



west virginia department of environmental protection

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

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

Wednesday, August 24, 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 S-15HU
47-051-02460-00-00

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

A blue ink signature of James A. Martin is written over the text of his name and title.

Operator's Well Number: PENDLETON S-15HU
Farm Name: ALPINE FARM, LLC
U.S. WELL NUMBER: 47-051-02460-00-00
Horizontal 6A New Drill
Date Issued: 8/24/2022

Promoting a healthy environment.

08/26/2022



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 #47-051-02460

COMPANY: Tug Hill Operating, LLC

FARM: Alpine Farm, LLC

Pendleton S-15HU

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,

Susan Rose
Administrator

**Van Winkle S-20HU 47-051-02353; Van Winkle S-21HU 47-051-02354; Van Winkle S-22HU 47-051-02355; Van Winkle S-23HU 47-051-02356; Pendleton N-16HU 47-051-02441; Pendleton N-8HU 47-051-02454; Pendleton N-10HU 47-051-02455; Pendleton N-11HU 47-051-02456; Pendleton S-12HU 47-051-02457; Pendleton S-13HU 47-051-02458; Pendleton S-14HU 47-051-02459

08/26/2022

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.

08/26/2022

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 S-15HU 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 *MSK 7/20/2022*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Point Pleasant is the target formation at a depth of 11,550' - 11,667', thickness of 117' and anticipated pressure of approx. 7,500 psi.

8) Proposed Total Vertical Depth: 11,817'

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 22,638'

11) Proposed Horizontal Leg Length: 9,965.09'

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	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	30"	NEW	BW	BW	120'	120'	259FT^3(CTS)
Fresh Water/Coal	20"	NEW	J55	106.5#	1,040'	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#	10,977'	10,977'	3,577FT^3(CTS)
Production	5 1/2"	NEW	P110	23#	22,638'	22,638'	5,373FT^3(CTS)
Tubing	2 7/8"	NEW	P110	6.5#		11,592'	
Liners							

MJK 7/28/2022

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

PACKERS

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

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 (11,092'). 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 24,900,000 lb. proppant and 450,000 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.

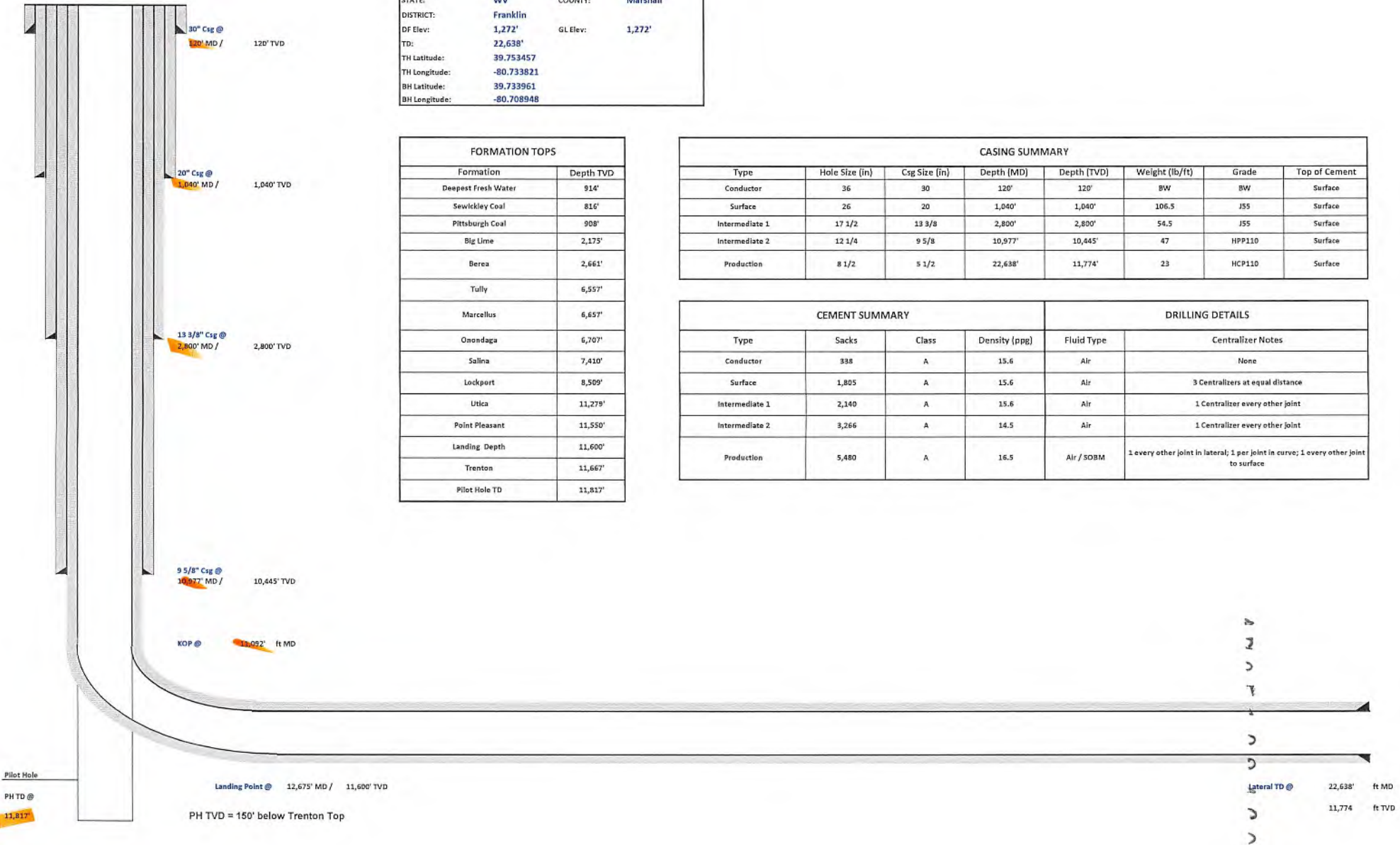


WELL NAME: Pendleton S-15HU
STATE: WV **COUNTY:** Marshall
DISTRICT: Franklin
DF Elev: 1,272' **GL Elev:** 1,272'
TD: 22,638'
TH Latitude: 39.753457
TH Longitude: -80.733821
BH Latitude: 39.733961
BH Longitude: -80.708948

FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	914'
Sewickley Coal	816'
Pittsburgh Coal	908'
Big Lime	2,173'
Berea	2,661'
Tully	6,557'
Marcellus	6,657'
Onondaga	6,707'
Salina	7,410'
Lockport	8,509'
Utica	11,279'
Point Pleasant	11,550'
Landing Depth	11,600'
Trenton	11,667'
Pilot Hole TD	11,817'

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	10,977'	10,445'	47	HPP110	Surface
Production	8 1/2	5 1/2	22,638'	11,774'	23	HCP110	Surface

CEMENT SUMMARY				DRILLING DETAILS	
Type	Sacks	Class	Density (ppg)	Fluid Type	Centralizer Notes
Conductor	398	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	3,266	A	14.5	Air	1 Centralizer every other joint
Production	5,480	A	16.5	Air / SOBMs	1 every other joint in lateral; 1 per joint in curve; 1 every other joint to surface



Pilot Hole
PH TD @ 11,817'
Landing Point @ 12,675' MD / 11,600' TVD
PH TVD = 150' below Trenton Top

Lateral TD @ 22,638' ft MD
11,774' ft TVD



Tug Hill Operating, LLC Casing and Cement Program

Pendleton S-15HU

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"	10,977'	CTS
Production	5 1/2"	HCP110	8 1/2"	22,638'	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



Well: Pendleton S-15 HU (slot F)
 Site: Pendleton
 Project: Marshall County, West Virginia NAD83 UTM 17N
 Design: rev3
 Rig:

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
 14437070.247 1715227.793 39.753457000 -80.733821000

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.81°



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

Magnetic Field
 Strength: 51695.6nT
 Dip Angle: 66.48°
 Date: 10/25/2021
 Model: IGRF2020

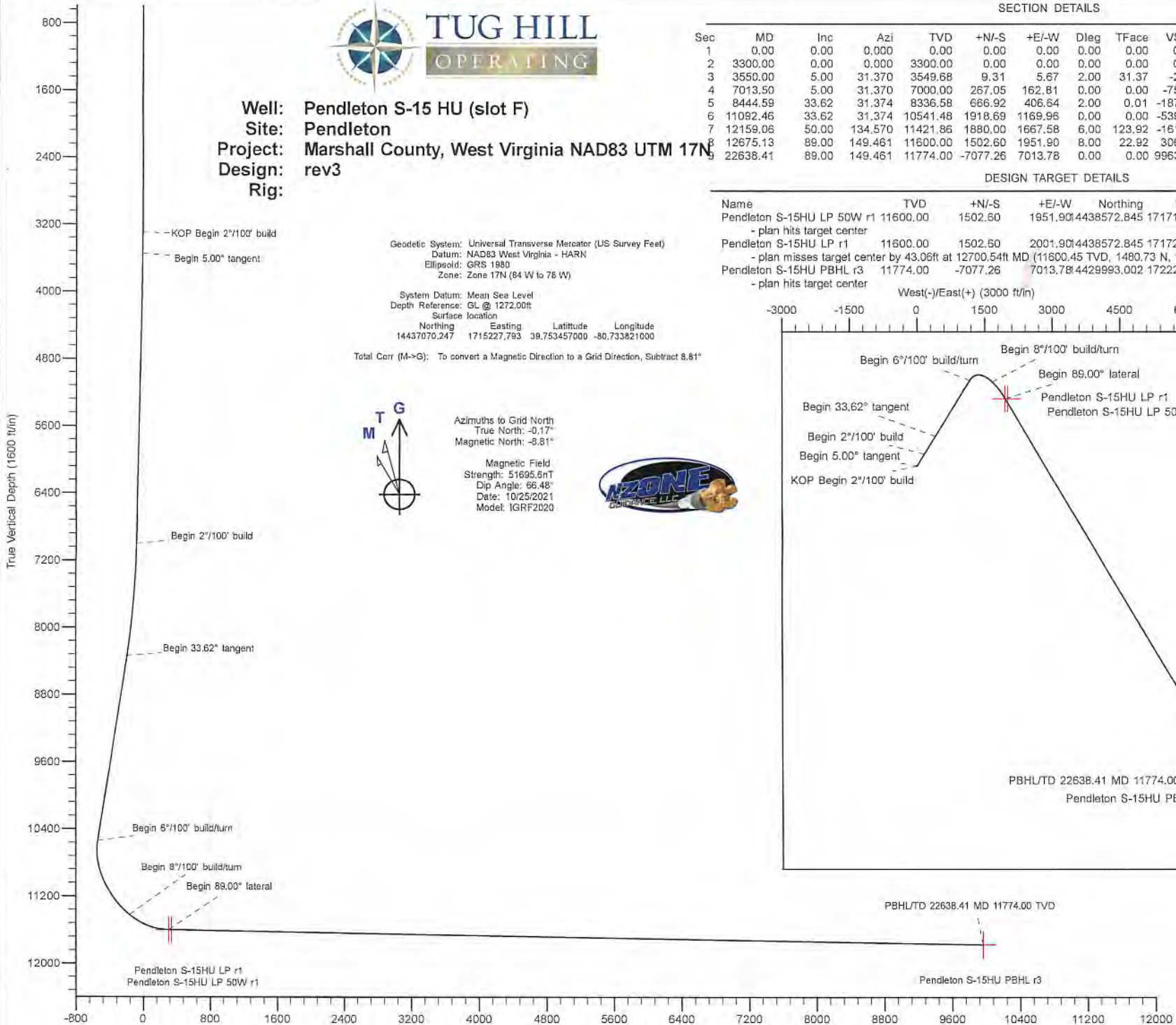
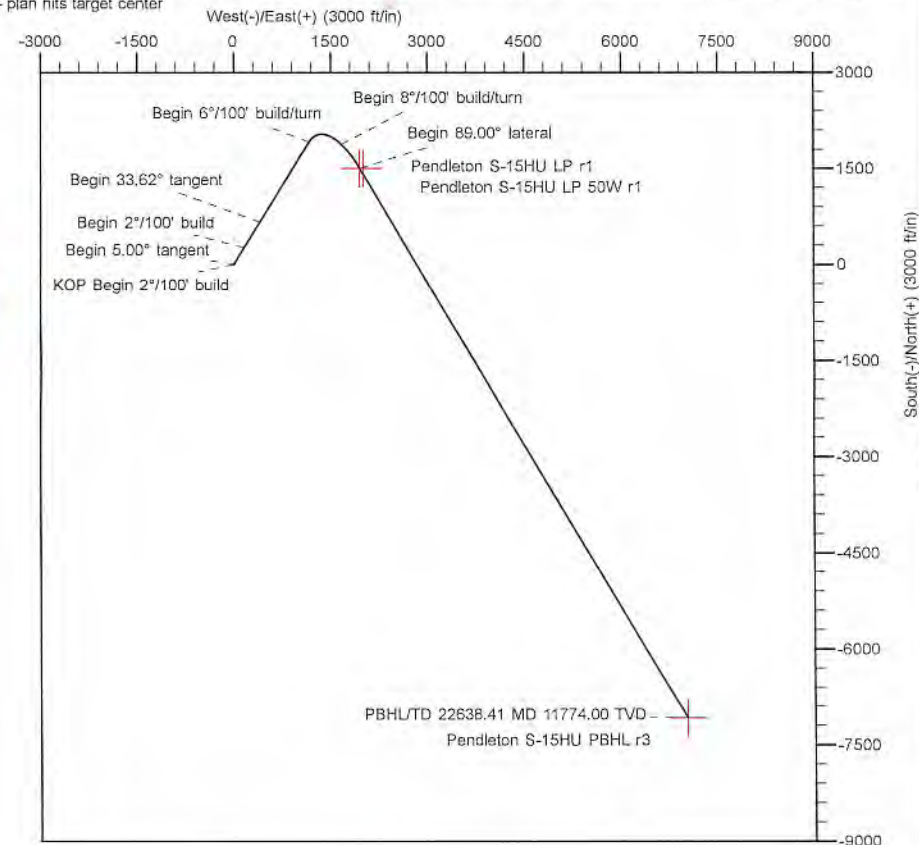


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
2	3300.00	0.00	0.000	3300.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 2°/100' build
3	3550.00	5.00	31.370	3549.68	9.31	5.67	2.00	31.37	-2.62	Begin 5.00° tangent
4	7013.50	5.00	31.370	7000.00	267.05	162.81	0.00	0.00	-75.07	Begin 2°/100' build
5	8444.59	33.62	31.374	8336.58	666.92	406.64	2.00	0.01	-187.46	Begin 33.62° tangent
6	11092.46	33.62	31.374	10541.48	1918.69	1169.96	0.00	0.00	-539.27	Begin 6°/100' build/turn
7	12159.06	50.00	134.570	11421.86	1880.00	1667.58	6.00	123.92	-161.50	Begin 8°/100' build/turn
8	12675.13	89.00	149.461	11600.00	1502.60	1951.90	8.00	22.92	306.69	Begin 89.00° lateral
9	22638.41	89.00	149.461	11774.00	-7077.26	7013.78	0.00	0.00	9963.97	PBHL/TD 22638.41 MD 11774.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Pendleton S-15HU LP 50W r1	11600.00	1502.60	1951.90	4438572.845	1717179.689	39.757567419	-80.726859902
- plan hits target center							
Pendleton S-15HU LP r1	11600.00	1502.60	2001.90	4438572.845	1717229.687	39.757567000	-80.726682000
- plan misses target center by 43.06ft at 12700.54ft MD (11600.45 TVD, 1480.73 N, 1964.81 E)							
Pendleton S-15HU PBHL r3	11774.00	-7077.26	7013.78	4429993.002	1722241.559	39.733961000	-80.708948000
- plan hits target center							



Vertical Section at 135.258° (1600 ft/in)



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Pendleton S-15 HU (slot F)
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 S-15 HU (slot F)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

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:	39.753506850
From:	Lat/Long	Easting:	1,715,175.249 usft	Longitude:	-80.734007760
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Pendleton S-15 HU (slot F)					
Well Position	+N/-S	0.00 ft	Northing:	14,437,070.248 usft	Latitude:	39.753457000
	+E/-W	0.00 ft	Easting:	1,715,227.793 usft	Longitude:	-80.733821000
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	-8.64	66.48	51,695.55032758

Design	rev3			
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	135.258

Plan Survey Tool Program	Date	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1		0.00	22,638.39	rev3 (Original Hole)		



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Pendleton S-15 HU (slot F)
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 S-15 HU (slot F)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

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	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,300.00	0.00	0.000	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,550.00	5.00	31.370	3,549.68	9.31	5.67	2.00	2.00	0.00	31.37	
7,013.50	5.00	31.370	7,000.00	267.05	162.81	0.00	0.00	0.00	0.00	
8,444.59	33.62	31.374	8,336.58	666.92	406.64	2.00	2.00	0.00	0.01	
11,092.46	33.62	31.374	10,541.48	1,918.69	1,169.96	0.00	0.00	0.00	0.00	
12,159.06	50.00	134.570	11,421.86	1,880.00	1,667.58	6.00	1.54	9.68	123.92	
12,675.13	89.00	149.461	11,600.00	1,502.60	1,951.90	8.00	7.56	2.89	22.92	
22,638.41	89.00	149.461	11,774.00	-7,077.26	7,013.78	0.00	0.00	0.00	0.00	Pendleton S-15HU PE



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Pendleton S-15 HU (slot F)
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 S-15 HU (slot F)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

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	0.000	0.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
100.00	0.00	0.000	100.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
200.00	0.00	0.000	200.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
300.00	0.00	0.000	300.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
400.00	0.00	0.000	400.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
500.00	0.00	0.000	500.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
600.00	0.00	0.000	600.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
700.00	0.00	0.000	700.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
800.00	0.00	0.000	800.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
900.00	0.00	0.000	900.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
1,000.00	0.00	0.000	1,000.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
1,100.00	0.00	0.000	1,100.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
1,200.00	0.00	0.000	1,200.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
1,300.00	0.00	0.000	1,300.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
1,400.00	0.00	0.000	1,400.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
1,500.00	0.00	0.000	1,500.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
1,600.00	0.00	0.000	1,600.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
1,700.00	0.00	0.000	1,700.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
1,800.00	0.00	0.000	1,800.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
1,900.00	0.00	0.000	1,900.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
2,000.00	0.00	0.000	2,000.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
2,100.00	0.00	0.000	2,100.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
2,200.00	0.00	0.000	2,200.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
2,300.00	0.00	0.000	2,300.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
2,400.00	0.00	0.000	2,400.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
2,500.00	0.00	0.000	2,500.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
2,600.00	0.00	0.000	2,600.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
2,700.00	0.00	0.000	2,700.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
2,800.00	0.00	0.000	2,800.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
2,900.00	0.00	0.000	2,900.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
3,000.00	0.00	0.000	3,000.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
3,100.00	0.00	0.000	3,100.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
3,200.00	0.00	0.000	3,200.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
3,300.00	0.00	0.000	3,300.00	0.00	0.00	14,437,070.248	1,715,227.793	39.753457000	-80.733821000
KOP Begin 2°/100' build									
3,400.00	2.00	31.370	3,399.98	1.49	0.91	14,437,071.738	1,715,228.701	39.753461085	-80.733817752
3,500.00	4.00	31.370	3,499.84	5.96	3.63	14,437,076.206	1,715,231.425	39.753473334	-80.733808012
3,550.00	5.00	31.370	3,549.68	9.31	5.67	14,437,079.555	1,715,233.468	39.753482516	-80.733800711
Begin 5.00° tangent									
3,600.00	5.00	31.370	3,599.49	13.03	7.94	14,437,083.276	1,715,235.736	39.753492716	-80.733792600
3,700.00	5.00	31.370	3,699.11	20.47	12.48	14,437,090.718	1,715,240.273	39.753513115	-80.733776379
3,800.00	5.00	31.370	3,798.73	27.91	17.02	14,437,098.159	1,715,244.810	39.753533515	-80.733760158
3,900.00	5.00	31.370	3,898.35	35.35	21.55	14,437,105.601	1,715,249.347	39.753553914	-80.733743937
4,000.00	5.00	31.370	3,997.97	42.79	26.09	14,437,113.042	1,715,253.884	39.753574314	-80.733727715
4,100.00	5.00	31.370	4,097.59	50.24	30.63	14,437,120.484	1,715,258.421	39.753594713	-80.733711494
4,200.00	5.00	31.370	4,197.21	57.68	35.17	14,437,127.925	1,715,262.958	39.753615113	-80.733695273
4,300.00	5.00	31.370	4,296.83	65.12	39.70	14,437,135.367	1,715,267.495	39.753635513	-80.733679052
4,400.00	5.00	31.370	4,396.45	72.56	44.24	14,437,142.809	1,715,272.032	39.753655912	-80.733662830
4,500.00	5.00	31.370	4,496.07	80.00	48.78	14,437,150.250	1,715,276.569	39.753676312	-80.733646609
4,600.00	5.00	31.370	4,595.69	87.44	53.31	14,437,157.692	1,715,281.106	39.753696711	-80.733630388
4,700.00	5.00	31.370	4,695.31	94.89	57.85	14,437,165.133	1,715,285.643	39.753717111	-80.733614167
4,800.00	5.00	31.370	4,794.93	102.33	62.39	14,437,172.575	1,715,290.180	39.753737510	-80.733597945
4,900.00	5.00	31.370	4,894.55	109.77	66.92	14,437,180.016	1,715,294.717	39.753757910	-80.733581724

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Pendleton S-15 HU (slot F)
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 S-15 HU (slot F)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

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	31.370	4,994.17	117.21	71.46	14,437,187.458	1,715,299.254	39.753778309	-80.733565503
5,100.00	5.00	31.370	5,093.78	124.65	76.00	14,437,194.899	1,715,303.791	39.753798709	-80.733549281
5,200.00	5.00	31.370	5,193.40	132.09	80.54	14,437,202.341	1,715,308.328	39.753819108	-80.733533060
5,300.00	5.00	31.370	5,293.02	139.54	85.07	14,437,209.782	1,715,312.865	39.753839508	-80.733516839
5,400.00	5.00	31.370	5,392.64	146.98	89.61	14,437,217.224	1,715,317.402	39.753859907	-80.733500617
5,500.00	5.00	31.370	5,492.26	154.42	94.15	14,437,224.666	1,715,321.939	39.753880307	-80.733484396
5,600.00	5.00	31.370	5,591.88	161.86	98.68	14,437,232.107	1,715,326.476	39.753900706	-80.733468175
5,700.00	5.00	31.370	5,691.50	169.30	103.22	14,437,239.549	1,715,331.013	39.753921106	-80.733451953
5,800.00	5.00	31.370	5,791.12	176.74	107.76	14,437,246.990	1,715,335.550	39.753941505	-80.733435732
5,900.00	5.00	31.370	5,890.74	184.18	112.29	14,437,254.432	1,715,340.087	39.753961905	-80.733419510
6,000.00	5.00	31.370	5,990.36	191.63	116.83	14,437,261.873	1,715,344.624	39.753982304	-80.733403289
6,100.00	5.00	31.370	6,089.98	199.07	121.37	14,437,269.315	1,715,349.161	39.754002704	-80.733387067
6,200.00	5.00	31.370	6,189.60	206.51	125.91	14,437,276.756	1,715,353.698	39.754023103	-80.733370846
6,300.00	5.00	31.370	6,289.22	213.95	130.44	14,437,284.198	1,715,358.235	39.754043503	-80.733354625
6,400.00	5.00	31.370	6,388.84	221.39	134.98	14,437,291.639	1,715,362.772	39.754063902	-80.733338403
6,500.00	5.00	31.370	6,488.46	228.83	139.52	14,437,299.081	1,715,367.309	39.754084302	-80.733322182
6,600.00	5.00	31.370	6,588.08	236.28	144.05	14,437,306.523	1,715,371.846	39.754104701	-80.733305960
6,700.00	5.00	31.370	6,687.70	243.72	148.59	14,437,313.964	1,715,376.383	39.754125101	-80.733289739
6,800.00	5.00	31.370	6,787.32	251.16	153.13	14,437,321.406	1,715,380.920	39.754145500	-80.733273517
6,900.00	5.00	31.370	6,886.94	258.60	157.66	14,437,328.847	1,715,385.457	39.754165900	-80.733257296
7,000.00	5.00	31.370	6,986.55	266.04	162.20	14,437,336.289	1,715,389.994	39.754186299	-80.733241074
7,013.50	5.00	31.370	7,000.00	267.05	162.81	14,437,337.293	1,715,390.606	39.754189053	-80.733238885
Begin 2°/100' build									
7,100.00	6.73	31.371	7,086.05	274.59	167.42	14,437,344.840	1,715,395.207	39.754209741	-80.733222433
7,200.00	8.73	31.372	7,185.13	286.08	174.42	14,437,356.324	1,715,402.209	39.754241221	-80.733197399
7,300.00	10.73	31.373	7,283.69	300.51	183.22	14,437,370.753	1,715,411.007	39.754280775	-80.733165942
7,400.00	12.73	31.373	7,381.60	317.86	193.80	14,437,388.110	1,715,421.591	39.754328355	-80.733128102
7,500.00	14.73	31.373	7,478.73	338.13	206.15	14,437,408.373	1,715,433.947	39.754383904	-80.733083925
7,600.00	16.73	31.374	7,574.98	361.27	220.27	14,437,431.519	1,715,448.060	39.754447352	-80.733033464
7,700.00	18.73	31.374	7,670.23	387.27	236.12	14,437,457.518	1,715,463.914	39.754518624	-80.732976780
7,800.00	20.73	31.374	7,764.35	416.09	253.70	14,437,486.339	1,715,481.488	39.754597632	-80.732913944
7,900.00	22.73	31.374	7,857.24	447.70	272.97	14,437,517.948	1,715,500.762	39.754684280	-80.732845030
8,000.00	24.73	31.374	7,948.78	482.06	293.92	14,437,552.305	1,715,521.713	39.754778462	-80.732770124
8,100.00	26.73	31.374	8,038.86	519.12	316.52	14,437,589.369	1,715,544.313	39.754880064	-80.732689316
8,200.00	28.73	31.374	8,127.37	558.85	340.75	14,437,629.094	1,715,568.537	39.754988962	-80.732602705
8,300.00	30.73	31.374	8,214.21	601.19	366.56	14,437,671.432	1,715,594.354	39.755105023	-80.732510396
8,400.00	32.73	31.374	8,299.26	646.09	393.94	14,437,716.332	1,715,621.734	39.755228106	-80.732412502
8,444.59	33.62	31.374	8,336.58	666.92	406.64	14,437,737.163	1,715,634.437	39.755285212	-80.732367082
Begin 33.62° tangent									
8,500.00	33.62	31.374	8,382.72	693.11	422.62	14,437,763.359	1,715,650.410	39.755357020	-80.732309969
8,600.00	33.62	31.374	8,465.99	740.39	451.45	14,437,810.633	1,715,679.238	39.755486613	-80.732206895
8,700.00	33.62	31.374	8,549.26	787.66	480.27	14,437,857.908	1,715,708.065	39.755616206	-80.732103822
8,800.00	33.62	31.374	8,632.53	834.94	509.10	14,437,905.183	1,715,736.893	39.755745799	-80.732000748
8,900.00	33.62	31.374	8,715.80	882.21	537.93	14,437,952.458	1,715,765.720	39.755875392	-80.731897673
9,000.00	33.62	31.374	8,799.07	929.49	566.76	14,437,999.732	1,715,794.548	39.756004984	-80.731794598
9,100.00	33.62	31.374	8,882.34	976.76	595.58	14,438,047.007	1,715,823.375	39.756134577	-80.731691523
9,200.00	33.62	31.374	8,965.62	1,024.04	624.41	14,438,094.282	1,715,852.203	39.756264169	-80.731588447
9,300.00	33.62	31.374	9,048.89	1,071.31	653.24	14,438,141.556	1,715,881.030	39.756393761	-80.731485371
9,400.00	33.62	31.374	9,132.16	1,118.59	682.07	14,438,188.831	1,715,909.859	39.756523354	-80.731382295
9,500.00	33.62	31.374	9,215.43	1,165.86	710.89	14,438,236.106	1,715,938.687	39.756652946	-80.731279218
9,600.00	33.62	31.374	9,298.70	1,213.14	739.72	14,438,283.381	1,715,967.514	39.756782538	-80.731176141
9,700.00	33.62	31.374	9,381.97	1,260.41	768.55	14,438,330.655	1,715,996.342	39.756912130	-80.731073063
9,800.00	33.62	31.374	9,465.24	1,307.69	797.38	14,438,377.930	1,716,025.169	39.757041721	-80.730969985



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Pendleton S-15 HU (slot F)
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 S-15 HU (slot F)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,900.00	33.62	31.374	9,548.51	1,354.96	826.20	14,438,425.205	1,716,053.997	39.757171313	-80.730866907	
10,000.00	33.62	31.374	9,631.78	1,402.23	855.03	14,438,472.479	1,716,082.824	39.757300905	-80.730763828	
10,100.00	33.62	31.374	9,715.05	1,449.51	883.86	14,438,519.754	1,716,111.652	39.757430496	-80.730660749	
10,200.00	33.62	31.374	9,798.33	1,496.78	912.69	14,438,567.029	1,716,140.479	39.757560088	-80.730557670	
10,300.00	33.62	31.374	9,881.60	1,544.06	941.52	14,438,614.303	1,716,169.307	39.757689679	-80.730454590	
10,400.00	33.62	31.374	9,964.87	1,591.33	970.34	14,438,661.578	1,716,198.134	39.757819270	-80.730351509	
10,500.00	33.62	31.374	10,048.14	1,638.61	999.17	14,438,708.853	1,716,226.962	39.757948862	-80.730248429	
10,600.00	33.62	31.374	10,131.41	1,685.88	1,028.00	14,438,756.128	1,716,255.789	39.758078453	-80.730145348	
10,700.00	33.62	31.374	10,214.68	1,733.16	1,056.83	14,438,803.402	1,716,284.617	39.758208044	-80.730042266	
10,800.00	33.62	31.374	10,297.95	1,780.43	1,085.65	14,438,850.677	1,716,313.445	39.758337634	-80.729939184	
10,900.00	33.62	31.374	10,381.22	1,827.71	1,114.48	14,438,897.952	1,716,342.272	39.758467225	-80.729836102	
11,000.00	33.62	31.374	10,464.49	1,874.98	1,143.31	14,438,945.226	1,716,371.100	39.758596816	-80.729733019	
11,092.46	33.62	31.374	10,541.48	1,918.69	1,169.96	14,438,988.935	1,716,397.753	39.758716632	-80.729637712	
Begin 6"/100' build/turn										
11,100.00	33.37	32.057	10,547.77	1,922.23	1,172.15	14,438,992.476	1,716,399.941	39.758726338	-80.729629887	
11,150.00	31.81	36.815	10,589.91	1,944.44	1,187.35	14,439,014.686	1,716,415.140	39.758787205	-80.729575569	
11,200.00	30.44	41.981	10,632.72	1,964.41	1,203.72	14,439,034.655	1,716,431.512	39.758841911	-80.729517098	
11,250.00	29.29	47.549	10,676.08	1,982.09	1,221.22	14,439,052.330	1,716,449.012	39.758890306	-80.729454636	
11,300.00	28.39	53.483	10,719.89	1,997.42	1,239.80	14,439,067.662	1,716,467.594	39.758932258	-80.729388354	
11,350.00	27.76	59.717	10,764.02	2,010.37	1,259.41	14,439,080.609	1,716,487.205	39.758967651	-80.729318433	
11,400.00	27.41	66.157	10,808.34	2,020.89	1,280.00	14,439,091.136	1,716,507.792	39.758996389	-80.729245066	
11,450.00	27.37	72.679	10,852.75	2,028.97	1,301.51	14,439,099.213	1,716,529.299	39.759018393	-80.729168452	
11,500.00	27.64	79.153	10,897.11	2,034.58	1,323.88	14,439,104.819	1,716,551.666	39.759033603	-80.729088803	
11,550.00	28.19	85.454	10,941.30	2,037.69	1,347.04	14,439,107.938	1,716,574.833	39.759041976	-80.729006336	
11,600.00	29.02	91.477	10,985.20	2,038.32	1,370.94	14,439,108.561	1,716,598.736	39.759043490	-80.728921277	
11,650.00	30.11	97.148	11,028.70	2,036.44	1,395.52	14,439,106.688	1,716,623.308	39.759038141	-80.728833861	
11,700.00	31.42	102.424	11,071.67	2,032.08	1,420.69	14,439,102.322	1,716,648.484	39.759025943	-80.728744326	
11,750.00	32.93	107.292	11,114.00	2,025.23	1,446.40	14,439,095.477	1,716,674.194	39.759006930	-80.728652917	
11,800.00	34.62	111.758	11,155.57	2,015.93	1,472.58	14,439,086.171	1,716,700.367	39.758981154	-80.728559886	
11,850.00	36.45	115.843	11,196.26	2,004.18	1,499.14	14,439,074.428	1,716,726.932	39.758948685	-80.728465487	
11,900.00	38.41	119.578	11,235.97	1,990.04	1,526.03	14,439,060.283	1,716,753.816	39.758909613	-80.728369980	
11,950.00	40.49	122.995	11,274.58	1,973.53	1,553.16	14,439,043.772	1,716,780.946	39.758864045	-80.728273625	
12,000.00	42.65	126.129	11,311.99	1,954.70	1,580.46	14,439,024.942	1,716,808.246	39.758812105	-80.728176688	
12,050.00	44.89	129.012	11,348.09	1,933.60	1,607.85	14,439,003.844	1,716,835.642	39.758753936	-80.728079433	
12,100.00	47.20	131.674	11,382.80	1,910.29	1,635.27	14,438,980.536	1,716,863.059	39.758689697	-80.727982128	
12,150.00	49.57	134.141	11,416.01	1,884.84	1,662.63	14,438,955.082	1,716,890.422	39.758619565	-80.727885039	
12,159.06	50.00	134.570	11,421.86	1,880.00	1,667.58	14,438,950.244	1,716,895.370	39.758606236	-80.727867484	
Begin 8"/100' build/turn										
12,200.00	53.03	136.166	11,447.33	1,857.19	1,690.08	14,438,927.438	1,716,917.872	39.758543417	-80.727787664	
12,250.00	56.75	137.950	11,476.09	1,827.25	1,717.93	14,438,897.493	1,716,945.720	39.758460948	-80.727688900	
12,300.00	60.50	139.588	11,502.12	1,795.14	1,746.05	14,438,865.387	1,716,973.840	39.758372542	-80.727589188	
12,350.00	64.27	141.109	11,525.29	1,761.03	1,774.31	14,438,831.278	1,717,002.096	39.758278631	-80.727489015	
12,400.00	68.05	142.536	11,545.50	1,725.09	1,802.56	14,438,795.330	1,717,030.351	39.758179672	-80.727388869	
12,450.00	71.84	143.889	11,562.65	1,687.47	1,830.68	14,438,757.719	1,717,058.466	39.758076147	-80.727289237	
12,500.00	75.64	145.185	11,576.64	1,648.38	1,858.51	14,438,718.628	1,717,086.304	39.757968561	-80.727190605	
12,550.00	79.45	146.437	11,587.42	1,608.00	1,885.94	14,438,678.248	1,717,113.731	39.757857437	-80.727093454	
12,600.00	83.26	147.658	11,594.94	1,566.53	1,912.82	14,438,636.776	1,717,140.611	39.757743317	-80.726998257	
12,650.00	87.08	148.860	11,599.14	1,524.17	1,939.03	14,438,594.413	1,717,166.815	39.757626758	-80.726905477	
12,675.13	89.00	149.461	11,600.00	1,502.60	1,951.90	14,438,572.849	1,717,179.690	39.757567430	-80.726859900	
Begin 89.00° lateral										
12,700.00	89.00	149.461	11,600.44	1,481.19	1,964.54	14,438,551.433	1,717,192.325	39.757508510	-80.726815176	
12,800.00	89.00	149.461	11,602.18	1,395.07	2,015.34	14,438,465.318	1,717,243.130	39.757271589	-80.726635336	
12,900.00	89.00	149.461	11,603.93	1,308.96	2,066.15	14,438,379.204	1,717,293.935	39.757034669	-80.726455498	

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Pendleton S-15 HU (slot F)
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 S-15 HU (slot F)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,000.00	89.00	149.461	11,605.68	1,222.84	2,116.95	14,438,293.089	1,717,344.741	39.756797748	-80.726275661
13,100.00	89.00	149.461	11,607.42	1,136.73	2,167.76	14,438,206.974	1,717,395.546	39.756560826	-80.726095825
13,200.00	89.00	149.461	11,609.17	1,050.61	2,218.56	14,438,120.860	1,717,446.351	39.756323905	-80.725915991
13,300.00	89.00	149.461	11,610.92	964.50	2,269.37	14,438,034.745	1,717,497.156	39.756086983	-80.725736158
13,400.00	89.00	149.461	11,612.66	878.38	2,320.17	14,437,948.630	1,717,547.962	39.755850061	-80.725556325
13,500.00	89.00	149.461	11,614.41	792.27	2,370.98	14,437,862.516	1,717,598.767	39.755613139	-80.725376495
13,600.00	89.00	149.461	11,616.15	706.16	2,421.78	14,437,776.401	1,717,649.572	39.755376216	-80.725196665
13,700.00	89.00	149.461	11,617.90	620.04	2,472.59	14,437,690.286	1,717,700.377	39.755139293	-80.725016837
13,800.00	89.00	149.461	11,619.65	533.93	2,523.39	14,437,604.172	1,717,751.183	39.754902370	-80.724837010
13,900.00	89.00	149.461	11,621.39	447.81	2,574.20	14,437,518.057	1,717,801.988	39.754665446	-80.724657184
14,000.00	89.00	149.461	11,623.14	361.70	2,625.00	14,437,431.942	1,717,852.793	39.754428523	-80.724477359
14,100.00	89.00	149.461	11,624.89	275.58	2,675.81	14,437,345.828	1,717,903.598	39.754191598	-80.724297535
14,200.00	89.00	149.461	11,626.63	189.47	2,726.62	14,437,259.713	1,717,954.403	39.753954674	-80.724117713
14,300.00	89.00	149.461	11,628.38	103.35	2,777.42	14,437,173.598	1,718,005.209	39.753717749	-80.723937892
14,400.00	89.00	149.461	11,630.13	17.24	2,828.23	14,437,087.484	1,718,056.014	39.753480825	-80.723758072
14,500.00	89.00	149.461	11,631.87	-68.88	2,879.03	14,437,001.369	1,718,106.819	39.753243899	-80.723578254
14,600.00	89.00	149.461	11,633.62	-154.99	2,929.84	14,436,915.254	1,718,157.624	39.753006974	-80.723398437
14,700.00	89.00	149.461	11,635.36	-241.11	2,980.64	14,436,829.140	1,718,208.430	39.752770048	-80.723218620
14,800.00	89.00	149.461	11,637.11	-327.22	3,031.45	14,436,743.025	1,718,259.235	39.752533122	-80.723038806
14,900.00	89.00	149.461	11,638.86	-413.34	3,082.25	14,436,656.910	1,718,310.040	39.752296196	-80.722858992
15,000.00	89.00	149.461	11,640.60	-499.45	3,133.06	14,436,570.796	1,718,360.845	39.752059269	-80.722679180
15,100.00	89.00	149.461	11,642.35	-585.57	3,183.86	14,436,484.681	1,718,411.651	39.751822342	-80.722499368
15,200.00	89.00	149.461	11,644.10	-671.68	3,234.67	14,436,398.566	1,718,462.456	39.751585415	-80.722319558
15,300.00	89.00	149.461	11,645.84	-757.80	3,285.47	14,436,312.452	1,718,513.261	39.751348487	-80.722139750
15,400.00	89.00	149.461	11,647.59	-843.91	3,336.28	14,436,226.337	1,718,564.066	39.751111560	-80.721959942
15,500.00	89.00	149.461	11,649.34	-930.03	3,387.08	14,436,140.222	1,718,614.872	39.750874532	-80.721780136
15,600.00	89.00	149.461	11,651.08	-1,016.14	3,437.89	14,436,054.108	1,718,665.677	39.750637703	-80.721600331
15,700.00	89.00	149.461	11,652.83	-1,102.26	3,488.70	14,435,967.993	1,718,716.482	39.750400775	-80.721420527
15,800.00	89.00	149.461	11,654.58	-1,188.37	3,539.50	14,435,881.878	1,718,767.287	39.750163846	-80.721240725
15,900.00	89.00	149.461	11,656.32	-1,274.49	3,590.31	14,435,795.764	1,718,818.093	39.749926916	-80.721060923
16,000.00	89.00	149.461	11,658.07	-1,360.60	3,641.11	14,435,709.649	1,718,868.898	39.749689987	-80.720881123
16,100.00	89.00	149.461	11,659.81	-1,446.72	3,691.92	14,435,623.534	1,718,919.703	39.749453057	-80.720701324
16,200.00	89.00	149.461	11,661.56	-1,532.83	3,742.72	14,435,537.420	1,718,970.508	39.749216127	-80.720521527
16,300.00	89.00	149.461	11,663.31	-1,618.95	3,793.53	14,435,451.305	1,719,021.314	39.748979197	-80.720341730
16,400.00	89.00	149.461	11,665.05	-1,705.06	3,844.33	14,435,365.190	1,719,072.119	39.748742266	-80.720161935
16,500.00	89.00	149.461	11,666.80	-1,791.18	3,895.14	14,435,279.076	1,719,122.924	39.748505335	-80.719982141
16,600.00	89.00	149.461	11,668.55	-1,877.29	3,945.94	14,435,192.961	1,719,173.729	39.748268404	-80.719802348
16,700.00	89.00	149.461	11,670.29	-1,963.41	3,996.75	14,435,106.846	1,719,224.535	39.748031473	-80.719622557
16,800.00	89.00	149.461	11,672.04	-2,049.52	4,047.55	14,435,020.732	1,719,275.340	39.747794541	-80.719442767
16,900.00	89.00	149.461	11,673.79	-2,135.63	4,098.36	14,434,934.617	1,719,326.145	39.747557609	-80.719262977
17,000.00	89.00	149.461	11,675.53	-2,221.75	4,149.17	14,434,848.502	1,719,376.950	39.747320677	-80.719083190
17,100.00	89.00	149.461	11,677.28	-2,307.86	4,199.97	14,434,762.388	1,719,427.756	39.747083744	-80.718903403
17,200.00	89.00	149.461	11,679.02	-2,393.98	4,250.78	14,434,676.273	1,719,478.561	39.746846811	-80.718723618
17,300.00	89.00	149.461	11,680.77	-2,480.09	4,301.58	14,434,590.158	1,719,529.366	39.746609878	-80.718543834
17,400.00	89.00	149.461	11,682.52	-2,566.21	4,352.39	14,434,504.044	1,719,580.171	39.746372945	-80.718364051
17,500.00	89.00	149.461	11,684.26	-2,652.32	4,403.19	14,434,417.929	1,719,630.977	39.746136011	-80.718184269
17,600.00	89.00	149.461	11,686.01	-2,738.44	4,454.00	14,434,331.814	1,719,681.782	39.745899077	-80.718004488
17,700.00	89.00	149.461	11,687.76	-2,824.55	4,504.80	14,434,245.700	1,719,732.587	39.745662143	-80.717824709
17,800.00	89.00	149.461	11,689.50	-2,910.67	4,555.61	14,434,159.585	1,719,783.392	39.745425208	-80.717644931
17,900.00	89.00	149.461	11,691.25	-2,996.78	4,606.41	14,434,073.470	1,719,834.197	39.745188273	-80.717465154
18,000.00	89.00	149.461	11,693.00	-3,082.90	4,657.22	14,433,987.356	1,719,885.003	39.744951338	-80.717285379
18,100.00	89.00	149.461	11,694.74	-3,169.01	4,708.02	14,433,901.241	1,719,935.808	39.744714403	-80.717105605
18,200.00	89.00	149.461	11,696.49	-3,255.13	4,758.83	14,433,815.126	1,719,986.613	39.744477467	-80.716925832
18,300.00	89.00	149.461	11,698.23	-3,341.24	4,809.63	14,433,729.012	1,720,037.418	39.744240531	-80.716746060

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Pendleton S-15 HU (slot F)
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 S-15 HU (slot F)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
18,400.00	89.00	149.461	11,699.98	-3,427.36	4,860.44	14,433,642.897	1,720,088.224	39.744003595	-80.716566289
18,500.00	89.00	149.461	11,701.73	-3,513.47	4,911.25	14,433,556.782	1,720,139.029	39.743766658	-80.716386520
18,600.00	89.00	149.461	11,703.47	-3,599.59	4,962.05	14,433,470.668	1,720,189.834	39.743529721	-80.716206751
18,700.00	89.00	149.461	11,705.22	-3,685.70	5,012.86	14,433,384.553	1,720,240.639	39.743292784	-80.716026985
18,800.00	89.00	149.461	11,706.97	-3,771.82	5,063.66	14,433,298.438	1,720,291.445	39.743055847	-80.715847219
18,900.00	89.00	149.461	11,708.71	-3,857.93	5,114.47	14,433,212.324	1,720,342.250	39.742818909	-80.715667454
19,000.00	89.00	149.461	11,710.46	-3,944.05	5,165.27	14,433,126.209	1,720,393.055	39.742581971	-80.715487691
19,100.00	89.00	149.461	11,712.21	-4,030.16	5,216.08	14,433,040.094	1,720,443.860	39.742345033	-80.715307929
19,200.00	89.00	149.461	11,713.95	-4,116.28	5,266.88	14,432,953.980	1,720,494.666	39.742108094	-80.715128168
19,300.00	89.00	149.461	11,715.70	-4,202.39	5,317.69	14,432,867.865	1,720,545.471	39.741871155	-80.714948409
19,400.00	89.00	149.461	11,717.45	-4,288.51	5,368.49	14,432,781.750	1,720,596.276	39.741634216	-80.714768650
19,500.00	89.00	149.461	11,719.19	-4,374.62	5,419.30	14,432,695.636	1,720,647.081	39.741397277	-80.714588893
19,600.00	89.00	149.461	11,720.94	-4,460.74	5,470.10	14,432,609.521	1,720,697.887	39.741160337	-80.714409137
19,700.00	89.00	149.461	11,722.68	-4,546.85	5,520.91	14,432,523.406	1,720,748.692	39.740923397	-80.714229383
19,800.00	89.00	149.461	11,724.43	-4,632.97	5,571.71	14,432,437.292	1,720,799.497	39.740686457	-80.714049629
19,900.00	89.00	149.461	11,726.18	-4,719.08	5,622.52	14,432,351.176	1,720,850.302	39.740449516	-80.713869877
20,000.00	89.00	149.461	11,727.92	-4,805.20	5,673.33	14,432,265.061	1,720,901.108	39.740212575	-80.713690126
20,100.00	89.00	149.461	11,729.67	-4,891.31	5,724.13	14,432,178.947	1,720,951.913	39.739975634	-80.713510376
20,200.00	89.00	149.461	11,731.42	-4,977.42	5,774.94	14,432,092.832	1,721,002.718	39.739738693	-80.713330628
20,300.00	89.00	149.461	11,733.16	-5,063.54	5,825.74	14,432,006.717	1,721,053.523	39.739501751	-80.713150880
20,400.00	89.00	149.461	11,734.91	-5,149.65	5,876.55	14,431,920.603	1,721,104.329	39.739264809	-80.712971134
20,500.00	89.00	149.461	11,736.66	-5,235.77	5,927.35	14,431,834.488	1,721,155.134	39.739027867	-80.712791390
20,600.00	89.00	149.461	11,738.40	-5,321.88	5,978.16	14,431,748.373	1,721,205.939	39.738790925	-80.712611646
20,700.00	89.00	149.461	11,740.15	-5,408.00	6,028.96	14,431,662.258	1,721,256.744	39.738553982	-80.712431904
20,800.00	89.00	149.461	11,741.89	-5,494.11	6,079.77	14,431,576.144	1,721,307.550	39.738317039	-80.712252162
20,900.00	89.00	149.461	11,743.64	-5,580.23	6,130.57	14,431,490.029	1,721,358.355	39.738080095	-80.712072422
21,000.00	89.00	149.461	11,745.39	-5,666.34	6,181.38	14,431,403.914	1,721,409.160	39.737843152	-80.711892684
21,100.00	89.00	149.461	11,747.13	-5,752.46	6,232.18	14,431,317.800	1,721,459.965	39.737606208	-80.711712946
21,200.00	89.00	149.461	11,748.88	-5,838.57	6,282.99	14,431,231.685	1,721,510.770	39.737369263	-80.711533210
21,300.00	89.00	149.461	11,750.63	-5,924.69	6,333.80	14,431,145.570	1,721,561.576	39.737132319	-80.711353475
21,400.00	89.00	149.461	11,752.37	-6,010.80	6,384.60	14,431,059.456	1,721,612.381	39.736895374	-80.711173741
21,500.00	89.00	149.461	11,754.12	-6,096.92	6,435.41	14,430,973.341	1,721,663.186	39.736658429	-80.710994009
21,600.00	89.00	149.461	11,755.87	-6,183.03	6,486.21	14,430,887.226	1,721,713.991	39.736421484	-80.710814277
21,700.00	89.00	149.461	11,757.61	-6,269.15	6,537.02	14,430,801.112	1,721,764.797	39.736184538	-80.710634547
21,800.00	89.00	149.461	11,759.36	-6,355.26	6,587.82	14,430,714.997	1,721,815.602	39.735947592	-80.710454818
21,900.00	89.00	149.461	11,761.10	-6,441.38	6,638.63	14,430,628.882	1,721,866.407	39.735710646	-80.710275091
22,000.00	89.00	149.461	11,762.85	-6,527.49	6,689.43	14,430,542.768	1,721,917.212	39.735473699	-80.710095364
22,100.00	89.00	149.461	11,764.60	-6,613.61	6,740.24	14,430,456.653	1,721,968.018	39.735236753	-80.709915639
22,200.00	89.00	149.461	11,766.34	-6,699.72	6,791.04	14,430,370.538	1,722,018.823	39.734999806	-80.709735915
22,300.00	89.00	149.461	11,768.09	-6,785.84	6,841.85	14,430,284.424	1,722,069.628	39.734762858	-80.709556192
22,400.00	89.00	149.461	11,769.84	-6,871.95	6,892.65	14,430,198.309	1,722,120.433	39.734525911	-80.709376471
22,500.00	89.00	149.461	11,771.58	-6,958.07	6,943.46	14,430,112.194	1,722,171.239	39.734288963	-80.709196751
22,600.00	89.00	149.461	11,773.33	-7,044.18	6,994.26	14,430,026.080	1,722,222.044	39.734052014	-80.709017032
22,638.41	89.00	149.461	11,774.00	-7,077.26	7,013.78	14,429,993.002	1,722,241.559	39.733961000	-80.708948000

PBHL/TD 22638.41 MD 11774.00 TVD

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Pendleton S-15 HU (slot F)
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 S-15 HU (slot F)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Pendleton S-15HU LP 5i - plan hits target center - Point	0.00	0.000	11,600.00	1,502.60	1,951.90	14,438,572.845	1,717,179.690	39.757567419	-80.726859902
Pendleton S-15HU LP r1 - plan misses target center by 43.06ft at 12700.54ft MD (11600.45 TVD, 1480.73 N, 1964.81 E) - Point	0.00	0.000	11,600.00	1,502.60	2,001.90	14,438,572.845	1,717,229.687	39.757567000	-80.726682000
Pendleton S-15HU PBH - plan hits target center - Point	0.00	0.000	11,774.00	-7,077.26	7,013.78	14,429,993.002	1,722,241.559	39.733961000	-80.708948000

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+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	9.31	5.67	Begin 5.00° tangent	
7,013.50	7,000.00	267.05	162.81	Begin 2°/100' build	
8,444.59	8,336.58	666.92	406.64	Begin 33.62° tangent	
11,092.46	10,541.48	1,918.69	1,169.96	Begin 6°/100' build/turn	
12,159.06	11,421.86	1,880.00	1,667.58	Begin 8°/100' build/turn	
12,675.13	11,600.00	1,502.60	1,951.90	Begin 89.00° lateral	
22,638.41	11,774.00	-7,077.26	7,013.78	PBHL/TD 22638.41 MD 11774.00 TVD	

WW-9
(4/16)

API Number 47 - 051 - _____

Operator's Well No. Pendleton S-15HU

**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/VV0109165) and Westmoreland Sanitary Landfill, LLC (SAN1465/PADEP EDC#1356425), Chestnut Valley Landfill (100418)

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 [Signature]
Company Official (Typed Name) James Pancake
Company Official Title Vice President - Geosciences

Commonwealth of Pennsylvania - Notary Seal
SEAN COTTER - Notary Public
Washington County
My Commission Expires Jan 2, 2024
Commission Number 1264582

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

Notary Public

My commission expires 1/2/2024

08/26/2022

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

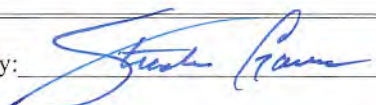
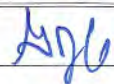
Seed Mixtures

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

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by:  

Comments: _____

Title: Oil and Gas Inspector Date: 5/26/22

Field Reviewed? (x) 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.

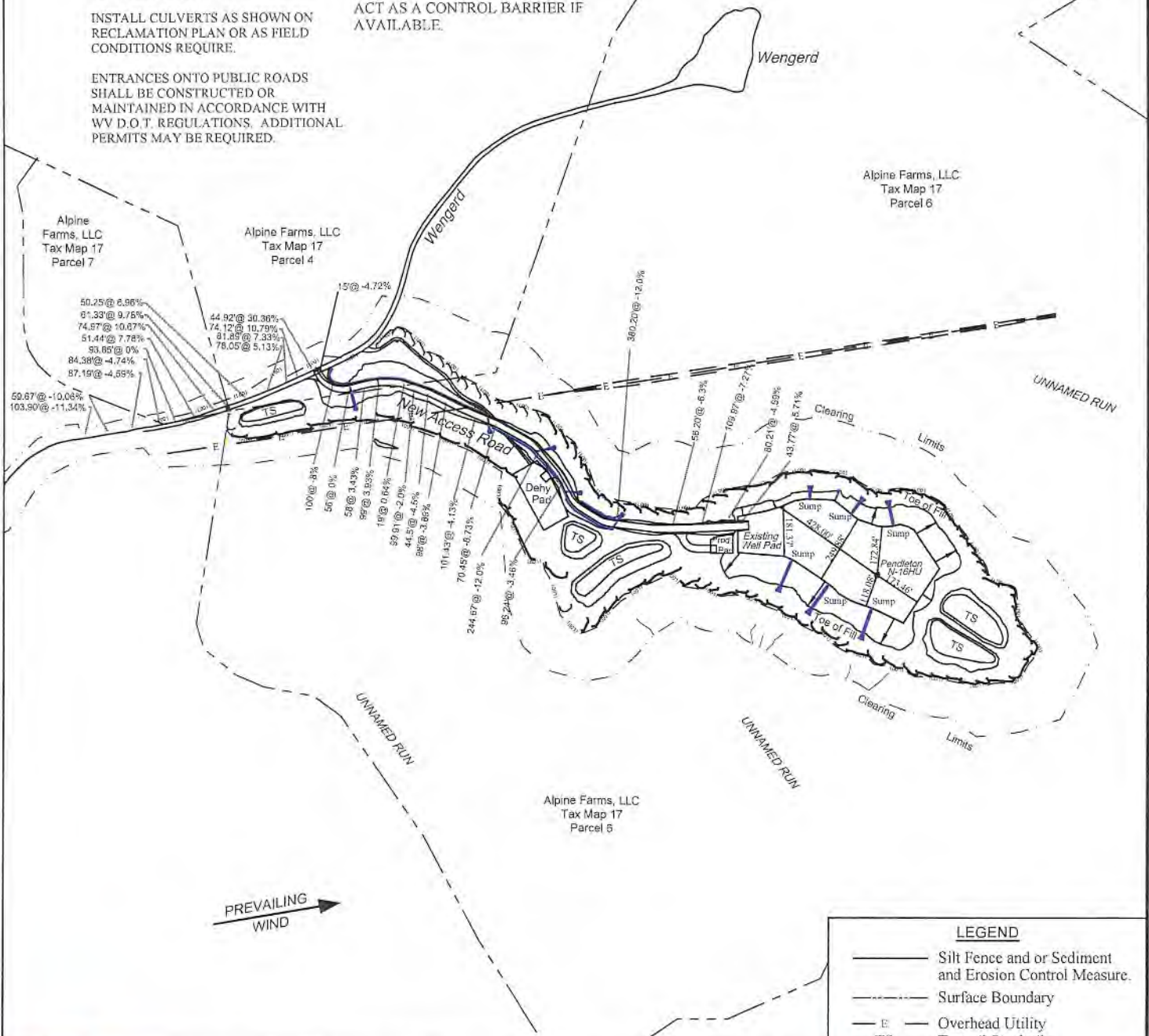
INSTALL CULVERTS AS SHOWN ON RECLAMATION PLAN OR AS FIELD CONDITIONS REQUIRE.

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.
 2413 E. Piles St.
 Clarkeburg, WV 26801
 Phone: 304-625-6851

TOPO SECTION:	
GLEN EASTON 7.5'	
COUNTY	DISTRICT
MARSHALL	FRANKLIN
DRAWN BY	JOB NO.
J.D.C	4.94.510851

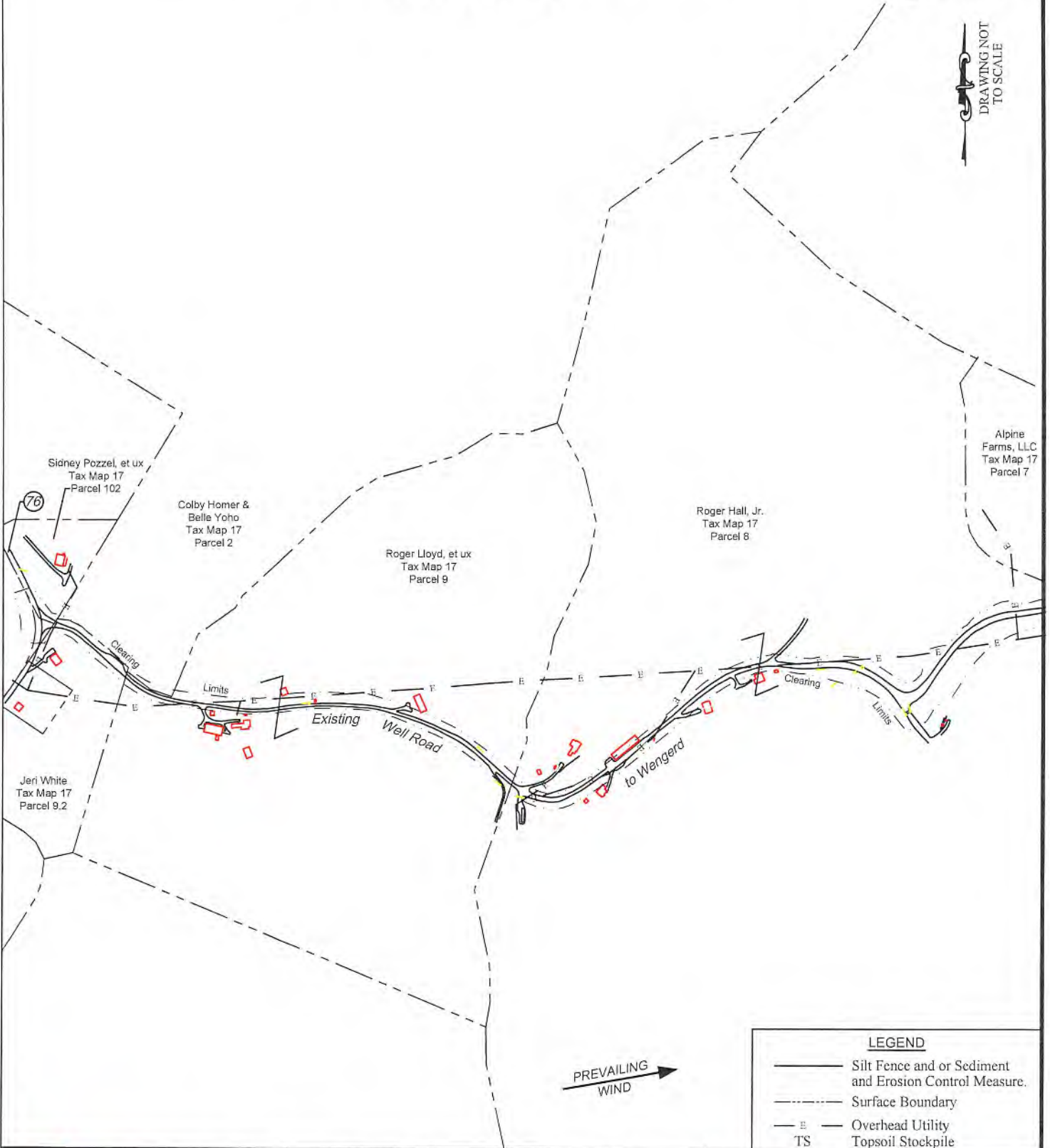
OPERATOR:	
PREPARED FOR:	
TUG HILL OPERATING, LLC 380 SOUTHPINTE BLVD SUITE 200 CANONSBURG, PA 15317	
DATE	SCALE
03-16-2022	NONE

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
- Overhead Utility
- Topsoil Stockpile



Jackson Surveying Inc.
2418 E. Pike St.
Clarksburg, WV 26301
Phone: 304-823-5851

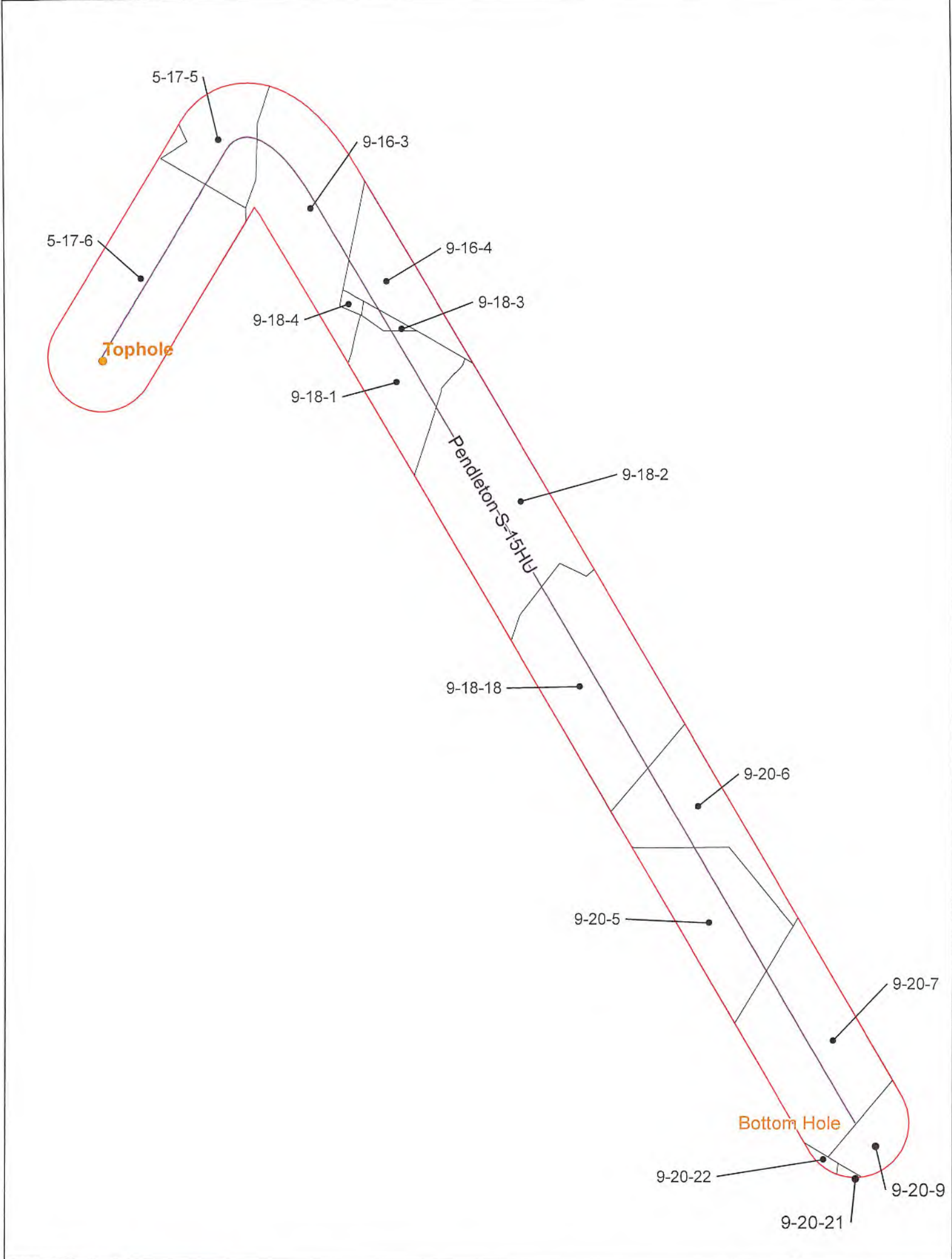
TOPO SECTION:	
GLEN EASTON 7.5'	
COUNTY	DISTRICT
MARSHALL	FRANKLIN
DRAWN BY	JOB NO.
J.D.C	494510851

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



08/26/2022

Pendleton S-15HU



Coordinate System: NAD 1983 UTM Zone 17N
 Projection: Transverse Mercator
 Datum: North American 1983
 False Easting: 166,416.0000
 False Northing: 0.0000
 Central Meridian: -81.0000
 Scale Factor: 0.9999
 Latitude Offset: 0.0000
 Units: Foot US

CONFIDENTIAL

Pendleton S-15HU
Operators within 500 Feet of Well Borehole



**Operators within 500' of Well Bores
Pendleton S - 15HU**

COUNTY	DISTRICT	TMP	MINERAL OWNER/LESSEE	ADDRESS
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	9-16-3	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	MEADE	9-16-4	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
MARSHALL	MEADE	9-18-2	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	MEADE	9-18-3	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	MEADE	9-18-4	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	MEADE	9-18-18	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	MEADE	9-20-5	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	MEADE	9-20-6	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	MEADE	9-20-7	TH EXPLORATION, LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	MEADE	9-20-9	SWN PRODUCTION COMPANY	10000 Energy Drive Spring, TX 77389
MARSHALL	MEADE	9-20-9	EQUINOR USA ONSHORE PROPERTIES INC	2107 City West Blvd Suite 100 Houston, TX 77042
MARSHALL	MEADE	9-20-21	EQT CORPORATION	625 Liberty Avenue Suite 1700 Pittsburgh, PA 15222

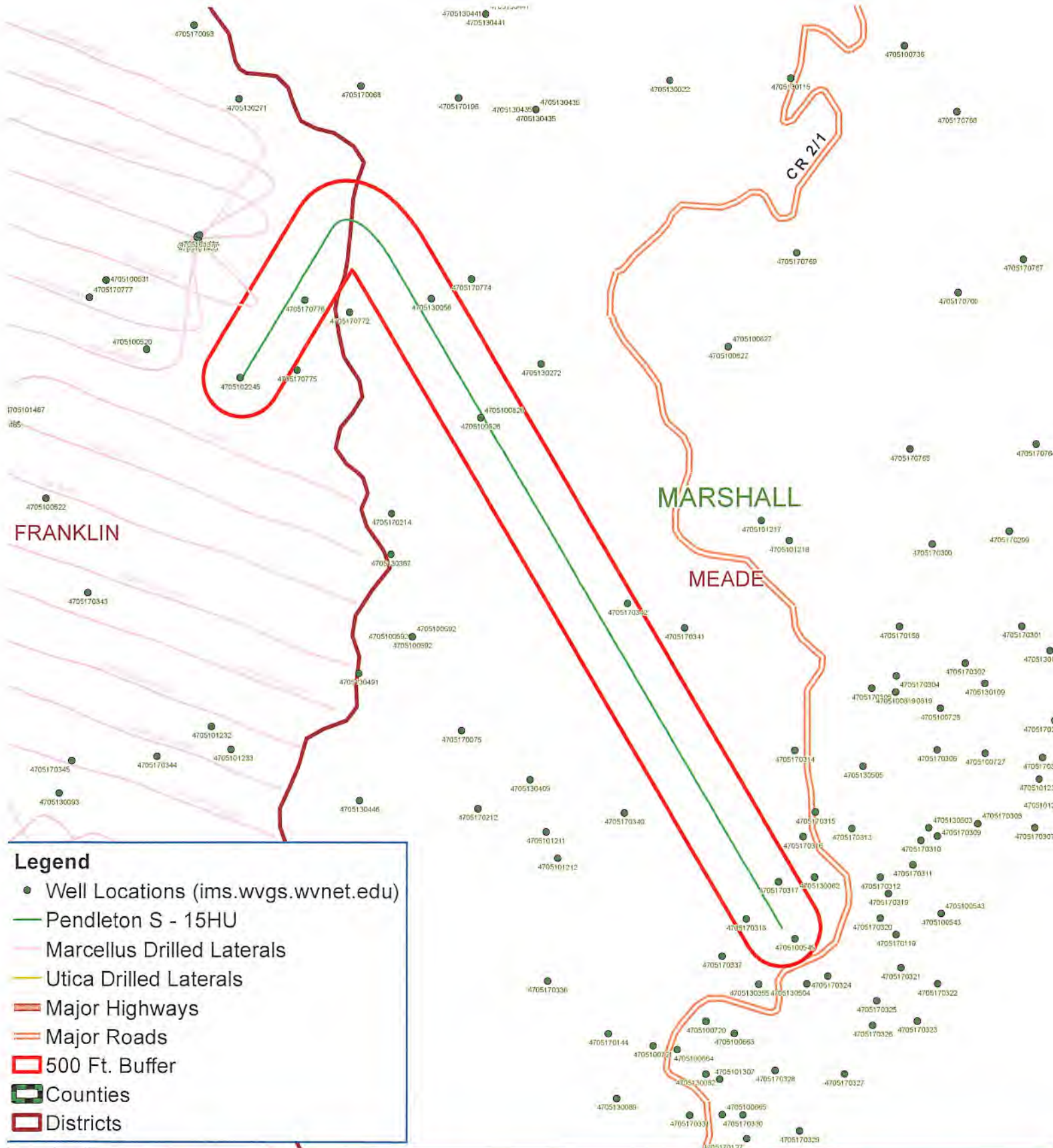
08/26/2022

Operators within 500' of Well Bores

Pendleton S - 15HU

MARSHALL	MEADE	9-20-22	EQT CORPORATION	625 Liberty Avenue Suite 1700 Pittsburgh, PA 15222
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08/26/2022

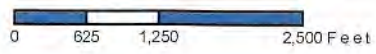


Legend

- Well Locations (ims.wvgs.wvnet.edu)
- Pendleton S - 15HU
- Marcellus Drilled Laterals
- Utica Drilled Laterals
- Major Highways
- Major Roads
- 500 Ft. Buffer
- ▭ Counties
- ▭ Districts



Pendleton S - 15HU Franklin District Marshall County, WV



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

Map Prepared by:

08/26/2022

Map Created: May 26, 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
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.
4705100826	Perkins Oil & Gas	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.
4705130056	Manufacturers Light & Heat Co.	2895' TVD	Gordon	unknown	No, this well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation. Well is plugged.	Well was plugged in 1935.

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
4705170342	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.
4705100545	Perkins, Carl D.	3340' TVD	4 th Salt Sand	unknown	No, this well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation. Well is plugged.	Well was plugged 7/10/1974.
4705170317	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.
4705170318	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 = 02245

Report Time: Thursday, May 26, 2022 3:18:47 PM

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	-80.733897	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

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 3:19:06 PM

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_BEF	G_AFT	O_BEF	O_AF
4705170776	-/-	-/-						unclassified	unclassified	not available	unknown	unknown								

WV Geological & Economic Survey:

Well: County = 51 Permit = 00826

Report Time: Thursday, May 26, 2022 3:21:04 PM

Well Reassignment Information: Reassigned From

OLD_COUNTY	OLD_PERMIT	NEW_COUNTY	NEW_PERMIT
51	70771	51	826

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705100826	Marshall	826	Meade	Glen Easton	Cameron	39.752013	-80.722796	523747.4	4400270.4

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
4705100826	-/-	unknown	Prpty Map	James Messey				1244		Perkins Oil and Gas, Inc.			
4705100826	-/-	Original Loc	Completed	James Messey				1244		----- 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
4705100826	-/-	-/-	1100	Topo	Estimation			unclassified	unclassified	Gas	unknown	unknown						
4705100826	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

Production Gas Information: (Volumes in Mcf) * 2021 data for H6A wells only. Other wells are incomplete at this time.

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100826	Perkins Oil and Gas, Inc.	1999	317	0	0	0	0	0	0	0	0	0	85	122	110
4705100826	Perkins Oil and Gas, Inc.	2001	817	66	44	42	69	83	82	80	72	70	66	83	58
4705100826	Perkins Oil and Gas, Inc.	2002	620	86	59	74	51	40	59	60	16	15	20	42	98
4705100826	Perkins Oil and Gas, Inc.	2003	629	77	73	68	51	61	82	34	28	47	70	0	38
4705100826	Perkins Oil and Gas, Inc.	2004	788	73	56	98	81	90	50	59	28	13	64	96	80
4705100826	Perkins Oil and Gas, Inc.	2005	938	25	59	95	89	85	87	70	92	84	82	93	77
4705100826	Perkins Oil and Gas, Inc.	2006	815	22	54	69	63	85	80	82	67	81	70	63	59
4705100826	Perkins Oil and Gas, Inc.	2007	435	26	10	36	38	72	48	32	41	30	36	48	18
4705100826	Perkins Oil and Gas, Inc.	2008	603	46	39	44	34	56	37	62	65	49	71	52	48
4705100826	Perkins Oil and Gas, Inc.	2009	1,005	66	63	77	69	95	97	97	99	81	94	91	76
4705100826	Perkins Oil and Gas, Inc.	2010	829	61	69	58	78	61	65	70	68	62	100	81	56
4705100826	Perkins Oil and Gas, Inc.	2011	1,043	73	72	96	90	105	94	82	74	81	87	79	110
4705100826	Perkins Oil and Gas, Inc.	2012	1,295	93	106	103	196	92	100	88	75	109	119	109	105
4705100826	Perkins Oil and Gas, Inc.	2013	1,196	111	68	86	93	102	92	79	115	108	122	112	108
4705100826	Perkins Oil and Gas, Inc.	2014	1,229	90	94	74	111	116	114	112	98	106	106	101	108
4705100826	Perkins Oil and Gas, Inc.	2015	1,199	125	95	39	81	73	63	117	154	102	119	116	115
4705100826	Perkins Oil and Gas, Inc.	2016	1,231	93	92	102	95	113	84	100	99	108	115	112	116
4705100826	Perkins Oil and Gas, Inc.	2017	2,130	214	102	166	168	174	170	226	186	206	216	210	92
4705100826	Perkins Oil and Gas, Inc.	2018	1,026	27	53	79	77	89	95	105	101	105	88	102	105
4705100826	Perkins Oil and Gas, Inc.	2019	965	0	42	101	95	99	105	97	102	90	92	63	99
4705100826	Perkins Oil and Gas, Inc.	2020	1,119	99	93	64	93	95	94	104	101	97	99	80	100

WV Geological & Economic Survey:

Well: County = 51 Permit = 30056

Report Time: Thursday, May 26, 2022 3:19:28 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705130056	Marshall	30056	Meade	Glen Easton	Cameron	39.756218	-80.725051	523552.8	4400736.5

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
4705130056	-/-		Original Loc	Completed	John Shutler	1	1275		M L & H Co	Manufacturers Light & Heat Co.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT
4705130056	-/-	-/-			Unnamed	UDev undf:Ber/LoHURN	Gordon	unclassified	unclassified	Gas	Cable Tool	unknown	2895		2895		0	0

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4705130056	-/-	Pay	Gas	Vertical		Gordon	2882	Gordon	0	0			

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

There is no Stratigraphy data for this well

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

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705130056	-/-/1935	0

WV Geological & Economic Survey:

Well: County = 51 Permit = 70342

Report Time: Thursday, May 26, 2022 3:19:44 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170342	Marshall	70342	Meade	Wileyville	Littleton	39.745434	-80.716026	524329.7	4399542.1

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170342	---		unknown	Prpty Map Charles Blatt						----- 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
4705170342	---	---						unclassified	unclassified	not available	unknown	unknown							

WV Geological & Economic Survey:

Well: County = 51 Permit = 02245

Report Time: Thursday, May 26, 2022 3:18:47 PM

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	-80.733897	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

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 = 70317

Report Time: Thursday, May 26, 2022 3:20:11 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170317	Marshall	70317	Meade	Wileyville	Littleton	39.735565	-80.709083	524928.2	4398448.6

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170317	-/-		unknown	Prpty Map G Blatt Hrs		2				----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF
4705170317	-/-	-/-						unclassified	unclassified	not available	unknown	unknown							

WV Geological & Economic Survey:

Well: County = 51 Permit = 70318

Report Time: Thursday, May 26, 2022 3:20:23 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170318	Marshall	70318	Meade	Wileyville	Littleton	39.734258	-80.710583	524800.1	4398303.2

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170318	-/-		unknown	Prpty Map G Blatt Hrs		4	1118			----- 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
4705170318	-/-	-/-						unclassified	unclassified	not available	unknown	unknown							



TUG HILL
OPERATING

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

Well Name: Pendleton S-15HU

Pad Name: Pendleton

County: Marshall

Frank (7000)
5/26/2021
MRK

UTM (meters), NAD83, Zone 17

Northing: 4,400,427.81

Easting: 522,802.47

**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

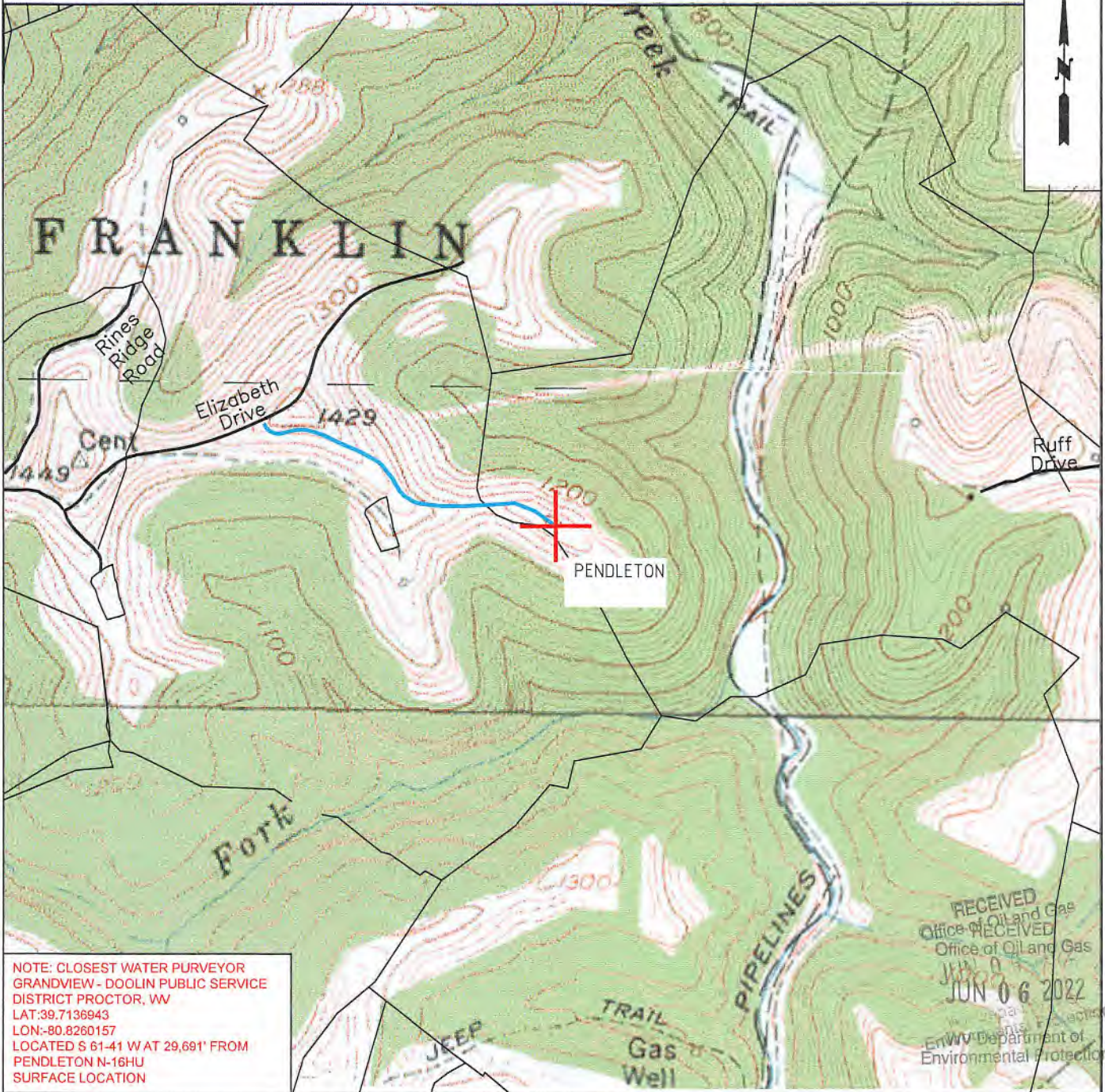
08/26/2022

WW-9

SUPPLEMENT PG. 2


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

RECEIVED
 Office of Oil and Gas
 Office of Oil and Gas
 JUN 06 2022
 WV Department of Environmental Protection

 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	

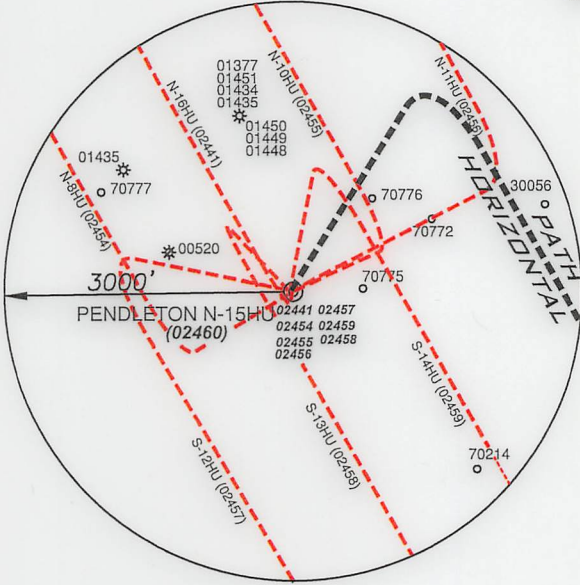
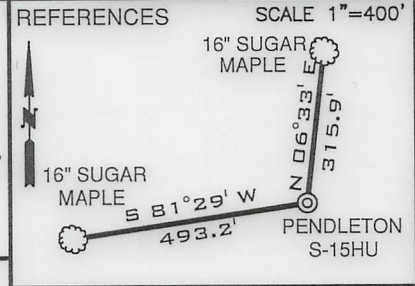
**PENDLETON LEASE
WELL S-15HU
315.5443± ACRES**

TOP HOLE LATITUDE: 39°47'30"
BOTTOM HOLE LATITUDE: 39°45'00"

form ww6

GRID NORTH

LINE	BEARING	DISTANCE
L1	N 01°02' E	2,845.13'
L2	N 76°39' W	2,394.82'
L3	N 32°20' E	2,248.04'



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
47-051-02455	Tug Hill Operating, LLC
47-051-02457	Tug Hill Operating, LLC
47-051-02456	Tug Hill Operating, LLC
47-051-02459	Tug Hill Operating, LLC
47-051-02458	Tug Hill Operating, LLC

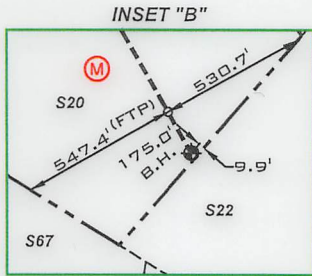
(BH) BOTTOM HOLE LONGITUDE: 80°42'30"
 (TH) TOP HOLE LONGITUDE: 80°42'30"
 (BH) 5,867'
 (TH) 13,934'

LEGEND

- LEASED TRACTS
- SURFACE TRACTS
- WELL LATERAL
- POINT PLEASANT LEGS
- UNIT BOUNDARY
- (A) LEASE # (SEE 6A1 FORM)
- 400' BORE PATH OFFSET
- 500' WELL BORE OFFSET
- (FTP) PROPOSED FIRST TAKE POINT
- (LTP) PROPOSED LAST TAKE POINT

NOTES

- BORE PATH BASED ON GRID NORTH.
- NO WATER WELLS WITHIN 250' OF WELL WERE FOUND, NO DWELLINGS WITHIN 625' OF PAD CENTER WERE FOUND.
- OWNERSHIP TAKEN FROM PUBLIC RECORDS OF MARSHALL COUNTY, WV IN MAY, 2022.
- COORDINATES AND WELL TIES BASED UPON DIFFERENTIAL GPS MEASUREMENTS.
- WELL LOCATION REFERENCES ARE BASED UPON THE MAGNETIC MERIDIAN.
- ALL DEEP WELLS SHOWN ON THIS PLAT.
- L.P.1 AND (L.T.P.) ARE AT THE SAME POINT.
- THE FTP IS OVER 500' PERPENDICULAR TO THE BOUNDARY.



SURFACE HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,400,427.81
E) 522,802.47

LANDING POINT 1
UTM. NAD83, ZONE 17
IN METERS
N) 4,400,885.81
E) 523,397.42

BOTTOM HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,398,270.66
E) 524,940.28

CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH
C1	N 42°32' E	105.27'	298.60'	105.82'
C2	N 70°22' E	114.59'	205.11'	116.14'
C3	S 81°54' E	100.17'	263.80'	100.79'
C4	S 61°17' E	151.53'	455.85'	152.24'
C5	S 46°13' E	187.53'	878.64'	187.88'
C6	S 34°49' E	400.30'	1941.45'	401.01'

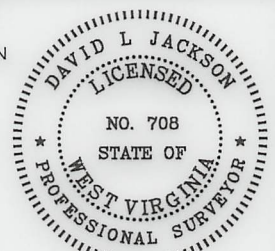
FILE NUMBER _____
 DRAWING NUMBER: PENDLETON_S-15HU REV 3
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION SUBMETER MAPPING
GRADE GPS

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

P.S. 708

David L Jackson

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



SEAL

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

DATE: AUGUST 03, 2022
 OPERATORS WELL NO. PENDLETON S-15HU
 API WELL NO. 47-051-02460
 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: 11,817' TMD: 22,638'

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

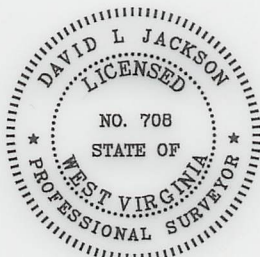
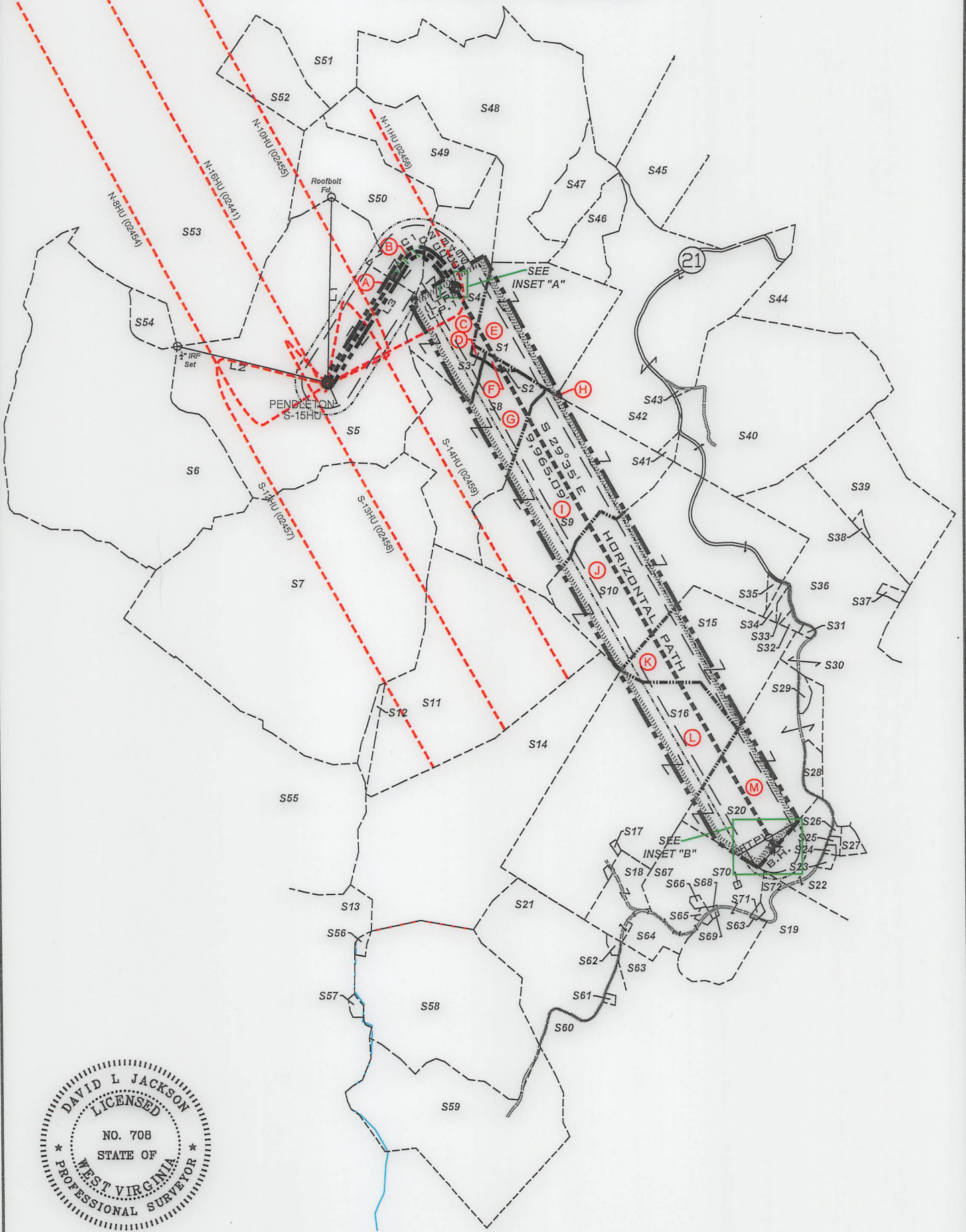
08/26/2022

COUNTY NAME
 PERMIT

PENDLETON LEASE
WELL S-15HU
315.5443 ± ACRES


LEGEND

- LEASED TRACTS
- - - SURFACE TRACTS
- - - WELL LATERAL
- - - POINT PLEASANT LEGS
- - - UNIT BOUNDARY
- (A) LEASE # (SEE 6A1 FORM)
- - - 400' BORE PATH OFFSET
- - - 500' WELL BORE OFFSET
- (FTP) PROPOSED FIRST TAKE POINT
- (LTP) PROPOSED LAST TAKE POINT



P.S. 708 *David L Jackson*

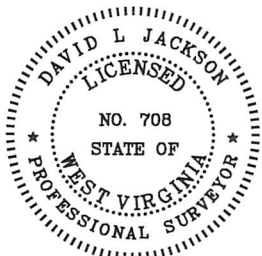
08/26/2022

 <p>TUG HILL OPERATING</p>	OPERATOR'S	WELL PLAT	
	WELL #:	PENDLETON S-15HU	PAGE 2 OF 4
	DISTRICT:	Franklin	DATE: 08/03/2022
	COUNTY:	Marshall	
	STATE:	WV	
API #:	047-051-02460		

**PENDLETON LEASE
WELL S-15HU
315.5443± ACRES**

Parcels within Unit Boundary				
Tags	Number	Tax Map -Parcel	Surface Owner	Acres
A	S5	05-17-06	ALPINE FARM LLC	249.07
B	S50	05-17-05	ALPINE FARM LLC	76.96
C	S4	09-16-03	BERTHA L KLUG	71
D	S3	09-18-04	BERTHA L KLUG	1
E	S1	09-16-04	BERTHA L KLUG	73.39
F	S2	09-18-03	BERTHA L KLUG	1.33
G	S8	09-18-01	THERESA MAE LONG THOMAS ET AL	58.66
H	S42	09-18-05	BERTHA L. KLUG	122.437
I	S9	09-18-02	BRIAN T KLUG	85
J	S10	09-18-18	JAMES D. FROHNAPFEL ET UX	154.03
K	S15	09-20-06	KEITH & KRISTY FERRELL REVOCABLE LIVING TRUST	64.74
L	S16	09-20-05	GERALD A ET UX FROHNAPFEL - TRUST	164.143
M	S20	09-20-07	SONNY M & LINDA L TAGG	72.828

Adjoining Parcels Ownership Table				
	Number	Tax Map -Parcel	Surface Owner	Acres
	S6	05-17-08	ROGER H HALL JR	257.50
	S7	05-24-02	ROY FRIEND YOHO	316.80
	S11	09-20-02	MICHAEL JAMES PEKULA ET UX	138
	S12	09-20-01	MICHAEL JAMES PEKULA ET UX	5
	S13	05-25-03	USA TIMBER AND LAND AUCTIONS LLC	181.548
	S14	09-20-04	SHELLIE J PEKULA	171
	S17	09-20-5.2	WHEELING CATHOLIC DIOCESE	.447
	S18	09-22-04	WHEELING CATHOLIC DIOCESE	20
	S19	09-20-17	MARTIN L KLUG	49.78
	S21	09-22-3.2	MARK H MILLER	75
	S22	09-20-9	JOHN G JR & MARILYN S WEIGAND	48.131
	S23	09-20-9.4	HELEN B SHUTLER - LIFE	.78
	S24	09-20-10	JAMES MILLER ET UX	.50
	S25	09-20-9.3	JAMES MILLER ET UX	.80
	S26	09-20-9.5	JAMES MILLER ET UX	.666
	S27	09-20-9.6	JAMES MILLER ET UX	2.919
	S28	09-20-7.1	DAVID PAUL FROHNAPFEL	4.930
	S29	09-20-7.2	MICKEY R DULANEY JR	2.242
	S30	09-18-15	KEITH & KRISTY FERRELL REVOCABLE LIVING TRUST	29.5
	S31	09-18-15.1	NICHOLAS FROHNAPFEL ET UX	1.50
	S32	09-18-16.1	NICHOLAS C FROHNAPFEL ET UX	1.50
	S33	09-18-16.3	JOHN F WAYMAN EST	1.818
	S34	09-18-16.2	JOHN F WAYMAN EST	2.17
	S35	09-18-18.1	JOHN F WAYMAN EST	1.1
	S36	09-18-16	ROBERT F VILLERS	62.893
	S37	09-18-16.4	ROBERT F & APRIL L VILLERS	1.50
	S38	09-18-17.1	VINCENT JOHN WAYMAN	1.010
	S39	09-18-17	VINCENT J WAYMAN ET UX	68.99
	S40	09-18-06	LOUIS FOX	141.75
	S41	09-18-5.1	LOUIS FOX	1.583
	S43	09-18-5.2	LOUIS FOX	0.933
	S44	09-16-20	LOUIS T FOX	83.174
	S45	09-16-11	JAMES G RICHMOND	67.88
	S46	09-16-07	BERTHA L KLUG	26.105
	S47	09-16-06	ROBERT M & NANCY R McCARDLE	31
	S48	09-16-05	ROBERT M & NANCY R McCARDLE	133
	S49	09-16-02	ROBERT M & NANCY R McCARDLE	53.40
	S51	09-16-01	ROBERT M & NANCY R McCARDLE	46.80
	S52	05-16-13	DAVID ALAN RUBCICH ET AL	33.31
	S53	05-17-04	ALPINE FARM LLC	212
	S54	05-17-07	ALPINE FARM LLC	10.8
	S55	05-24-3.3	CHARLES E BERTRAND & DEBRA K BERTRANO	120.43
	S56	09-22-1.1	CNG TRANSMISSION CO	1.43
	S57	05-25-3.2	CONSOL ENERGY HOLDINGS LLC XVI	1.43
	S58	09-22-01	LOUIS T FOX	124.57
	S59	09-22-02	MARK H J MILLER ETAL	124.80
	S60	09-22-03	MARK HILARY MILLER	63.73
	S61	09-22-3.3	MARY C WRIGHT	.617
	S62	09-22-3.1	MARGARET ANN MYSLIWIEC - LIFE	1.1
	S63	09-20-22.6	MARY MARGARET STINE	0.1185
	S64	09-22-5.1	HILARY G MILLER EST	10.62
	S65	09-20-22.7	JOAN L KLUG	1.06
	S66	09-20-22.8	JOAN LOUISE KLUG	.80
	S67	09-20-22	JOAN L KLUG	70.2398
	S68	09-20-22.4	JOAN L KLUG	0.165
	S69	09-20-22.5	JOAN L KLUG	.3767
	S70	09-20-22.3	GRANDVIEW-DOOLIN PSD	0.23
	S71	09-20-22.1	MARY MARGARET STINE	.6
	S72	09-20-21	MARY MARGARET STINE	3.25



P.S. 708 *David L Jackson*

08/26/2022



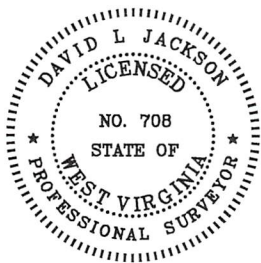
TUG HILL
OPERATING

OPERATOR'S
WELL #: PENDLETON S-15HU
DISTRICT: Franklin
COUNTY: Marshall
STATE: WV
API #: 047-051-02460

WELL PLAT
PAGE 3 OF 4
DATE: 08/03/2022

**PENDLETON LEASE
WELL S-15HU
315.5443± ACRES**

LEASE ID	TMP	TAG	GRANTOR, LESSOR, ETC.	DEED BOOK/PAGE	
10*14114	5-17-6	A	ELI & FANNIE MAE WENGERD	671	323
10*19845	5-17-5	B	MICHAEL WESLEY HALL DNU, ET AL	946	5
10*19638	9-16-3	C	GREGORY J HALL, ET AL	944	461
10*19638	9-18-4	D	GREGORY J HALL, ET AL	944	461
10*18337	9-16-4	E	VIRIGNIA LEA SHUTLER, ET AL	929	552
10*28262	9-18-3	F	JAMES W MESSEY ET AL	67	487
10*28262	9-18-1	G	JAMES W MESSEY ET AL	67	487
10*28268	9-18-5	H	JOSEPH & ELIZABETH SHUTLER, ET AL	63	203
10*28262	9-18-2	I	JAMES W MESSEY ET AL	67	487
10*47051.047.1	9-18-18	J	JAMES E BLATT, ET AL	869	587
10*17899	9-20-6	K	JOHN CALVERT, ET AL	924	608
10*19555	9-20-5	L	MARY JEAN FROHNAPFEL	936	525
10*19343	9-20-7	M	SONNY M TAGG AND LINDA L TAGG	936	521



P.S. 708 *David L Jackson*

08/26/2022



TUG HILL
OPERATING

OPERATOR'S
WELL #: PENDLETON S-15HU
DISTRICT: Franklin
COUNTY: Marshall
STATE: WV
API #: 047-051-02460

WELL PLAT
PAGE 4 OF 4
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
----------------------	-----------------------	-----------------------	---------	-----------

*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 Morris*
 Its: Permitting Specialist - Appalachia Region

LEASE ID	TMP	TAG	GRANTOR, LESSOR, ETC.	GRANTEE, LESSEE, ETC.	ROYALTY	DEED BOOK/PAGE	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	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	N/A	N/A	N/A
10*19846	5-17-5	B	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
10*19845	5-17-5	B	MICHAEL WESLEY HALL DNU	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
10*14114	5-17-5	B	ELI & FANNIE MAE WENGERD	GASTAR EXPLORATION USA INC	1/8+	671 323	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1287845-001	5-17-5	B	KENNETH EUGENE DAKAN AKA GENE & MARGARET E. DA	CHESAPEAKE APPALACHIA LLC	1/8+	690 192	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 22/646	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
1287845-002	5-17-5	B	DOROTHY SEDOSKY	CHESAPEAKE APPALACHIA LLC	1/8+	690 156	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 22/646	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
1287845-003	5-17-5	B	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	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
1287845-004	5-17-5	B	GEORGE WILLIAM MCCAIN	CHESAPEAKE APPALACHIA LLC	1/8+	692 342	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
1287845-005	5-17-5	B	RITA RAE STEPHENS	CHESAPEAKE APPALACHIA LLC	1/8+	690 229	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
1287845-006	5-17-5	B	MICHAEL EARL RICHARDS	CHESAPEAKE APPALACHIA LLC	1/8+	690 257	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

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1287845-007	5-17-5	B	VIRGINIA MAE SELMON	CHESAPEAKE APPALACHIA LLC	1/8+	690 239	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
1287845-008	5-17-5	B	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	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
1287845-009	5-17-5	B	LEROY EUGENE RICHARDS	CHESAPEAKE APPALACHIA LLC	1/8+	690 254	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
1287845-010	5-17-5	B	BETTY ANN STROSNIER	CHESAPEAKE APPALACHIA LLC	1/8+	690 147	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
1287845-011	5-17-5	B	HILDA IOLA MCCAIN	CHESAPEAKE APPALACHIA LLC	1/8+	692 369	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
1287845-012	5-17-5	B	VICTORIA MURPHY	CHESAPEAKE APPALACHIA LLC	1/8+	692 310	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
1287845-013	5-17-5	B	HELEN LOUISE MCCAIN GATTS	CHESAPEAKE APPALACHIA LLC	1/8+	690 180	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

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1287845-014	5-17-5	B	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	B	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	B	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	B	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	B	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	B	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	B	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	B	RONNIE CUSANO AND MELISSA CUSANO	CHESAPEAKE APPALACHIA LLC	1/8+	692 322	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
1287845-022	5-17-5	B	JENNIFER LYNN FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	692 218	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/84	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
1287845-023	5-17-5	B	JAMES L. FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	693 581	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/84	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
1287845-024	5-17-5	B	TAMMY SUE FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	693 585	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/84	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
1287845-025	5-17-5	B	KATHY WILLIAMS	CHESAPEAKE APPALACHIA LLC	1/8+	694 56	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
1287845-026	5-17-5	B	LARRY WAYNE FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	694 143	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
1287845-027	5-17-5	B	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	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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1287845-028	5-17-5	B	MICHAEL WESLEY HALL	CHESAPEAKE APPALACHIA LLC	1/8+	694 34	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
1287845-029	5-17-5	B	CHARLES EDWARD FOOCE AND MARY A. FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	694 481	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
1287845-030	5-17-5	B	GEORGE DAVID FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	694 485	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
1287845-031	5-17-5	B	MARK A. FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	695 375	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 23/479	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
10*19638	9-16-3	C	GREGORY J HALL	TH EXPLORATION LLC	1/8+	944 461	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19639	9-16-3	C	RANDALL S HALL	TH EXPLORATION LLC	1/8+	944 459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27393	9-16-3	C	VICTOR LEWIS LANHAM	TH EXPLORATION LLC	1/8+	1058 404	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27520	9-16-3	C	MICHAEL L HALL JR AND DIANNE HALL	TH EXPLORATION LLC	1/8+	1060 194	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27528	9-16-3	C	CRYSTAL L CUNNINGHAM AND TIMOTHY CUNNINGHAM	TH EXPLORATION LLC	1/8+	1060 476	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27833	9-16-3	C	TIMOTHY A HOLLEY AND DEBRA J HOLLEY	TH EXPLORATION LLC	1/8+	1063 256	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29086	9-16-3	C	BETTY L COX	TH EXPLORATION LLC	1/8+	1084 197	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27570	9-16-3	C	ENOCH R HYDE AND ELIZABETH HYDE	TH EXPLORATION LLC	1/8+	1060 478	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27572	9-16-3	C	JOHN W HYDE AND ALYCE F HYDE	TH EXPLORATION LLC	1/8+	1060 481	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27573	9-16-3	C	RUSSELL H HATCHER AND ELIZABETH HATCHER	TH EXPLORATION LLC	1/8+	1061 258	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29515	9-16-3	C	NANCY M HYDE	TH EXPLORATION LLC	1/8+	1097 507	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29686	9-16-3	C	FAMILY TREE CORPORATION	TH EXPLORATION LLC	1/8+	1100 254	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29725	9-16-3	C	JANICE GUMP DEBOLT	TH EXPLORATION LLC	1/8+	1100 76	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18038	9-16-4	E	JEANETTE A SHUTLER DAVIS AND ROY J DAVIS	TH EXPLORATION LLC	1/8+	927 84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18039	9-16-4	E	CLEMENT R SHUTLER AND NANCY L SHUTLER	TH EXPLORATION LLC	1/8+	927 82	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18337	9-16-4	E	VIRIGNIA LEA SHUTLER	TH EXPLORATION LLC	1/8+	929 552	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18338	9-16-4	E	MARY MARGARET SHUTLER	TH EXPLORATION LLC	1/8+	929 554	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18439	9-16-4	E	MARTIN E FAHEY AND PAMELA S FAHEY	TH EXPLORATION LLC	1/8+	933 85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18440	9-16-4	E	JOHN M FAHEY AND SANDY Y FAHEY	TH EXPLORATION LLC	1/8+	933 87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18538	9-16-4	E	KRIS & JULIE BECKER	TH EXPLORATION LLC	1/8+	933 644	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18667	9-16-4	E	DONNA K FAHEY	TH EXPLORATION LLC	1/8+	936 81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18668	9-16-4	E	THOMAS M FAHEY AND PATRICIA FAHEY	TH EXPLORATION LLC	1/8+	936 85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18669	9-16-4	E	ANDREW E POWELL AND MARIE C POWELL	TH EXPLORATION LLC	1/8+	936 139	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22384	9-16-4	E	VIVIAN SHUTLER	AMERICAN PETROLEUM PARTNERS LLC	1/8+	916 642	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners LLC to TH Exploration LLC: AB 42/109
10*22429	9-16-4	E	DENNIS E BOGER AND MARY BETH BOGER	AMERICAN PETROLEUM PARTNERS LLC	1/8+	921 19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners LLC to TH Exploration LLC: AB 42/109

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10*22477	9-16-4	E	NANCY E MCFARLAND AND SHAWN B MCFARLAND	AMERICAN PETROLEUM PARTNERS LLC	1/8+	921 24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners LLC to TH Exploration LLC: AB 42/109
10*22478	9-16-4	E	URBAN SHUTLER AIF KEVIN C SHUTLER	AMERICAN PETROLEUM PARTNERS LLC	1/8+	921 29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners LLC to TH Exploration LLC: AB 42/109
10*22479	9-16-4	E	KEVIN SHUTLER	AMERICAN PETROLEUM PARTNERS LLC	1/8+	920 115	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners LLC to TH Exploration LLC: AB 42/109
10*22482	9-16-4	E	MICHAEL J SHUTLER & PATRICIA SHUTLER	AMERICAN PETROLEUM PARTNERS LLC	1/8+	930 193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners LLC to TH Exploration LLC: AB 42/109
10*22484	9-16-4	E	TERRENCE A SHUTLER AND DAWN I SHUTLER	AMERICAN PETROLEUM PARTNERS LLC	1/8+	928 28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners LLC to TH Exploration LLC: AB 42/109
10*22945	9-16-4	E	MARTHA J SHUTLER	AMERICAN PETROLEUM PARTNERS LLC	1/8+	917 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners LLC to TH Exploration LLC: AB 42/109
10*29413	9-16-4	E	JANA K PARRY	TH EXPLORATION LLC	1/8+	1096 319	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29646	9-16-4	E	RED STONE RESOURCES LLC	TH EXPLORATION LLC	1/8+	1100 70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*28262	9-18-3	F	JAMES W MESSEY ET AL	ECLIPSE OIL COMPANY	1/8+	67 487	N/A	Eclipse Oil ompany to C.H. Stolzebach: DB 68/507	Wheeling Natural Gas Company to Manufacturers Light & Heat Company: DB 148/389	The Manufacturers Light & Heat Company to A.M. Snider & Duane M Snider dba Hundred Gas Company: AB 4/489	AM Snider, Duane M Snider & Kathleen Rinehart dba Hundred Gas Company to Hundred Gas Company: DB 256/189	Hundred Gas Company to Carl D Perkins: DB 451/132	Amendment - Hundred Gas Company to Carl D Perkins: DB 451/418	Carl D Perkins to Perkins Oil and Gas Inc: DB 583/72	Perkins Oil & Gas Inc to TH Exploration LLC: AB 45/87	
10*28262	9-18-1	G	JAMES W MESSEY ET AL	ECLIPSE OIL COMPANY	1/8+	67 487	N/A	Eclipse Oil ompany to C.H. Stolzebach: DB 68/507	Wheeling Natural Gas Company to Manufacturers Light & Heat Company: DB 148/389	The Manufacturers Light & Heat Company to A.M. Snider & Duane M Snider dba Hundred Gas Company: AB 4/489	AM Snider, Duane M Snider & Kathleen Rinehart dba Hundred Gas Company to Hundred Gas Company: DB 256/189	Hundred Gas Company to Carl D Perkins: DB 451/132	Amendment - Hundred Gas Company to Carl D Perkins: DB 451/418	Carl D Perkins to Perkins Oil and Gas Inc: DB 583/72	Perkins Oil & Gas Inc to TH Exploration LLC: AB 45/87	
10*28262	9-18-2	I	JAMES W MESSEY ET AL	ECLIPSE OIL COMPANY	1/8+	67 487	N/A	Eclipse Oil ompany to C.H. Stolzebach: DB 68/507	Wheeling Natural Gas Company to Manufacturers Light & Heat Company: DB 148/389	The Manufacturers Light & Heat Company to A.M. Snider & Duane M Snider dba Hundred Gas Company: AB 4/489	AM Snider, Duane M Snider & Kathleen Rinehart dba Hundred Gas Company to Hundred Gas Company: DB 256/189	Hundred Gas Company to Carl D Perkins: DB 451/132	Amendment - Hundred Gas Company to Carl D Perkins: DB 451/418	Carl D Perkins to Perkins Oil and Gas Inc: DB 583/72	Perkins Oil & Gas Inc to TH Exploration LLC: AB 45/87	
10*47051.04	7.1	J	JAMES E BLATT	TH EXPLORATION LLC	1/8+	869 587	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*47051.04	7.2	J	JOHN WILLIAM BLATT	TH EXPLORATION LLC	1/8+	869 590	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*47051.04	7.3	J	CAROL LEE BURNSIDE	TH EXPLORATION LLC	1/8+	869 593	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*47051.04	7.4	J	LOIS JEAN CECIL	TH EXPLORATION LLC	1/8+	869 596	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*17899	9-20-6	K	JOHN CALVERT	TH EXPLORATION LLC	1/8+	924 608	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*17900	9-20-6	K	DELORES J MYERS	TH EXPLORATION LLC	1/8+	924 606	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*17989	9-20-6	K	JANET F HIGGINS	TH EXPLORATION LLC	1/8+	925 445	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*17990	9-20-6	K	EDWARD TYLA AND MARY TYLA	TH EXPLORATION LLC	1/8+	925 385	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*17994	9-20-6	K	ELAINE BEAL	TH EXPLORATION LLC	1/8+	943 528	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*17995	9-20-6	K	THOMAS E BEAL AND LOIS BEAL	TH EXPLORATION LLC	1/8+	925 383	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18116	9-20-6	K	SUSANNE KRENTZ	TH EXPLORATION LLC	1/8+	927 80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18277	9-20-6	K	JOHN J ZAGORSKI AND PAMELA L WOODHULL	TH EXPLORATION LLC	1/8+	929 110	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18279	9-20-6	K	ELAINE BOBINCHECK	TH EXPLORATION LLC	1/8+	929 56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18282	9-20-6	K	ROBERT G TAYLOR AND JUDITH B TAYLOR	TH EXPLORATION LLC	1/8+	929 112	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18328	9-20-6	K	ROBERT E BEIFUSS AND PATRICIA J BEIFUSS	TH EXPLORATION LLC	1/8+	929 558	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18365	9-20-6	K	JEAN M JONES	TH EXPLORATION LLC	1/8+	931 309	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18372	9-20-6	K	JAMES RIDER	TH EXPLORATION LLC	1/8+	931 455	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18380	9-20-6	K	LEROY AND JUNE E SUMMERHILL	TH EXPLORATION LLC	1/8+	932 443	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18382	9-20-6	K	GAIL V RYBA	TH EXPLORATION LLC	1/8+	932 445	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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10*18383	9-20-6	K	WILLIAM AND CAROL A MATUSINEC	TH EXPLORATION LLC	1/8+	932 488	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18384	9-20-6	K	GEORGE S AUGUSTIN	TH EXPLORATION LLC	1/8+	932 490	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18431	9-20-6	K	DARYL W AND CATHERINE L ERRICHELLO	TH EXPLORATION LLC	1/8+	941 631	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18435	9-20-6	K	JOSEPH E BORK AND SUSAN A BORK	TH EXPLORATION LLC	1/8+	933 75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18441	9-20-6	K	HAROLD JR AND ANNETTE M SHELDON	TH EXPLORATION LLC	1/8+	933 89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18442	9-20-6	K	ARTHUR J JR AND SANDRA J OCHSNER	TH EXPLORATION LLC	1/8+	933 91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18489	9-20-6	K	MARJORIE E KRAUSE	TH EXPLORATION LLC	1/8+	933 73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18814	9-20-6	K	BEATRICE WAYMAN	TH EXPLORATION LLC	1/8+	938 28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21827	9-20-6	K	JANET PUCCI AND JOHN PUCCI	TH EXPLORATION LLC	1/8+	960 218	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21829	9-20-6	K	RONALD ROSE & BARBARA ROSE	TH EXPLORATION LLC	1/8+	960 185	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22591	9-20-6	K	MICHAEL AND ELIZABETH ZAMAGIAS	TH EXPLORATION LLC	1/8+	966 478	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22595	9-20-6	K	DUANE WOLLANT	TH EXPLORATION LLC	1/8+	984 511	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22596	9-20-6	K	DOUGLAS WOLLANT AND LISA M STOEFFLER	TH EXPLORATION LLC	1/8+	966 480	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19556	9-20-6	K	KEITH A FERRELL AND KRISTY J FERRELL	TH EXPLORATION LLC	1/8+	936 544	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19343	9-20-7	M	SONNY M TAGG AND LINDA L TAGG	TH EXPLORATION LLC	1/8+	936 521	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



August 3, 2022

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

RE: Pendleton S-15HU

Subject: Proposed Voluntary Pooling and Unitization

Dear Susan:

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

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

Sincerely,

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

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

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

SS:

COUNTY OF HOLMES

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.

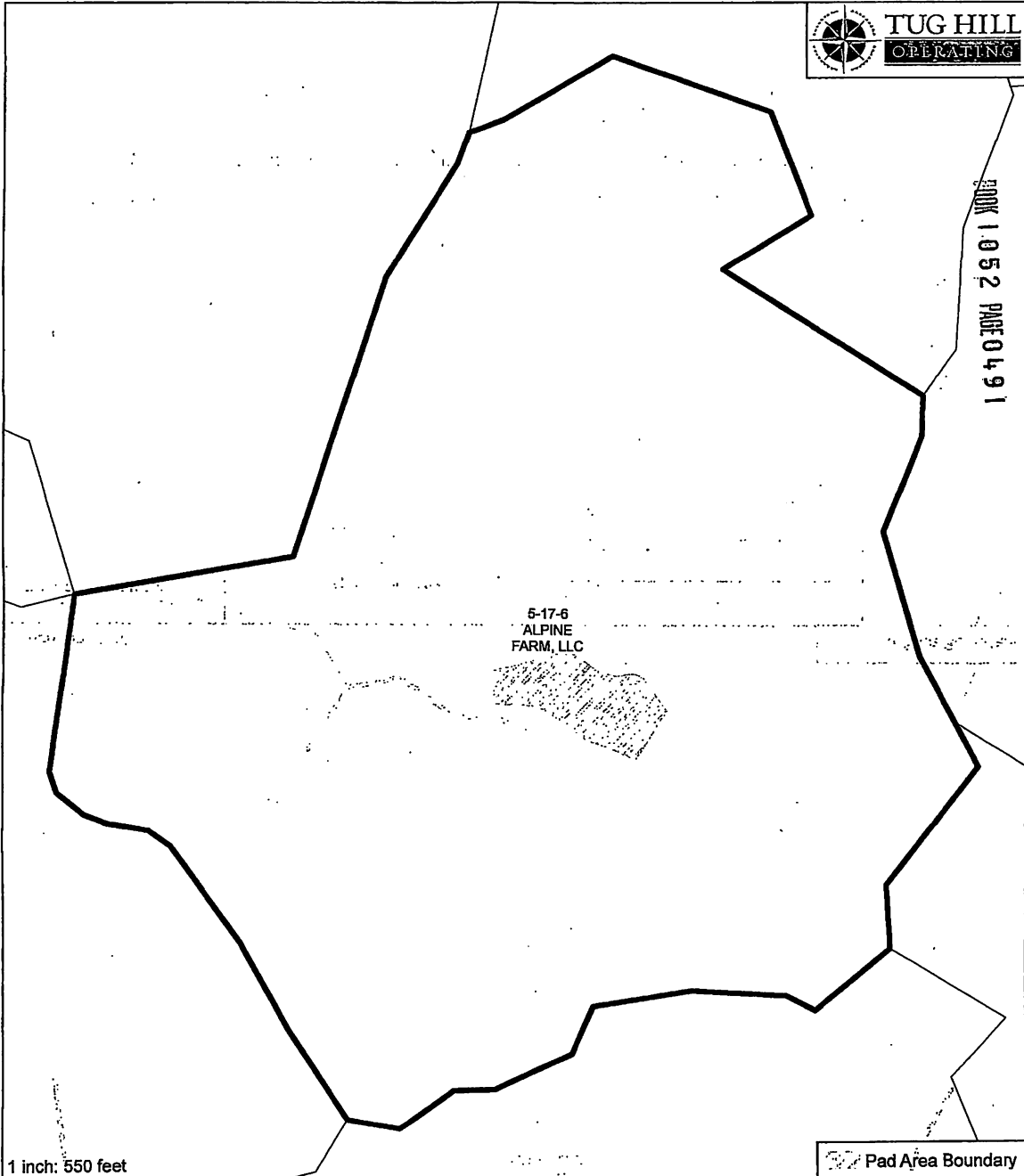
IN WITNESS WHEREOF, I hereunto set my hand and official seal.

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



1 inch: 550 feet

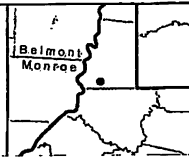
Pad Area Boundary

0 162.5 325 650 Feet

NOTE: THE APPROVED SITE LOCATION FOR THE SURFACE SITE ACCESS ROAD, RIGHT OF WAY AND THE LOCATION OF THE PROPERTY TO BE ACQUIRED SHALL BE SHOWN AS APPROVED BY THE COUNTY TO BE AN EASY TO FOLLOW. THE ACTUAL PROPERTY TO BE ACQUIRED SHALL BE AS SHOWN AND DELINEATED BY THE DECISION FILED IN THIS COUNTY RECORD AND THE APPROVED SITE LOCATION FOR THE SURFACE SITE ACCESS ROAD AND RIGHT OF WAY SHALL BE THE LOCATION AS ACTUALLY CONSTRUCTED.

"PLAT"
ALPINE FARM, LLC
Marshall, WV

Date: 7-1-19
Name: Elite Org ad
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

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 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

WV-ACR-0009

08/26/2022

WI-HBK-0009

Marshall County
Jan Pest, Clerk
Instrument 1440860
05/25/2018 @ 02:36:09 PM
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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.

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.

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:

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.

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ASSIGNMENT AND CONVEYANCE

STATE OF WEST VIRGINIA
COUNTY OF MARSHALL

(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;

(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;

(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");

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");

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

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ASSIGNMENT, BILL OF SALE AND CONVEYANCE

STATE OF WEST VIRGINIA §
COUNTY OF MARSHALL §
§



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-15HU

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-15HU 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-hill.com.

Sincerely,

Amy L. Morris
Permitting Specialist – Appalachia Region

RECEIVED
Office of Oil and Gas
JUN 06 2022
WV Department of
Environmental Protection

**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 S-15HU

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>522,802.47</u>
County:	<u>Marshall</u>		Northing:	<u>4,400,427.81</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.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: *PLEASE CHECK ALL THAT APPLY		OOG OFFICE USE ONLY
<input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED		<input type="checkbox"/> RECEIVED/ NOT REQUIRED
<input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED		<input type="checkbox"/> RECEIVED
<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 <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)		<input type="checkbox"/> RECEIVED/ NOT REQUIRED
<input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION	RECEIVED Office of Oil and Gas	<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 5. PUBLIC NOTICE	JUN 06 2022	<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION	WV Department of Environmental Protection	<input type="checkbox"/> RECEIVED

Required Attachments:

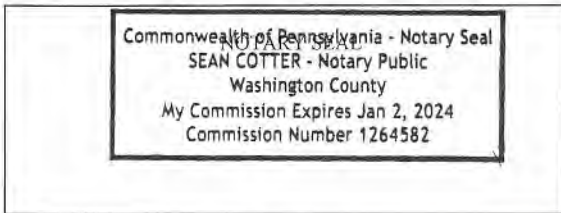
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication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

08/26/2022

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 S-15HU
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: 6/1/2022 **Date Permit Application Filed:** 6/3/2022

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: _____

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

Name: _____
 Address: _____

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

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

COAL OPERATOR
 Name: _____
 Address: _____

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

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

*Please attach additional forms if necessary

08/26/2022

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.**

08/26/2022

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 S-15HU
Well Pad Name: Pendleton

Notice is hereby given by:

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

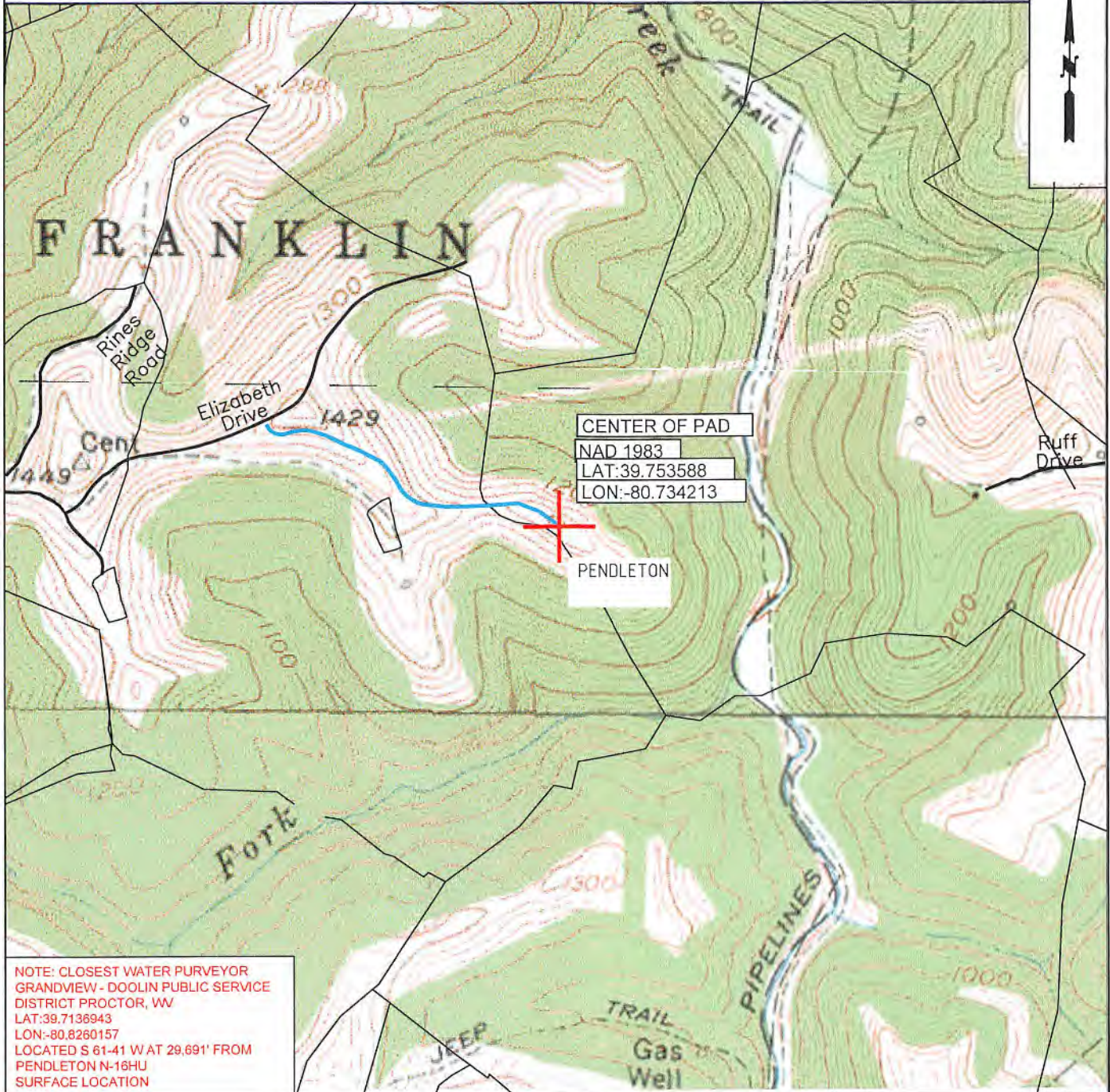
Commonwealth of Pennsylvania - Notary Seal
SEAN COTTER - Notary Public
Washington County
My Commission Expires Jan 2, 2024
Commission Number 1264582

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: 39.7136943
 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:	DATE:
			1" = 1000'	DATE: 03-15-2022

08/26/2022

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: Tug Hill Operating, LLC

Telephone: 724-749-8388

Email: armiller@tug-hill-op.com

Address: 380 Southpointe Boulevard, Plaza II, Suite 200
Canonsburg, PA 15317

Facsimile: 724-338-2030

Oil and Gas Privacy Notice:

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

08/26/2022

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:** 06/06/2022

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>522,802.47</u>
County:	<u>Marshall</u>		Northing:	<u>4,400,427.81</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

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4705102460

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 S-15HU 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,

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



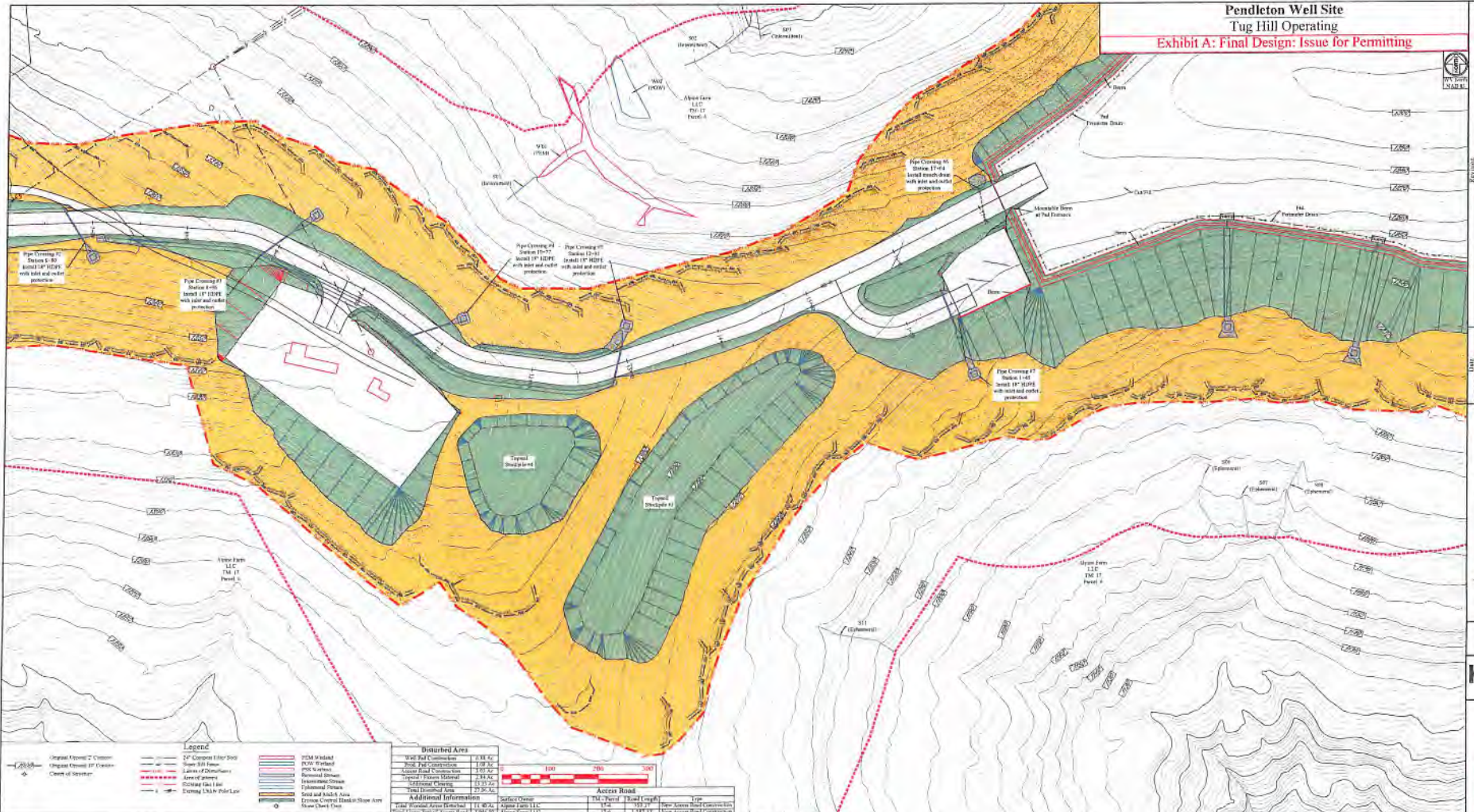
PLANNED ADDITIVES TO BE USED IN FRACTURING OR STIMULATION

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
Tug Hill Operating

Exhibit A: Final Design: Issue for Permitting



Legend

- Original Existing 2" Contour
- Original Existing 10" Contour
- Clear of Obstruction
- 12" Diameter 110' Spool
- 8" Spool
- Line of Disturbance
- Area of Disturbance
- Existing 12x18 Pole Line
- 200' Wetland
- 100' Wetland
- 50' Wetland
- Removal of Obstruction
- Replacement Structure
- 12" Diameter Spool
- Sand and Rock Area
- Excavation Control (Shank Stone Area)
- Shank Stone Area

Disturbed Area

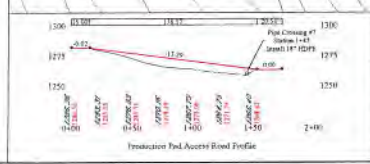
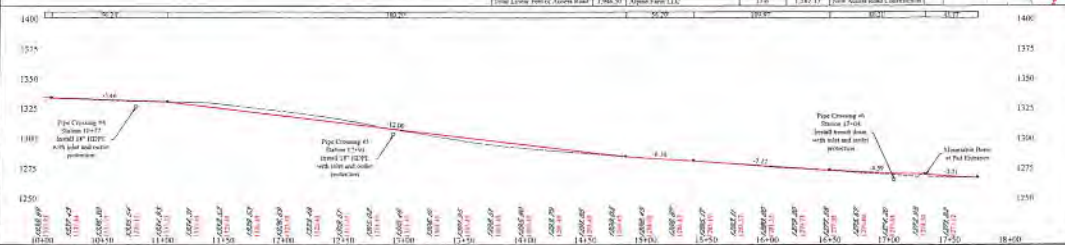
Wetland Construction	8.33 Sq. Ft.
Wetland	1.00 Sq. Ft.
Clear of Obstruction	1.00 Sq. Ft.
Replacement Structure	1.00 Sq. Ft.
12" Diameter Spool	2.00 Sq. Ft.
100' Wetland	27.26 Sq. Ft.

Additional Information

Final Proposed Access Road Profile	11.40%	Surface Slope	1.00%
Original Access Road Profile	11.40%	Original Slope	1.00%
Final Proposed Access Road Profile	11.40%	Original Slope	1.00%

Access Road

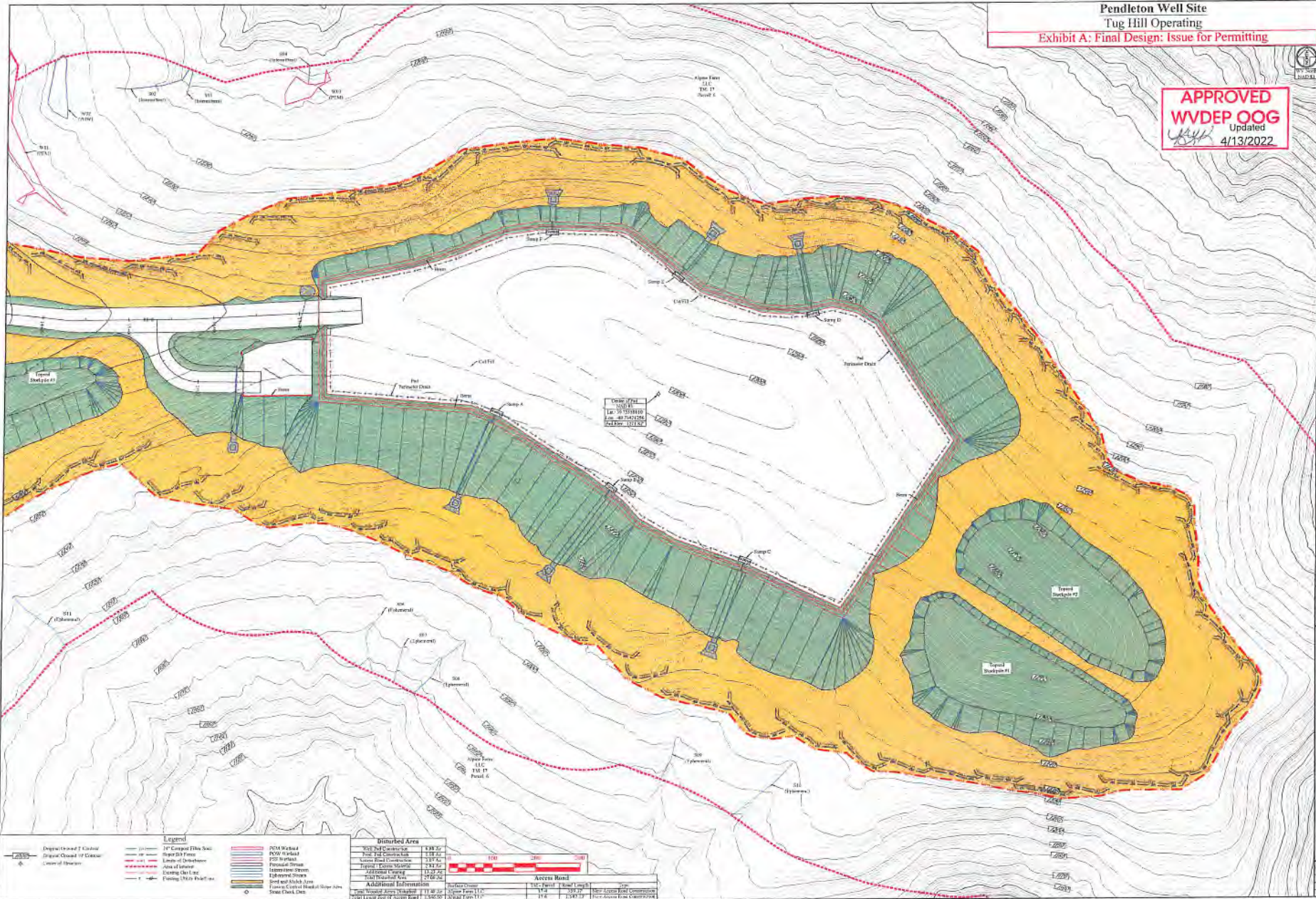
Station	Vertical Curve	Horizontal Curve	Grade
11+00	11+00	11+00	1.00%
12+00	12+00	12+00	1.00%
13+00	13+00	13+00	1.00%
14+00	14+00	14+00	1.00%
15+00	15+00	15+00	1.00%
16+00	16+00	16+00	1.00%
17+00	17+00	17+00	1.00%
18+00	18+00	18+00	1.00%



APPROVED
WVDEP OOG
Updated
4/13/2022

TUG HILL OPERATING
 THIS DOCUMENT PREPARED FOR TUG HILL OPERATING
 K&S SURVEYING
 1221 32901
 Pendleton Well Site
 Franklin District, Marshall County, WV
 Scale: As Shown
 Designed by: ZS
 Date: 4/13/2022
 Sheet 7 of 20

APPROVED
WVDEP OOG
Updated
4/13/2022



Legend

Dependent 7' Contour	14" Concrete Filter Box	DCM Wash Pad
Dependent 10' Contour	30" Concrete Filter Box	P20 Wash Pad
Contour Interval	12" Concrete Filter Box	P20 Wash Pad
	Area of Interest	12" Concrete Filter Box
	Existing 12" Filter Box	Soil and Ashes Area
	Existing 18" Filter Box	Frame & Concrete Wash Pad Area
		Stone Check Dam

Disturbed Area

DCM Wash Pad	1,138.45
P20 Wash Pad	1,138.45
12" Concrete Filter Box	1,138.45
30" Concrete Filter Box	1,138.45
14" Concrete Filter Box	1,138.45
Area of Interest	1,138.45
Existing 12" Filter Box	1,138.45
Existing 18" Filter Box	1,138.45
Soil and Ashes Area	1,138.45
Frame & Concrete Wash Pad Area	1,138.45
Stone Check Dam	1,138.45

TUG HILL OPERATING
 THIS DOCUMENT PREPARED FOR TUG HILL OPERATING
 Key Surveys
 Pendleton Well Site
 Franklin District
 Marshall County, WV
 Date: 03/12/2022
 Scale: As Shown
 Designed by: ZS
 For Use:
 Sheet 8 of 20