



west virginia department of environmental protection

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

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

Friday, September 2, 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 JEFFERSONS N-10HU
47-103-03512-00-00

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

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

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.


James A. Martin
Chief

Operator's Well Number: JEFFERSONS N-10HU
Farm Name: EDWARD H & JOAN E ESTEP
U.S. WELL NUMBER: 47-103-03512-00-00
Horizontal 6A New Drill
Date Issued: 9/2/2022

Promoting a healthy environment.

09/02/2022

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.

09/02/2022

OK #
059026
8515002
8/31/22

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 Wetzel Proctor New Martinsville
Operator ID County District Quadrangle

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

3) Farm Name/Surface Owner: Edward H. Estep & Joan E. Estep Public Road Access: Co. Rt. 1/6 Palmer Ridge

4) Elevation, current ground: 1,240.84' Elevation, proposed post-construction: 1,217.06'

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

(b) If Gas Shallow Deep _____
Horizontal _____

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus is the target formation at a depth of 6,614' - 6,664', thickness of 50' and anticipated pressure of approx. 3,500 psi.

8) Proposed Total Vertical Depth: 6,644'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 6,644'

11) Proposed Horizontal Leg Length: n/a

12) Approximate Fresh Water Strata Depths: 70; 935'

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

14) Approximate Saltwater Depths: 1,637'

15) Approximate Coal Seam Depths: Sewickley Coal - 837' and Pittsburgh Coal - 929'

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

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

(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	30"	NEW	BW	BW	120'	120'	259ft^3(CTS)
Fresh Water/Coal	20"	NEW	J55	106.5#	1,050'	1,050'	1,689ft^3(CTS)
Intermediate 1	13 3/8"	NEW	J55	54.5#	2,775'	2,775'	1,957ft^3(CTS)
Intermediate 2							
Production							
Tubing							
Liners							

*Annex 2. Appendix
8-19-22*

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	30"	36"	1.0	2,333	1,866	CLASS A	1.2
Fresh Water/Coal	20"	26"	.5	2,410	1,928	SEE #24	1.2
Intermediate 1	13 3/8"	17 1/2"	.38	2,740	2,192	SEE #24	1.2
Intermediate 2		12 1/4"					
Production							
Tubing							
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:

Set 30" conductor. Set 20" and 13-3/8" casing. Drill intermediate (12 1/4") hole to or above the Marcellus. Load hole with brine.

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

n/a

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 18.49 acres

22) Area to be disturbed for well pad only, less access road (acres): 6.86 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.

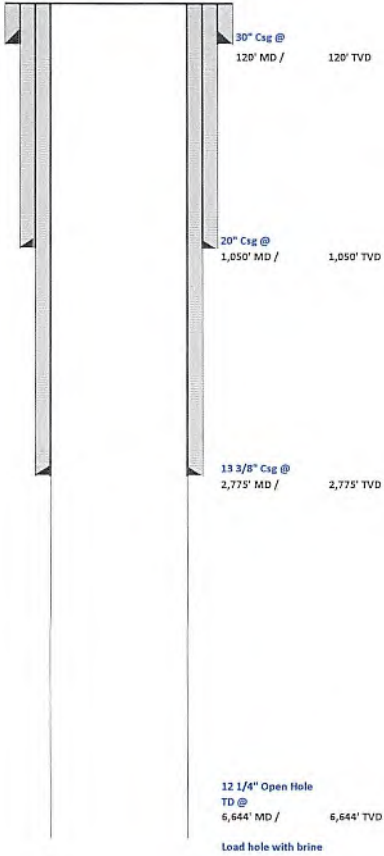
24) Describe all cement additives associated with each cement type:

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.

25) Proposed borehole conditioning procedures:

Load hole with brine. Check for flow, POOH.

*Note: Attach additional sheets as needed.



WELL NAME:	Jeffersons N-10HU		
STATE:	WV	COUNTY:	Wetzel
DISTRICT:	Proctor		
DF Elev:	1,217'	GL Elev:	1,217'
TD:	6,644'		
TH Latitude:	39.68680674		
TH Longitude:	-80.77015558		
BH Latitude:	39.68680674		
BH Longitude:	-80.77015558		

FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	935'
Sewickley Coal	837'
Pittsburgh Coal	929'
Big Lime	1,978'
Welr	2,430'
Berea	2,621'
Gordon	2,894'
Speechley	3,554'
Benson	4,948'
Rhinestreet	5,971'
Genesee/Burkett	6,505'
Tully	6,533'
Hamilton	6,563'
Marcellus	6,614'
Onondaga	6,664'

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'	8W	8W	Surface
Surface	26	20	1,050'	1,050'	106.5	J55	Surface
Intermediate 1	17 1/2	13 3/8	2,775'	2,775'	54.5	J55	Surface
Open Hole	12 1/4		6,644'	6,644'			

CEMENT SUMMARY				DRILLING DETAILS	
Type	Sacks	Class	Density (ppg)	Fluid Type	Centralizer Notes
Conductor	338	A	15.6	Air	None
Surface	1,821	A	15.6	Air	3 Centralizers at equal distance
Intermediate 1	2,121	A	15.6	Air	1 Centralizer every other joint



Tug Hill Operating, LLC Casing and Cement Program

Jeffersons N-10HU

Casing

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	20"	J55	26"	1,050'	CTS
Intermediate 1	13 3/8"	J55	17 1/2"	2,775'	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

WW-9
(4/16)

API Number 47 - 103 - _____
Operator's Well No. Jeffersons N-10HU

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Tug Hill Operating, LLC OP Code 494510851

Watershed (HUC 10) Proctor Creek Quadrangle French Creek

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

Will a pit be used? Yes No

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

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

Proposed Disposal Method For Treated Pit Wastes:

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

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

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

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

Additives to be used in drilling medium? Barite for weight

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

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

-Landfill or offsite name/permit number? Wetzel County Sanitary Landfill (SWF-1021 / WV0109185) and Westmoreland Sanitary Landfill, LLC (SAN1405 / PA DEP EC#1385426)

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

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

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

Company Official Signature Jim Pancake

Company Official (Typed Name) Jim Pancake

Company Official Title Vice President Geoscience

Subscribed and sworn before me this 24 day of MAY, 2022

My commission expires _____

Notary Public
 Commonwealth of Pennsylvania - Notary Public
 David Gabriel Delallo, Notary Public
 Washington County
 My commission expires February 16, 2024
 Commission number 1267492
 Member, Pennsylvania Association of Notaries

09/02/2022

Tug Hill Operating, LLC

Proposed Revegetation Treatment: Acres Disturbed 26.69 Prevegetation pH 6.0

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20 or equivalent

Fertilizer amount 1/3 ton lbs/acre

Mulch 2.5 Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type	lbs/acre
Annual Ryegrass	40

Seed Type	lbs/acre
Fox Tail / Grassy	40
Perennial Rye	30
Crown Vetch	20

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:

Bryan Harris

Comments:

Title: Oil and Gas Inspector

Date: 12-1-21

Field Reviewed? () Yes () No

WW-9

PROPOSED JEFFERSONS PAD

SUPPLEMENT PG 1

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.

12-7-26
T. H. EXPLORATION, LLC.
DB: 487-48
(TRACT ONE)
59.89 AC.

12-7-19
JEFFREY S. UNDERWOOD & VELVET K. PARKS
DB: 431-589
41.4 AC.

12-7-28
PALMER CEMETERY
.98 AC.

12-7-43
FURBEE CEMETERY
1.11 AC.

12-7-27
EDWARD H. & JOAN E. FSTEP
DB: 384-273
92.302 AC.



LEGEND

- Note:
 Denotes existing culvert with appropriate sediment outlet control (Rip Rap splash pad).
 Silt Fence and/or Sediment and Erosion Control Measure.
 Surface Boundary
 LOD



Jackson Surveying Inc.
2419 E. Pike St. #112
Clarksburg, WV 26301
Phone: 804-828-6661

TOPO SECTION:		OPERATOR:	
NEW MARTINSVILLE 75'		TUG HILL OPERATING, LLC	
COUNTY	DISTRICT	380 SOUTHPOINTE BLVD	
WETZEL	PROCTOR	SUITE 200	
DRAWN BY	OPERATOR NO.	DATE	SCALE
J.D.C.	494510851	11-30-2021	NONE

TUG HILL OPERATING

09/02/2022

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 (10/19/2021) to have him make maps of the wellbores with his information. DPS utilizes WVGES maps for their mapping seems it is the best publicly available. See attached map he provided.

Request maps for:

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

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

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

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
4710371666	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4710371618	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4710301500	Perkins Oil and Gas, Inc.	unknown	Gordon	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4710301556	Hope Natural Gas Company	2875' TVD	Gordon	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation.	

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
4710371603	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4710371605	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.

WV Geological & Economic Survey:

Well: County = 103 Permit = 71666

Report Time: Wednesday, October 20, 2021 11:32:48 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710371666	Wetzel	71666	Proctor	New Martinsville	New Martinsville	39.687222	-80.768958	519811.3	4393068.3

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST.
4710371666	-/-	unknown	Prpty Map	T V Smith	1					----- 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_A
4710371666	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

WV Geological & Economic Survey:

Well: County = 103 Permit = 71618

Report Time: Wednesday, October 20, 2021 11:33:05 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710371618	Wetzel	71618	Proctor	New Martinsville	New Martinsville	39.697817	-80.771585	519583.1	4394243.6

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.
4710371618	-/-	unknown	Prpty Map	Meshack Yohe	1265					----- 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_A
4710371618	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

WV Geological & Economic Survey

Well: County = 103 Permit = 01500

Report Time: Wednesday, October 20, 2021 11:33:20 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_16	LAT_DD	LON_DD	UTME	UTMN
4710301500	Wetzel	1500	Proctor	New Martinsville	New Martinsville	39.712811	-80.781732	518709.1	4395905.6

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	TI
4710301500	11/13/1904	Original Loc	Completed	Jackson Yoho		565			OP=A M Snider	Hope Natural Gas Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD
4710301500	11/13/1904	-/-	1262	Ground Level	Cameron-Garner		Gordon	unclassified	unclassified	Gas	unknown	unknown				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
4710301500	11/13/1904	Pay	Gas	Vertical	2817	Gordon	2827	Gordon	2047		0		

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4710301500	Perkins Oil and Gas, Inc.	1990	0	0	0	0	0	0	0	0	0	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	1991													
4710301500	Perkins Oil and Gas, Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	2004	599	0	0	0	0	0	0	0	0	150	154	156	139
4710301500	Perkins Oil and Gas, Inc.	2005	1,589	141	118	107	137	140	139	83	147	143	135	159	140
4710301500	Perkins Oil and Gas, Inc.	2006	1,538	123	90	141	113	136	133	141	143	135	138	125	120
4710301500	Perkins Oil and Gas, Inc.	2007	1,535	128	98	122	126	137	133	117	140	136	143	132	123
4710301500	Perkins Oil and Gas, Inc.	2008	1,441	124	111	113	87	95	135	140	140	105	139	129	123
4710301500	Perkins Oil and Gas, Inc.	2009	1,366	107	107	117	107	127	129	128	136	4	133	146	125
4710301500	Perkins Oil and Gas, Inc.	2010	1,735	116	149	184	132	140	135	166	152	68	166	194	111
4710301500	Perkins Oil and Gas, Inc.	2011	1,674	72	164	209	216	189	159	182	181	138	143	106	115
4710301500	Perkins Oil and Gas, Inc.	2012	1,623	118	107	129	71	123	107	131	212	186	207	132	100
4710301500	Perkins Oil and Gas, Inc.	2013	1,652	63	87	179	166	147	117	153	189	175	139	110	127
4710301500	Perkins Oil and Gas, Inc.	2014	1,776	114	146	150	173	131	110	159	144	167	161	135	185
4710301500	Perkins Oil and Gas, Inc.	2015	1,544	95	117	131	111	111	52	142	221	116	101	137	210
4710301500	Perkins Oil and Gas, Inc.	2016	1,462	102	146	162	126	105	143	115	113	202	95	0	171
4710301500	Perkins Oil and Gas, Inc.	2017	1,528	307	64	125	0	238	93	100	122	157	100	0	222
4710301500	Perkins Oil and Gas, Inc.	2018	2,401	181	146	248	186	172	224	221	237	400	152	0	234
4710301500	Perkins Oil and Gas, Inc.	2019	2,734	263	313	379	284	205	186	261	143	261	204	0	235
4710301500	Perkins Oil and Gas, Inc.	2020	1,295	96	92	113	108	111	114	119	122	112	112	95	99

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4710301500	Perkins Oil and Gas, Inc.	1990	0	0	0	0	0	0	0	0	0	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	1991													
4710301500	Perkins Oil and Gas, Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	2004	0	0	0	0	0	0	0	0	0	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	2005	15	0	5	0	0	5	0	0	0	0	0	0	5
4710301500	Perkins Oil and Gas, Inc.	2006	10	0	0	5	0	0	0	0	0	0	0	0	5
4710301500	Perkins Oil and Gas, Inc.	2007	7	0	2	0	0	0	5	0	0	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	2008	13	5	0	4	0	0	0	0	0	0	4	0	0
4710301500	Perkins Oil and Gas, Inc.	2009	12	4	0	0	4	0	0	0	4	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	2010	8	4	0	0	0	0	0	4	0	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	2011	11	0	3	0	0	4	0	0	0	0	0	4	0
4710301500	Perkins Oil and Gas, Inc.	2012	5	0	5	0	0	0	0	0	0	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	2014	0	0	0	0	0	0	0	0	0	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	2015	4	0	0	0	4	0	0	0	0	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	2016	4			4									
4710301500	Perkins Oil and Gas, Inc.	2017	0	0	0										
4710301500	Perkins Oil and Gas, Inc.	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	2019	0	0	0	0	0	0	0	0	0	0	0	0	0
4710301500	Perkins Oil and Gas, Inc.	2020	0	0	0	0	0	0	0	0	0	0	0	0	0

WV Geological & Economic Survey:

Well: County = 103 Permit = 01556

Report Time: Wednesday, October 20, 2021 11:33:55 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710301556	Wetzel	1556	Proctor	New Martinsville	New Martinsville	39.705366	-80.77422	519355.1	4395080.9

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_I
4710301556	1/22/1905	Original Loc	Completed	Maria Parsons		659				Hope Natural Gas Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD
4710301556	1/22/1905	-/-	1060	Topo Estimation	Cameron-Garner		Gordon	unclassified	unclassified	Gas	unknown	unknown	2875		2875	

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
4710301556	1/22/1905	Pay	Gas	Vertical	2760	Gordon	2785	Gordon	2360	0			

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4710301556	Original Loc	Gordon	Well Record	2760	Reasonable	25	Reasonable	1060	Topo Estimation

WV Geological & Economic Survey:

Well: County = 103 Permit = 71603

Report Time: Wednesday, October 20, 2021 11:34:20 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710371603	Wetzel	71603	Proctor	New Martinsville	New Martinsville	39.709729	-80.779468	518904	4395564

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
4710371603	-/-	unknown	Prpty Map	F M Parsons		1241				----- 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_A
4710371603	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

WV Geological & Economic Survey:

Well: County = 103 Permit = 71605

Report Time: Wednesday, October 20, 2021 11:34:32 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710371605	Welzel	71605	Proctor	New Martinsville	New Martinsville	39.703186	-80.774964	519291.9	4394838.8

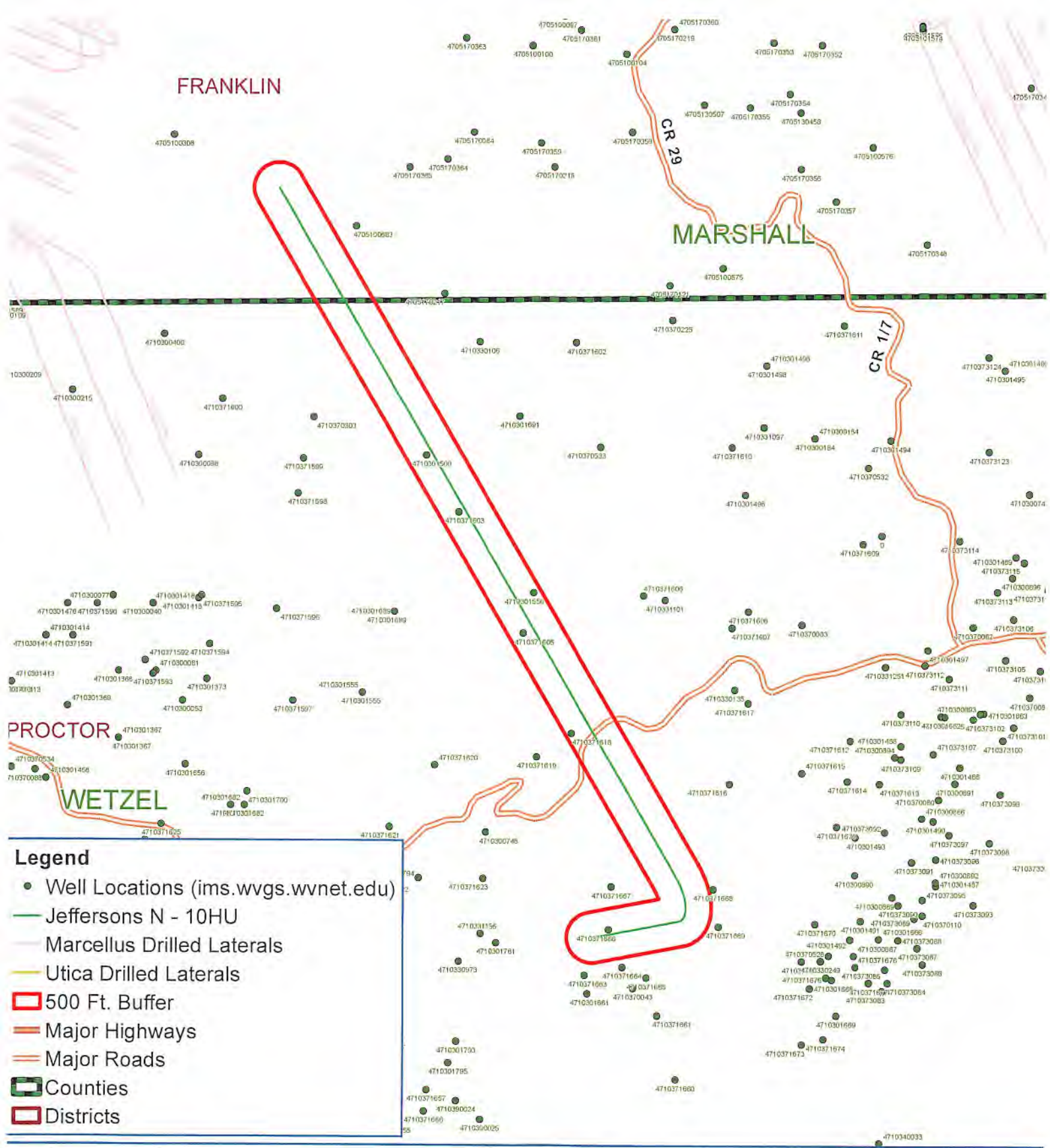
There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST
4710371605	-/-	unknown	Prpty Map	Henry Garner		1263				----- 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_A
4710371605	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						



Legend

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



Jeffersons N - 10HU Proctor District Wetzel County, WV



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

Map Prepared by:

09/02/2022

Map Created: October 19, 2021



TUG HILL
OPERATING

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

Well Name: Jeffersons N-10HU

Pad Name: Jeffersons

County: Wetzel

Super Hill

UTM (meters), NAD83, Zone 17

12-1-21

Northing: 4,393,022.02

Easting: 519,708.80

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

Jerry V. DeRosa, Director EH&S Affairs

(724) 338-2029 (office)

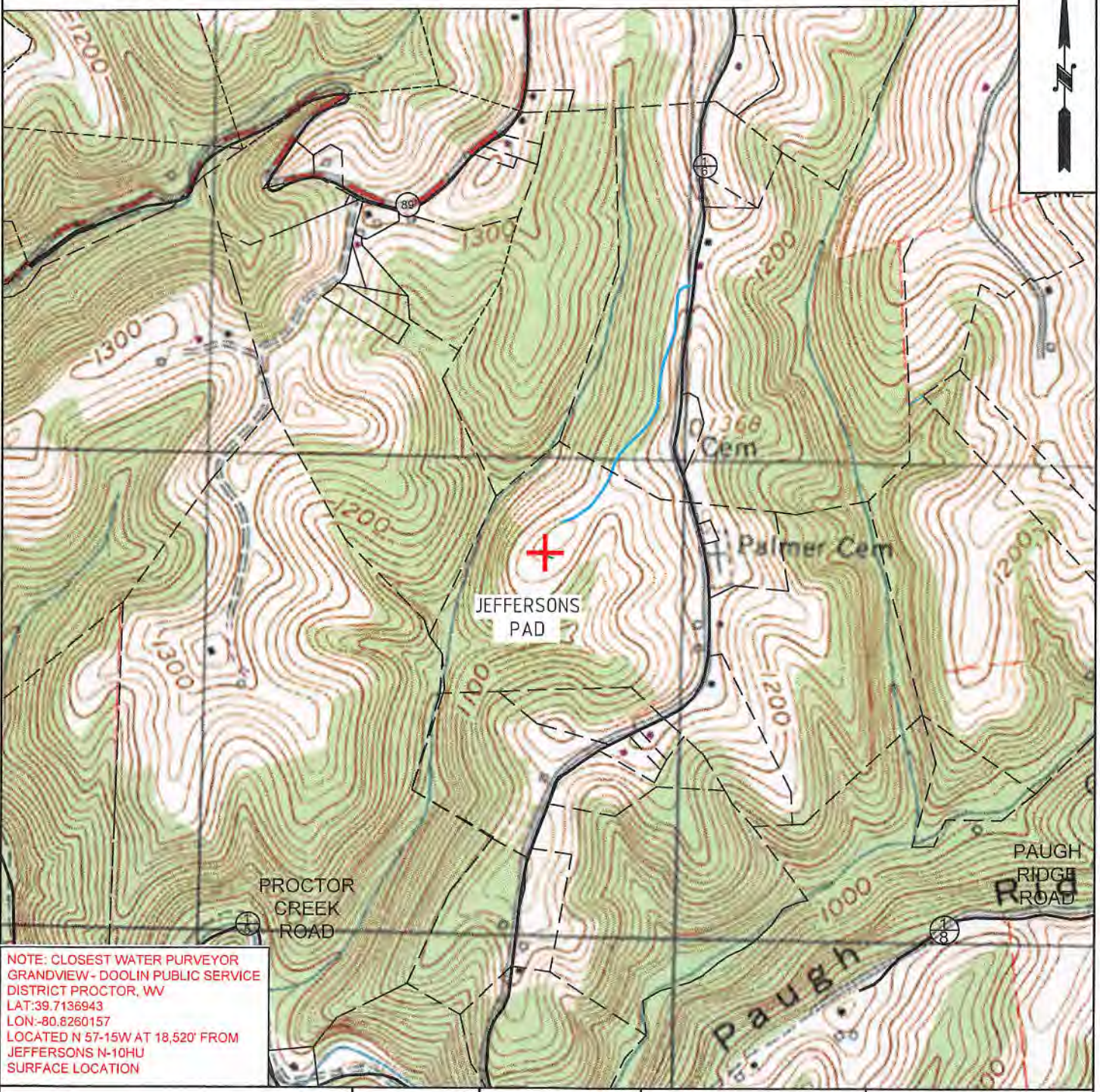
(412) 736-5767 (cellular)

24-HOUR EMERGENCY PHONE NUMBER

(800) 921-9745

09/02/2022

PROPOSED JEFFERSONS PAD



NOTE: CLOSEST WATER PURVEYOR
 GRANDVIEW - DOOLIN PUBLIC SERVICE
 DISTRICT PROCTOR, WV
 LAT: 39.7136943
 LON: -80.8260157
 LOCATED N 57-15W AT 18,520' FROM
 JEFFERSONS N-10HU
 SURFACE LOCATION



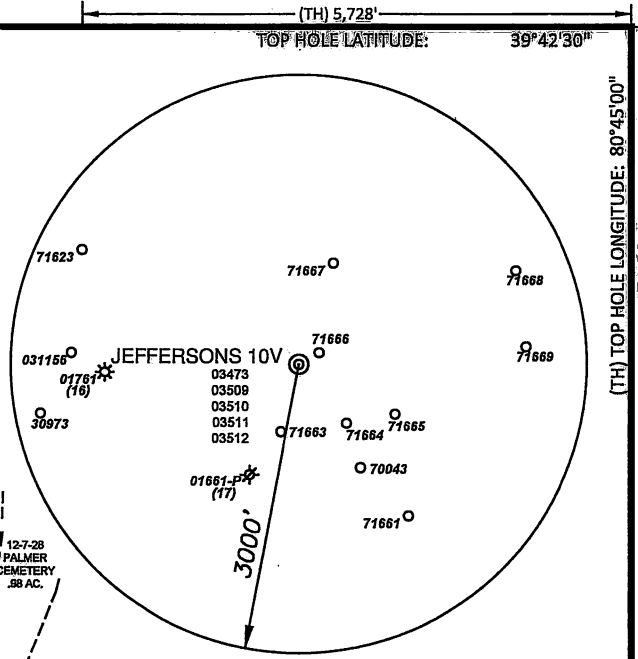
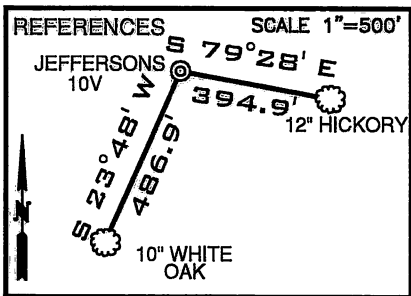
OPERATOR	494510851	TOPO SECTION	LEASE NAME
TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317		NEW MARTINSVILLE 7.5'	JEFFERSONS
		SCALE: 1" = 1000'	DATE: DATE: 11-30-2021

09/02/2022

JEFFERSONS WELL 10V TUG HILL OPERATING, LLC

NOTES

1. NO WATER WELLS WITHIN 250' OF WELL WERE FOUND, NO DWELLINGS WITHIN 825' OF PAD CENTER WERE FOUND.
2. OWNERSHIP TAKEN FROM PUBLIC RECORDS OF WETZEL COUNTY, WV IN MARCH, 2019. COORDINATES AND WELL TIES BASED UPON DIFFERENTIAL GPS MEASUREMENTS.
3. WELL LOCATION REFERENCES ARE BASED UPON THE MAGNETIC MERIDIAN.
4. BOUNDARIES ALONG ROADWAYS ARE BASED UPON MEMORANDUM BY DICKIE, MCGAMEY & CHILCOTE, P.C. FILE 0058304.0401147

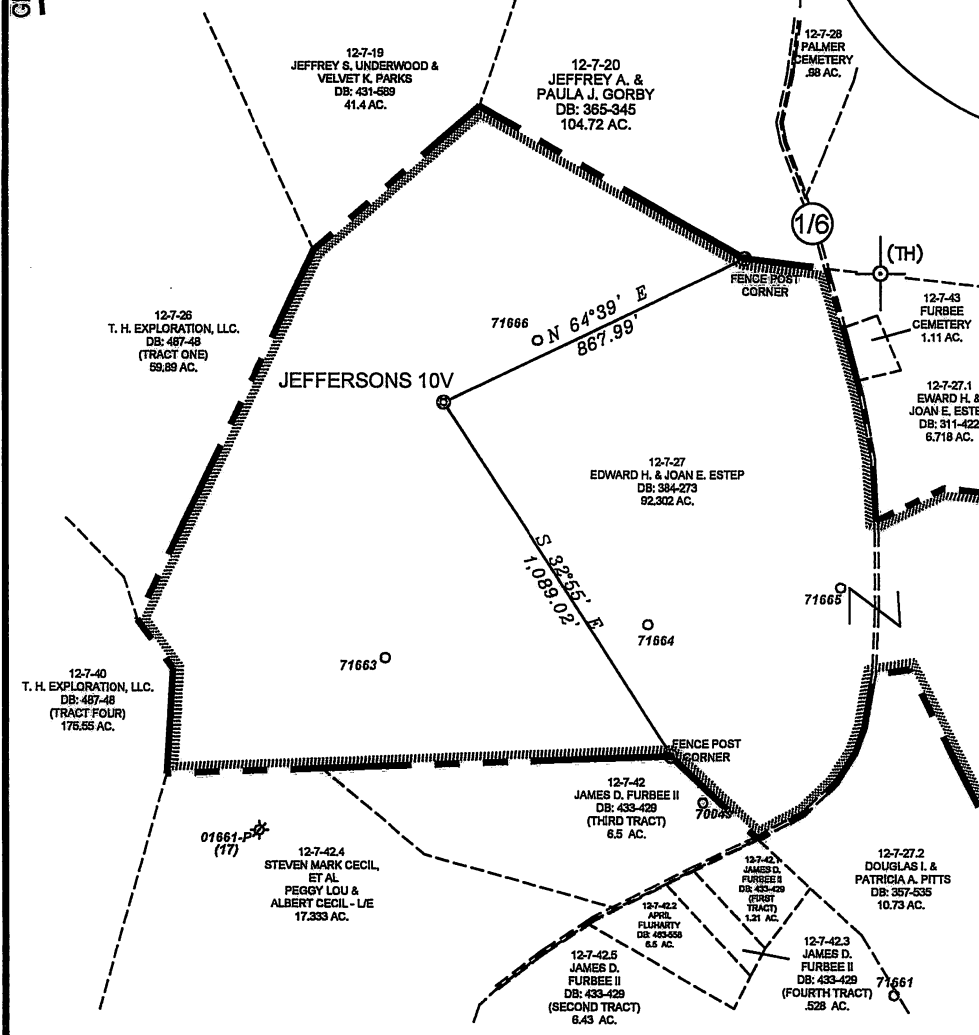
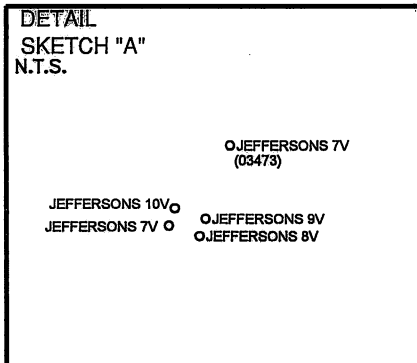


(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

LEGEND

- SURFACE TRACTS
- WELL LATERAL
- ==== UNIT BOUNDARY

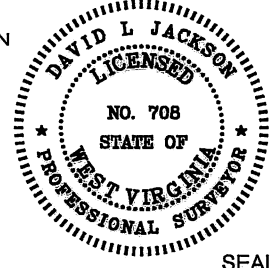
SURFACE HOLE
UTM. NAD83, ZONE 17
N) 4,393,022.02
E) 519,708.80



FILE NUMBER	
DRAWING NUMBER	JEFFERSONS_10V
SCALE	1" = 500'
MINIMUM DEGREE OF ACCURACY	1/200
PROVEN SOURCE OF ELEVATION	SUBMETER MAPPING GRADE GPS

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

David L Jackson



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

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

DATE: AUGUST 9, 2022

OPERATORS WELL NO. JEFFERSONS 10V

API WELL NO. 47-103-03512

STATE WV COUNTY WETZEL PERMIT 09/02/2022

LOCATION ELEVATION 1217.06' WATERSHED (HUC 10) PROCTOR CREEK OF FRENCH CREEK - OHIO RIVER (HUC-10)

DISTRICT PROCTOR COUNTY WETZEL

QUADRANGLE NEW MARTINSVILLE 7.5' LEASE NUMBER _____ SEE WW-6A1 FORM

SURFACE OWNER EDWARD H. & JOAN E. ESTEP ACREAGE 92.302

OIL & GAS ROYALTY OWNER EDWARD H. & JOAN E. ESTEP LEASE ACREAGE 92.302

PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE (SPECIFY) _____

PLUG & ABANDON _____ CLEAN OUT & REPLUG _____

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,644'

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

WW-6A1
(5/13)

Operator's Well No. Jeffersons N-10HU

**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
10*22042	Edward H. Estep and Joan E. Estep	TH Exploration, LLC	1/8+	210A/205

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

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

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

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

Well Operator: Tug Hill Operating, LLC

By: Amy L. Morris *Amy L. Morris*

Its: Permitting Specialist - Appalachia Region



4710303512

May 27, 2022

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

RE: Jeffersons N-10HU

Subject: Road Crossing Letter

Dear Taylor:

Tug Hill Operating, LLC (THO) hereby submits this letter as confirmation that THO has obtained the right to drill, extract and produce the minerals under Wetzel County Route 1/6, Route 89 and Route 1/4 in the area reflected on the Jeffersons N-10HU well plat. THO has conducted a full title search in the relevant Court House to confirm its ownership under said County Route and is not currently aware of any recorded document that would suggest an ownership other than THO.

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

Sincerely,

Amy L. Morris
Permitting Specialist – Appalachia Region

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

Date of Notice Certification: 05/27/2022

API No. 47- 103 - _____

Operator's Well No. Jeffersons N-10HU

Well Pad Name: Jeffersons

Notice has been given:

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

State:	<u>West Virginia</u>	UTM NAD 83	Eastings:	<u>519,708.80</u>
County:	<u>Wetzel</u>		Northing:	<u>4,393,022.02</u>
District:	<u>Proctor</u>	Public Road Access:	<u>Co. Rt. 1/6 - Palmer Ridge</u>	
Quadrangle:	<u>New Martinsville 7.5'</u>	Generally used farm name:	<u>Edward H. Estep & Joan E. Estep</u>	
Watershed:	<u>Proctor Creek (HUC 10)</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 type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED		<input type="checkbox"/> RECEIVED
<input type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)		<input type="checkbox"/> RECEIVED/ NOT REQUIRED
<input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION		<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 5. PUBLIC NOTICE		<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		<input type="checkbox"/> RECEIVED

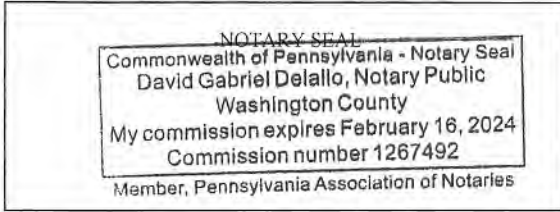
Required Attachments:

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

Certification of Notice is hereby given:

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

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



Subscribed and sworn before me this 27 day of MAY 2022.

David Delallo Notary Public

My Commission Expires 2/16/24

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- 103 -
OPERATOR WELL NO. Jeffersons N-10HU
Well Pad Name: Jeffersons

**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: 5/24/2022 **Date Permit Application Filed:** 5/27/2022

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: Edward H. Estep & Joan E. Estep (Pad and Access Road)
Address: 4634 Palmer Ridge Road
Proctor, WV 26055

Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)

Name: Jeffery A. & Paula J. Gorby (Access Road)
Address: 47052 Township Road 492
Sardis, OH 43946

Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: CONSOL Energy, Inc. Attn: Casey Saunders
Address: 275 Technology Drive, Suite 101
Canonsburg, PA 15317-9565

COAL OPERATOR

Name: CONSOL Energy, Inc. Attn: Casey Saunders
Address: 275 Technology Drive, Suite 101
Canonsburg, PA 15317-9565

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)

Name: *See attached
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: _____
Address: _____

*Please attach additional forms if necessary

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 water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

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

Well Location Restrictions

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

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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

Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

WW-6A
(8-13)

API NO. 47- 103 -
OPERATOR WELL NO. Jeffersons N-10HU
Well Pad Name: Jeffersons

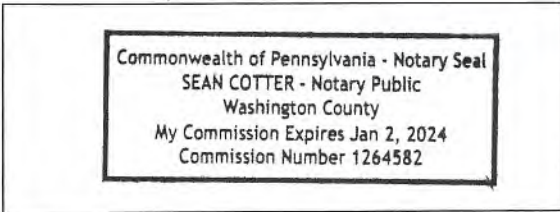
Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 24 day of May, 2022.

Notary Public
My Commission Expires 1/2/2024

Exhibit 3A

Tug Hill Oil & Gas Inc.
380 Southpointe Blvd, Suite 200
Canonsburg, PA 15137

RESIDENCES WITHIN 2000' OF JEFFERSONS WELL PAD

District: Proctor
County: Wetzel
State: WV

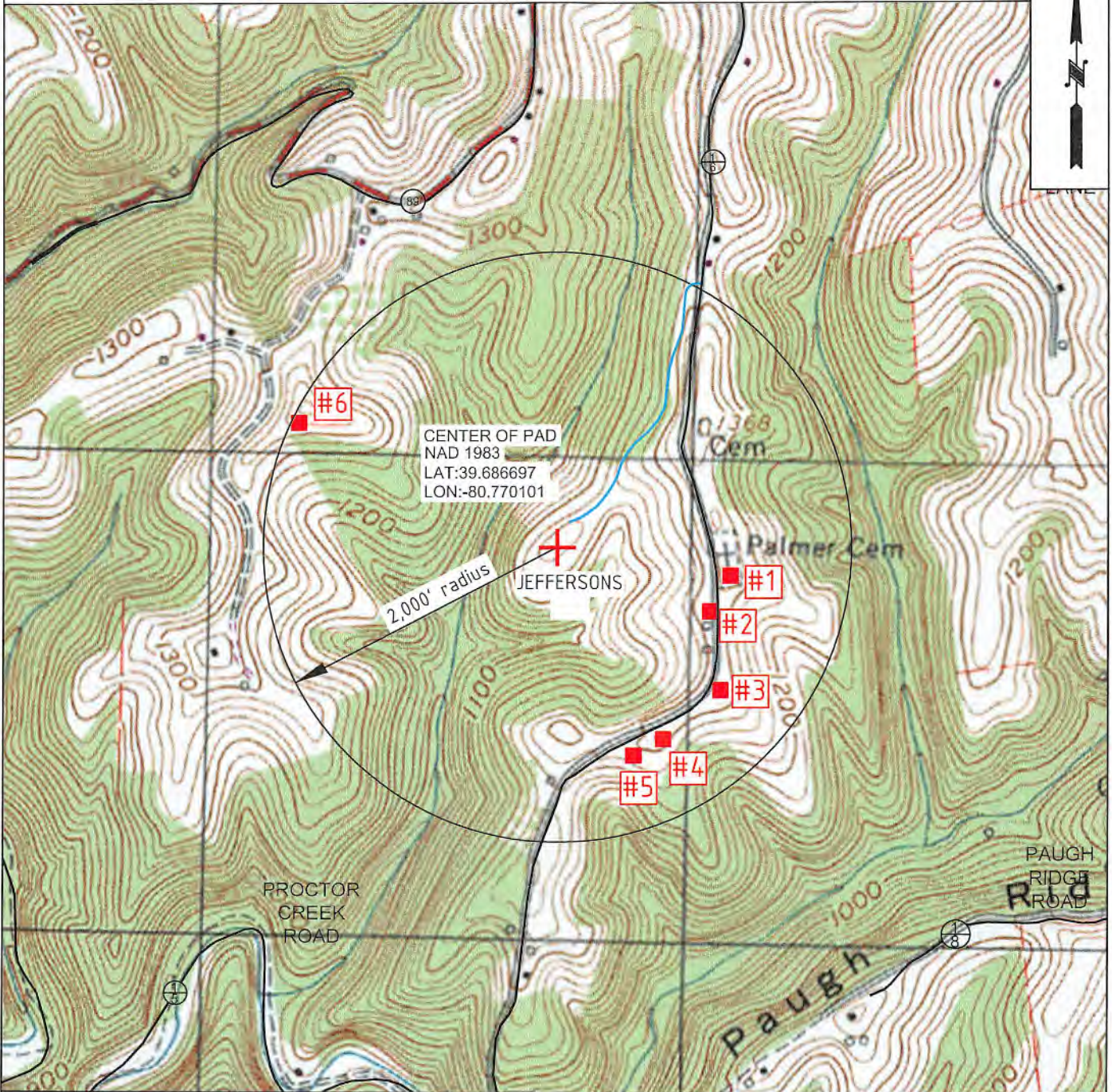
There appears to be Six (6) Residences, No Businesses, No Schools and No Churches within 2,000 feet of the center of well pad for the above referenced well location.


Topo Spot # 1 (House/Cabin) TM 12-7-27.1 Edward H & Joan E. Estep 4634 Palmer Ridge Rd. Proctor, WV 26055 304-455-6030 (h)	Topo Spot # 2 (House/Cabin) TM 12-7-27 Edward H & Joan E. Estep 4634 Palmer Ridge Rd. Proctor, WV 26055 304-455-6030 (h)	Topo Spot # 3 (House/Cabin) TM 12-7-27.2 Douglas I. & Patricia A. Pitts 4500 Palmer Ridge Rd. Proctor, WV 26055 304-455-5420 (h)
Topo Spot # 4 (House/Cabin) TM 12-7-42.1 James D. Furbee II 4396 Palmer Ridge Rd. Proctor, WV 26055 304-455-2598 (h)	Topo Spot # 5 (House/Cabin) TM 12-7-42.2 April Fluharty 4336 Palmer Ridge Rd. Proctor, WV 26055 304-455-2759 (h)	Topo Spot # 6 (House/Cabin) TM 12-7-26 T. H. Exploration, LLC 380 Southpointe Blvd, Suite 200 Canonsburg, PA 15137 724-749-8388 (b)

Jeffersons Pad

EXHIBIT 3

THERE APPEAR TO BE SIX (6) RESIDENCES & ZERO (0) BUSINESSES, CHURCHES, SCHOOLS, OR EMERGENCY FACILITIES WITHIN 1500'.



 TUG HILL OPERATING	OPERATOR	494510851	TOPO SECTION	LEASE NAME
	TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317		NEW MARTINSVILLE 7.5'	JEFFERSONS
			SCALE:	DATE:
			1" = 1000'	DATE: 10-27-2021

09/02/2022

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: 4/12/2022 **Date of Planned Entry:** 4/19/2022

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: Edward H. Estep & Joan E. Estep (Pad and Access Road) ✓
Address: 4634 Palmer Ridge Road
Proctor, WV 26055

Name: Jeffery A. & Paula J. Gorby (Access Road) ✓
Address: 47052 Township Road 492
Sardis, OH 43946

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: CONSOL Energy, Inc. Attn: Casey Saunders
Address: 275 Technology Drive, Suite 101
Canonsburg, PA 15317-9565

MINERAL OWNER(s)

Name: Edward H. Estep & Joan E. Estep ✓
Address: 4634 Palmer Ridge Road
Proctor, WV 26055

*please attach additional forms if necessary

Notice is hereby given:

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

State: West Virginia
County: Wetzel
District: Proctor
Quadrangle: New Martinsville 7.5'

Approx. Latitude & Longitude: 39.68669747; -80.77010137
Public Road Access: Co. Rt. 1/6 - Palmer Ridge
Watershed: French Creek (HUC 10)
Generally used farm name: Edward H. Estep & Joan E. Estep

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: amorris@tug-hillop.com

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

Oil and Gas Privacy Notice:

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

09/02/2022

WW-6A5
(1/12)

**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: 05/25/2022 **Date Permit Application Filed:** 05/27/2022

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: Edward H. Estep & Joan E. Estep (Pad and Access Road)
Address: 4634 Palmer Ridge Road
Proctor, WV 26055

Name: Jeffrey A. and Paula Gorby
Address: 47052 Township Road 492
Sardis, OH 43946

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>519,708.80</u>
County:	<u>Wetzel</u>		Northing:	<u>4,393,022.02</u>
District:	<u>Proctor</u>	Public Road Access:	<u>Co. Rt. 1/6 - Palmer Ridge</u>	
Quadrangle:	<u>New Martinsville 7.5'</u>	Generally used farm name:	<u>Edward H. Estep & Joan E. Estep</u>	
Watershed:	<u>Proctor Creek (HUC 10)</u>			

This Notice Shall Include:

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

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

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

Oil and Gas Privacy Notice:

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



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways

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

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

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

November 1, 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 Jeffersons Pad, Wetzel County
 Jeffersons N-10HU Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2021-0383 which has been issued to Tug Hill Operating LLC for access to the State Road for a well site located off Wetzel County Route 1/6 SLS MP 1.51.

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

Very Truly Yours,

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

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

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

09/02/2022



PLANNED ADDITIVES TO BE USED IN FRACTURING OR STIMULATION

Jeffersons 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

WEST VIRGINIA COUNTY MAP



Jeffersons Site

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

Tug Hill Operating
Wetzel County
Proctor District

Latitude 39.68669747°
Longitude -80.77010137°
Proctor Creek Watershed

Pertinent Site Information
Jeffersons Site
Emergency Number: 304-455-6960
Proctor District, Wetzel County, WV
Watershed: Proctor Creek Watershed
Site 911 Address

Tug Hill Contact Number: J-R17-632-3400

Property Owner Information - Jeffersons Site

Owner	1st Parcel	2nd Parcel	3rd Parcel	4th Parcel	5th Parcel	6th Parcel	7th Parcel	8th Parcel	9th Parcel	10th Parcel
Jeffersons Site	2.20	2.40	2.90	3.30	4.00	4.80	5.70	6.70	7.80	9.00
Edward & Ann Faby	7.70	8.50	9.30	10.20	11.20	12.30	13.50	14.80	16.20	17.70

Exhibit A: Final Design: Issue for Permitting

Site Reference	Corner of Well Pad	Site Reference	Corner of Well Pad	Site Reference	Corner of Well Pad
WN NAD 81 N 114017.80 WN NAD 81 E 114017.80 WN NAD 81 S 114017.80 WN NAD 81 W 114017.80 Lot NAD 81 39.68669747 Lot NAD 81 39.68669747 Lot NAD 81 39.68669747 UTM 17 NAD 81 E 499999.28 UTM 17 NAD 81 E 500000.72	WN NAD 81 N 114017.80 WN NAD 81 E 114017.80 WN NAD 81 S 114017.80 WN NAD 81 W 114017.80 Lot NAD 81 39.68669747 Lot NAD 81 39.68669747 Lot NAD 81 39.68669747 UTM 17 NAD 81 E 499999.28 UTM 17 NAD 81 E 500000.72	WN NAD 81 N 114017.80 WN NAD 81 E 114017.80 WN NAD 81 S 114017.80 WN NAD 81 W 114017.80 Lot NAD 81 39.68669747 Lot NAD 81 39.68669747 Lot NAD 81 39.68669747 UTM 17 NAD 81 E 499999.28 UTM 17 NAD 81 E 500000.72	WN NAD 81 N 114017.80 WN NAD 81 E 114017.80 WN NAD 81 S 114017.80 WN NAD 81 W 114017.80 Lot NAD 81 39.68669747 Lot NAD 81 39.68669747 Lot NAD 81 39.68669747 UTM 17 NAD 81 E 499999.28 UTM 17 NAD 81 E 500000.72	WN NAD 81 N 114017.80 WN NAD 81 E 114017.80 WN NAD 81 S 114017.80 WN NAD 81 W 114017.80 Lot NAD 81 39.68669747 Lot NAD 81 39.68669747 Lot NAD 81 39.68669747 UTM 17 NAD 81 E 499999.28 UTM 17 NAD 81 E 500000.72	WN NAD 81 N 114017.80 WN NAD 81 E 114017.80 WN NAD 81 S 114017.80 WN NAD 81 W 114017.80 Lot NAD 81 39.68669747 Lot NAD 81 39.68669747 Lot NAD 81 39.68669747 UTM 17 NAD 81 E 499999.28 UTM 17 NAD 81 E 500000.72



WV State Plane Coordinate System
North Zone, NAD 83
Reference: Based on NAVD83
Established by Survey Grade GPS
and CORS Data Processing

Access Road

Number	Start	End	Length	Use
1	Holly & Paula Drive	1.70	1.70	New Access Road Construction
2	Edward & Ann Faby	7.70	566.19	New Access Road Construction

Disturbed Area

Well Pad Construction	4.84 Ac.
Access Road Construction	1.72 Ac.
Topsoil - Exposed Material	1.72 Ac.
Additional Vegetation	4.84 Ac.
Total Disturbed Area	13.12 Ac.

Additional Information

Total Well Pad Area	18.20 Ac.
Total Area of Access Road	1.91 Ac.

Jeffersons Site Quantities

Description	Volume (CY)	Weight (Tons)	Spill (CY)	Spill (Tons)	Min. Slope	Length of Slope
Well Pad	12,487.14	1,048,131	17,023.00	1,435	2.0%	1,629.7'
Well Pad Access Road	7.92	672.84	127.80	10.65	2.0%	86.4'
Topsoil - Exposed Material	1,716.84	144,820	283.72	23.64	2.0%	1,900.4'
Total	15,211.90	1,293,575	17,334.52	1,469.29		

APPROVED WVDEP OOG
12/20/2021

Project Contacts

The Hill Operating
Jonathan White, Site Development Lead
724.463.2042 ext. 400
Chris Thomas, Construction Manager
304.274.5447
Bobby Booth, Construction Manager
304.274.5333

Survey & Engineer
K. Lewis Kelly
304.274.6957 ext. 401
John P. Saly
304.274.9274 ext. 401
Zachary Nease/Robert
304.274.9107 ext. 401

The Hill Operating, LLC
300 Commonwealth Blvd.
Martinsburg, WV 26151
Charleston, WV 25312

Wetzel Debris
Wetzel Debris is provided by Alden Trucks
and 31 Heavy (31.302)

Transportation Information
The proposed transportation route is based on aerial photographs by Blue Mountain Aerial Mapping, Inc., WV

The Hill Operating will obtain an Encroachment Permit (Form MM-109) from the WV Department of Transportation, Division of Highways, prior to the commencement of any construction activities.

The WV Mine Safety was consulted. Previous mining activities are not within the AOI.

WVDEP Website (Site show that there are XXX active and/or abandoned gas wells within the AOI



Site Locations (NAD 27)

Monument	Latitude (2011)	Longitude (2011)
New Entrance	39.68669747	-80.77010137
Center of Well Pad	39.68669747	-80.77010137

Site Locations (NAD 83)

Monument	Latitude (2011)	Longitude (2011)
New Entrance	39.68669747	-80.77010137
Center of Well Pad	39.68669747	-80.77010137

Approach Routes:

From the intersection of WV Rt 2 and OH Rt 7 near New Marlinton, WV, Travel South on WV Rt 2 for 4.0 mi. Turn Right onto Co Rd 222 (Wells Hill Rd). Follow Co Rd 222 for 2.3 mi. Turn Right onto Co Rd 78 (Waynes Ridge). Follow Co Rd 78 for 0.8 mi. Turn Right onto Co Rd 29 (Black Ridge). Follow Co Rd 29 for 1.5 mi. Continue straight onto Co Rd 177 (Coffield Ridge). Follow Co Rd 177 for 1.4 mi. Turn Right onto Co Rd 89 (Proctor Creek Rd). Follow Co Rd 89 for 1.4 mi. Turn Left onto Co Rd 14 (Palmer Ridge). Follow Co Rd 14 for 0.4 mi. The site entrance will be on the Right (West) side of the road.



WV Location Restrictions

- All Pad construction complies with the following restrictions:
 - *150' Buffer on existing well or developed project and the location of domestic wells.
 - *125' Buffer on proposed drilling to be located 2,500' from the center of any abandoned well.
 - *100' Buffer from the edge of disturbance to a currently existing road.
 - *1,000' of a buffer or greater from any public water supply.



The drawings, construction plans and related diagrams prepared here have been prepared in accordance with the West Virginia Code of Rules, Title 26 of the Environmental Protection, Chapter 60 of the State Department of Environmental Protection, and the State Department of Environmental Protection. All Plans, Notes, and/or Specifications prepared here have been prepared in accordance with the West Virginia Code of Rules, Title 26 of the Environmental Protection, Chapter 60 of the State Department of Environmental Protection, and the State Department of Environmental Protection. K. Lewis Kelly, P.E., is the author of these drawings and is a member of the State Department of Environmental Protection. Date: 12/20/2021

Sheet

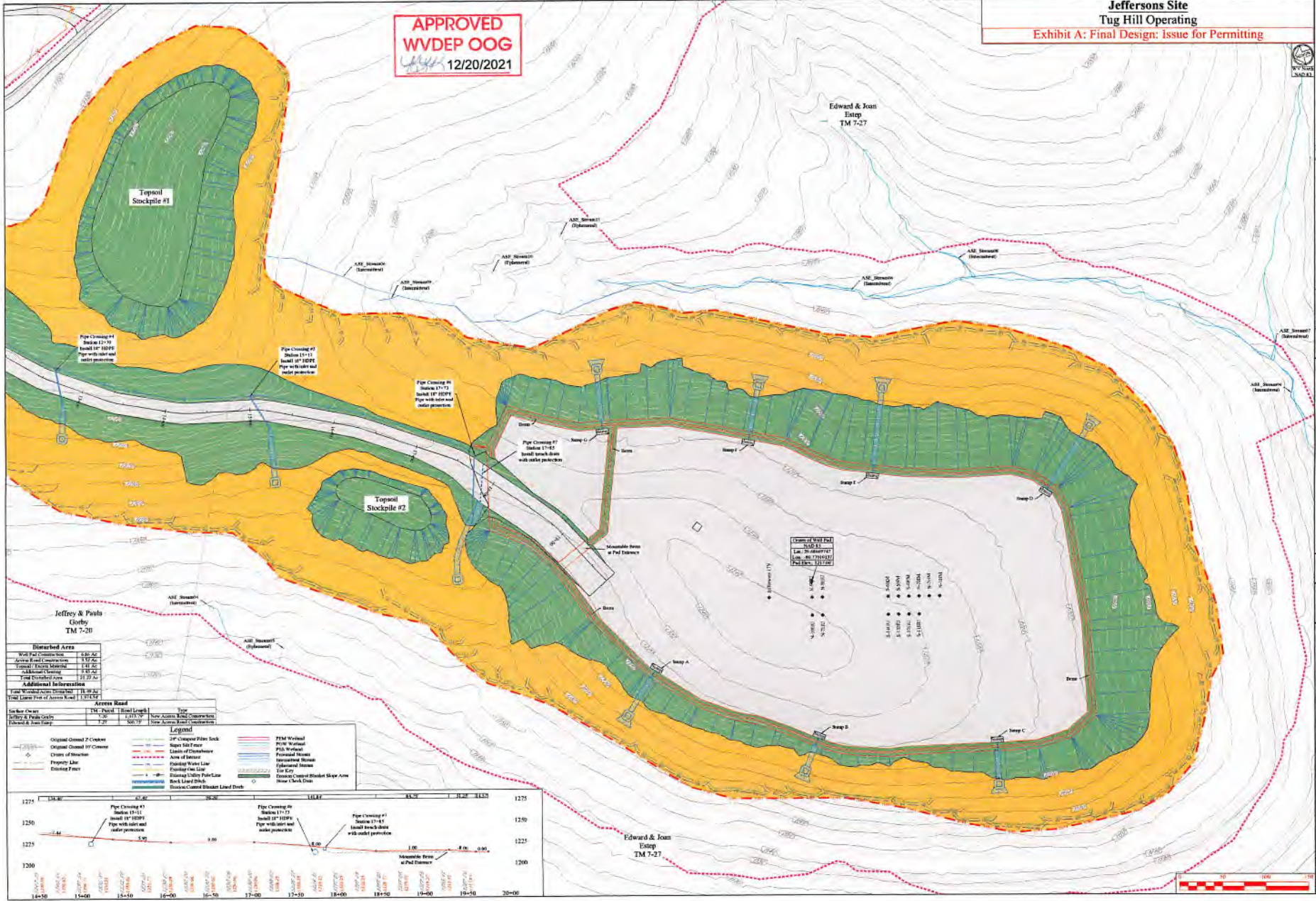
Sheet	Description
1	Cover Sheet
VI	Schedule of Quantities
NI-24	Site Notes
1	Site Location
2	Site Location
3	Site Location
4	Clearing Exhibit
5	Overall Plan View
6-7	EAS Plan View
8-10	Top Key Exhibit
11-12	Cross Sections - Well Pad
13	Cross Sections - Access Road
GI-12	Geotechnical Exhibit
LI	Landscape Disturbed Area Exhibit
MI-13	Production Exhibit
OI-02	Erosion and Sediment Control Details
R1	Access Road Details
P1	Pad Details

Jeffersons Site
Proctor District
Wetzel County, WV

Date: 10/15/2021
Scale: As Shown
Designed By: ZS
File No:
Sheet 1 of 13

APPROVED
WVDEP OOG
12/20/2021

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



Disturbed Area

With Pad Construction	141,421
Active Road Construction	1,157
Gravel/Trucks Material	1,411
Additional Storage	11,152
Total Disturbed Area	155,141

Additional Information

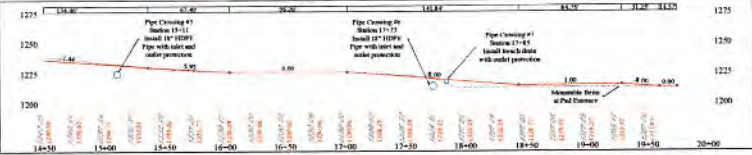
Total Working Area (Disturbed)	118,997
Total Linear Feet of Access Road	1,317

Access Road

Site No	Owner	TM	Parcel	Road Length	Type
Jeffrey & Paula Gotby	7-20	11-03	7-20	1,157	New Access Road Construction
Edward & Joan Estep	7-27	06-79	06-79	500	New Access Road Construction

Legend

Original Closed 2' Contour	2" Contour Filter Cloth	P1M Without
Original Closed 10' Contour	Super Silt Fence	P1M Without
Center of Section	Line of Containment	P1M Without
Property Line	Area of Impact	Proposed Access
Distance Feet	Filtered Water Line	Disturbed Stream
	Flowing Cule Line	Disturbed Stream
	Flowing Cule Pol-Line	Disturbed Stream
	Bank Lower Drain	Disturbed Stream
	Disturbance Control System	Disturbance Control System
	Disturbance Control System	Disturbance Control System



Legend of Grid Box

11-00	11-05	11-10	11-15	11-20	11-25
11-00	11-05	11-10	11-15	11-20	11-25
11-00	11-05	11-10	11-15	11-20	11-25
11-00	11-05	11-10	11-15	11-20	11-25
11-00	11-05	11-10	11-15	11-20	11-25
11-00	11-05	11-10	11-15	11-20	11-25
11-00	11-05	11-10	11-15	11-20	11-25
11-00	11-05	11-10	11-15	11-20	11-25
11-00	11-05	11-10	11-15	11-20	11-25
11-00	11-05	11-10	11-15	11-20	11-25

TUG HILL OPERATING

THIS DOCUMENT PREPARED FOR TUG HILL OPERATING

K&S Consulting

Emerson and Sediment Control Plan
Jeffersons Site
Precor District
Wetzel County, WV

Date: 10/15/2021
Scale: As Shown
Designed By: ZS
File No:
Sheet 7 of 13