of 20

APPROVED
WVDEP OOG
Updated
4/13/2022



Legend

Dependent 7' Contour	14" Concrete Filter Strip	DCM Washpad
Dependent 10' Contour	Super 200 Filter Strip	P20 Washpad
Contour Interval	Line of Construction	Final Elevation
	Existing Chute	Existing Chute
	Existing Utility	Existing Utility
	Soil and Ashes Area	Final Elevation
	Final Elevation	Final Elevation
	Final Elevation	Final Elevation

Disturbed Area

DCM Washpad	1,138.45
P20 Washpad	1,138.45
Final Elevation	1,138.45
Final Elevation	1,138.45
Final Elevation	1,138.45
Final Elevation	1,138.45
Final Elevation	1,138.45
Final Elevation	1,138.45
Final Elevation	1,138.45
Final Elevation	1,138.45

TUG HILL OPERATING
 THIS DOCUMENT PREPARED FOR TUG HILL OPERATING
 Key Surveys
 Pendleton Well Site
 Franklin District
 Marshall County, WV
 Date: 04/13/2022
 Scale: As Shown
 Designed by: ZS
 For use:
 Sheet 8 of 20