



west virginia department of environmental protection

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

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

Friday, August 18, 2023
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 ELIJAH N-17HU
47-103-03595-00-00

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: ELIJAH N-17HU
Farm Name: TRUSTEES OF THE WILLIAM 
U.S. WELL NUMBER: 47-103-03595-00-00
Horizontal 6A New Drill
Date Issued: 8/18/2023

Promoting a healthy environment.

08/18/2023

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. 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. Also, 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.
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.



west virginia department of environmental protection

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

Randall M. Albert, Chairman
dep.wv.gov

August 10, 2023

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

RE: Application for Deep Well Permit – API #47-103-03595

COMPANY: Tug Hill Operating, LLC

FARM: William Cross Jr. Irrevocable Trust Elijah N-17HU

COUNTY: Wetzel DISTRICT: Proctor QUAD: New Martinsville

The deep well review of the application for the above company is Approved to drill to Trenton for Point Pleasant completion. Pooling Docket 323 Causes 340-342

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

**Elmer N-17HU 47-103-03505; Elmer N-15HU 47-103-03536; Elmer N-16HU 47-103-03504; Elmer N-14HU 47-103-03502; Burch Ridge S-6HU 47-051-02193; Burch Ridge S-7HU 47-051-02194; McMasters S-16HU 47-051-02337; McMasters S-17HU 47-051-02338; McMasters S-18HU 47-051-02339; McMasters S-19HU 47-051-02340; Hillrock S-12HU 47-051-02272; Hillrock S-13HU 47-051-02273; Simms U-5H 47-051-0731; Jeffersons N-7HU 47-103-03509; Jeffersons N-8HU 47-103-03510; Jeffersons N-9HU 47-103-03511; Jeffersons N-10HU 47-103-03512; Elijah N-15HU 47-103-03593; Elijah N-16HU 47-103-03594

08/18/2023

WW-6B
(04/15)

API NO. 47-103 - _____
OPERATOR WELL NO. Elijah N-17HU
Well Pad Name: Elijah

4710303595

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: Elijah N-17HU Well Pad Name: Elijah

3) Farm Name/Surface Owner: William Cross, Jr. Irrevocable Trust Public Road Access: Co. Rt. 89/2 - Hafer Road

4) Elevation, current ground: 1,298.58 Elevation, proposed post-construction: 1,276.45'

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):
Point Pleasant is the target formation at a depth of 11,565' - 11,684', thickness of 119' and anticipated pressure of approx. 7,500 psi.

8) Proposed Total Vertical Depth: 11,834'

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 29,016'

11) Proposed Horizontal Leg Length: 16,458.64'

12) Approximate Fresh Water Strata Depths: 70; 990'

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

14) Approximate Saltwater Depths: 1,680'

15) Approximate Coal Seam Depths: Sewickley Coal - 890' and Pittsburgh Coal - 984'

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: _____

WW-6B
(04/15)

API NO. 47- 103 -
 OPERATOR WELL NO. Elijah N-17HU
 Well Pad Name: Elijah
4710303595

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#	1,100'	1,100'	1,764ft ³ (CTS)
Intermediate 1	13 3/8"	NEW	J55	54.5#	2,850'	2,850'	2,009ft ³ (CTS)
Intermediate 2	9 5/8"	NEW	HPP110	47#	10,800'	10,800'	3,524ft ³ (CTS)
Production	5 1/2"	NEW	HCP110	23#	29,016'	29,016'	6,831ft ³ (CTS)
Tubing	2 7/8"	NEW	P110	6.5#		11,719'	
Liners							

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	20"	26"	.5	2,410	1,928	SEE #24	1.2
Coal	13 3/8"	17 1/2"	.38	2,740	2,192	SEE #24	1.2
Intermediate	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			

Handwritten signature and date: 5/18/23

WW-6B
(10/14)

API NO. 47- 103 - _____
OPERATOR WELL NO. Elijah N-17HU
Well Pad Name: Elijah

4710303595

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 (11,219'). 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 41,200,000 lb. proppant and 745,000 bbl of water. Max rate = 80bpm; max psi = 9,000#.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 21.22 acres

22) Area to be disturbed for well pad only, less access road (acres): 7.70 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

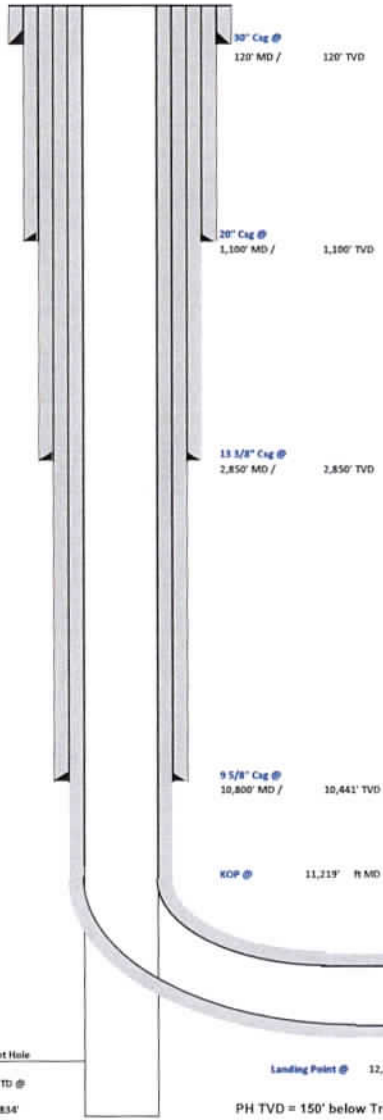
25) Proposed borehole conditioning procedures:

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: **Elijah N-17HU**
 STATE: **WV** COUNTY: **Wetzel**
 DISTRICT: **Proctor**
 Of Elev: **1,276'** GI Elev: **1,276'**
 TD: **29,016'**
 TH Latitude: **39.68821711**
 TH Longitude: **-80.75747632**
 BH Latitude: **39.732325**
 BH Longitude: **-80.780435**



FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	990'
Sewickley Coal	890'
Pittsburgh Coal	984'
Big Lime	2,073'
Berea	2,715'
Tully	6,627'
Marcellus	6,708'
Onondaga	6,758'
Salina	7,396'
Lockport	8,528'
Utica	11,358'
Poist Pleasant	11,565'
Landing Depth	11,615'
Trenton	11,684'
Pilot Hole TD	11,834'

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	1,100'	1,100'	106.5	J55	Surface
Intermediate 1	17 1/2	13 3/8	2,850'	2,850'	54.5	J55	Surface
Intermediate 2	12 1/4	9 5/8	10,800'	10,441'	47	HPP110	Surface
Production	8 1/2	5 1/2	29,016'	11,328'	23	HCP110	Surface

CEMENT SUMMARY				DRILLING DETAILS	
Type	Sacks	Class	Density (ppg)	Fluid Type	Centralizer Notes
Conductor	338	A	15.6	Air	None
Surface	1,903	A	15.6	Air	3 Centralizers at equal distance
Intermediate 1	2,177	A	15.6	Air	1 Centralizer every other joint
Intermediate 2	3,211	A	14.5	Air	1 Centralizer every other joint
Production	7,041	A	16.5	Air / SOBIM	1 every other joint in lateral; 1 per joint in curve; 1 every other joint to surface

Pilot Hole
 PH TD @ 11,834'
 PH TVD = 150' below Trenton Top
 Landing Point @ 12,560' MD / 11,615' TVD
 KOP @ 11,119' R MD
 Lateral TD @ 29,016' R MD
 11,328' R MD

4710303595

4710303595



Tug Hill Operating, LLC Casing and Cement Program

Elijah N-17HU

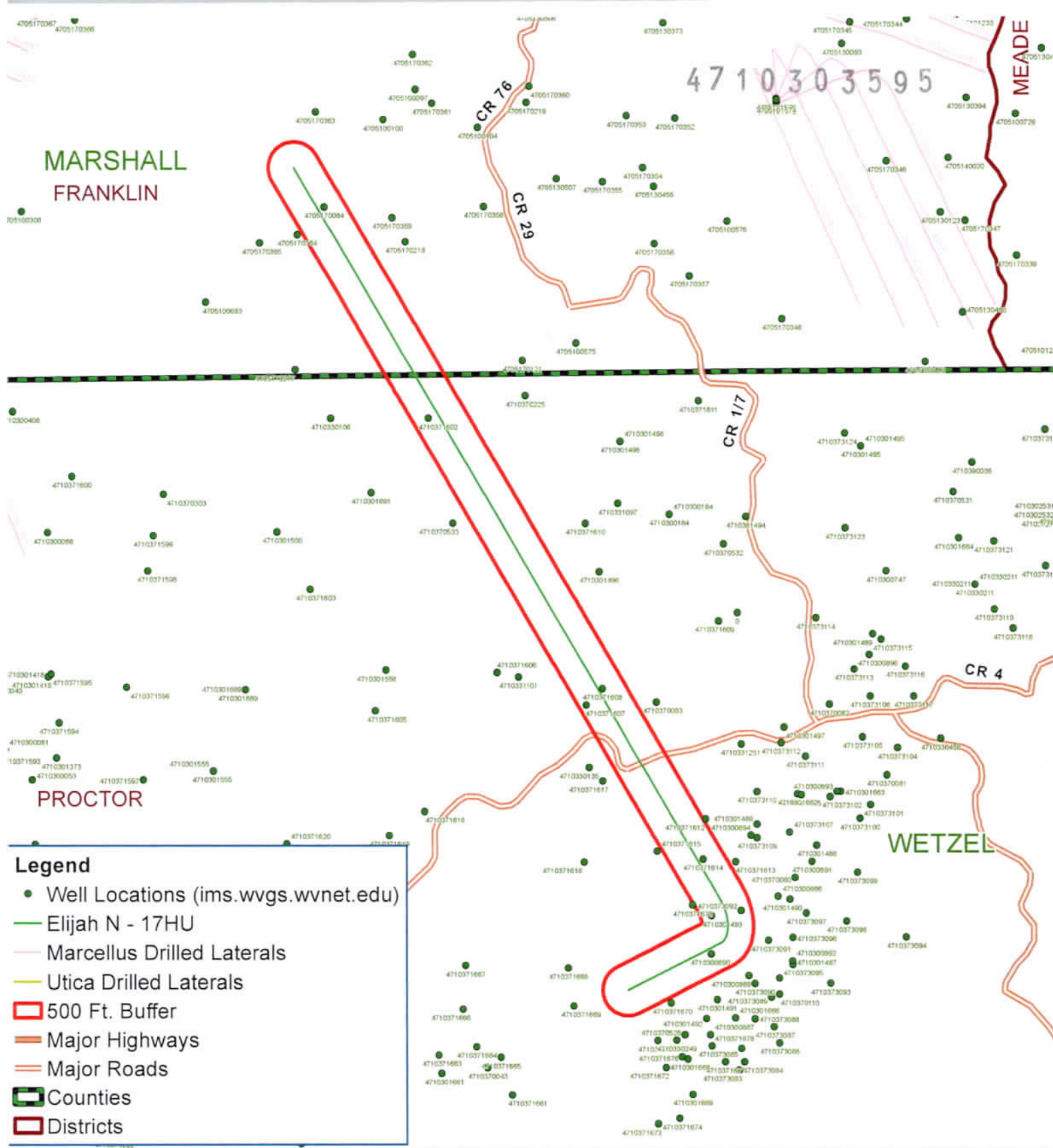
Casing

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	20"	J55	26"	1,100'	CTS
Intermediate 1	13 3/8"	J55	17 1/2"	2,850'	CTS
Intermediate 2	9 5/8"	HPP110	12 1/4"	10,800'	CTS
Production	5 1/2"	HCP110	8 1/2"	29,016'	CTS

Cement

- Conductor: Premium NE-1 + 2% bwoc CaC12 + 46.5% Fresh Water – Conductor Cement mixed at 15.6 ppg, Y=1.2
- Surface: Premium NE-1 + 2% bwoc CaC12 + 46.5% Fresh Water – Surface Cement mixed at 15.6 ppg, Y=1.2
- Intermediate 1: Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 15.6 ppg, Y=1.2
- Intermediate 2: Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 14.5 ppg, Y=1.35
- Kick Off Plug: Class H Cement + 1% CD-32 + .7% Sodium Metasilicate + .1% R-3 + .75 gal/100sk FP-13L - KOP Plug
- Production: 50:50 Poz: Premium NE-1 + .1% bwoc ASA-301 + 60lb/sk ASCA-1 + .35% bwoc BA-10A + .25% bwoc MPA-170, 44 lb sack + .5% bwoc R-3 + .75 gals/100sk FP-13L – Production Cement mixed at 16.5 ppg, Y = 1.03

08/18/2023



Legend

- Well Locations (ims.wvgs.wvnet.edu)
- Elijah N - 17HU
- Marcellus Drilled Laterals
- Utica Drilled Laterals
- 500 Ft. Buffer
- Major Highways
- Major Roads
- ▭ Counties
- ▭ Districts



Elijah N - 17HU Proctor District Wetzel County, WV



Map Prepared by:

08/18/2023

Map Created: October 19, 2021
Notes: All locations are approximate and are for visualization purposes only

Area of Review

4710303595

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
4710301493	Perkins Oil and Gas Inc.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4710373092	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.
4710300890	Perkins Oil and Gas Inc	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4710371614	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.

4710303595

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
4710371607	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.
4710371608	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.
4710371602	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.
4705170084	The Wheeling Natural Gas Co.	2793' TVD	Gordon	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation.	

4710303595

WV Geological & Economic Survey

Well: County = 103 Permit = 01493

Report Time: Wednesday, October 20, 2021 11:22:38 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710301493	Wetzel	1493	Proctor	New Martinsville	New Martinsville	39.692171	-80.751692	521290.4	4393621.6

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_I
4710301493	-/-	Original Loc	Completed	J R Huggins Hrs		9	Huggins		J R Huggins Hrs	Perkins Oil and Gas, Inc.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BI
4710301493	-/-	-/-	1200	Topo Estimation				unclassified	unclassified	not available	unknown	unknown					

WV Geological & Economic Survey

Well: County = 103 Permit = 73092

Report Time: Wednesday, October 20, 2021 11:22:57 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710373092	Wetzel	73092	Proctor	Wileyville	Littleton	39.692447	-80.749624	521467.6	4393652.7

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST
4710373092	-/-	unknown	Prpty Map	Jr Huggins		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_BE	G_A
4710373092	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

4710303595

WV Geological & Economic Survey:

Well: County = 103 Permit = 00890

Report Time: Wednesday, October 20, 2021 2:48:26 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710300890	Wetzel	890	unknown	unknown	unknown				

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
4710300890	-/-	Original Loc	Completed	Joh R.Huggins	5					Perkins Oil and Gas, Inc.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BI
4710300890	-/-	-/-			Unnamed			unclassified	unclassified	not available	unknown	unknown			0		0		0

There is no Pay data for this well

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
4710300890	Perkins Oil and Gas, Inc.	1989	0	0	0	0	0	0	0	0	0	0	0	0	0
4710300890	Perkins Oil and Gas, Inc.	1991													
4710300890	Perkins Oil and Gas, Inc.	1992	0	0	0	0	0	0	0	0	0	0	0	0	0
4710300890	Perkins Oil and Gas, Inc.	1994													
4710300890	Perkins Oil and Gas, Inc.	1995													
4710300890	Perkins Oil and Gas, Inc.	1996	0	0	0	0	0	0	0	0	0	0	0	0	0
4710300890	Perkins Oil and Gas, Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0
4710300890	Perkins Oil and Gas, Inc.	1998	0	0	0	0	0	0	0	0	0	0	0	0	0
4710300890	Perkins Oil and Gas, Inc.	1999	0	0	0	0	0	0	0	0	0	0	0	0	0
4710300890	Perkins Oil and Gas, Inc.	2001	0	0	0	0	0	0	0	0	0	0	0	0	0
4710300890	Perkins Oil and Gas, Inc.	2003	821	165	0	87	87	84	75	84	77	83	0	0	79
4710300890	Perkins Oil and Gas, Inc.	2004	1,827	149	142	169	170	142	154	171	131	150	154	156	139
4710300890	Perkins Oil and Gas, Inc.	2005	0	0	0	0	0	0	0	0	0	0	0	0	0
4710300890	Perkins Oil and Gas, Inc.	2006	1,538	123	90	141	113	136	133	141	143	135	138	125	120
4710300890	Perkins Oil and Gas, Inc.	2007	1,535	128	98	122	126	137	133	117	140	136	143	132	123
4710300890	Perkins Oil and Gas, Inc.	2008	1,441	124	111	113	87	95	135	140	140	105	139	129	123
4710300890	Perkins Oil and Gas, Inc.	2009	1,366	107	107	117	107	127	129	128	136	4	133	146	125
4710300890	Perkins Oil and Gas, Inc.	2010	328	20	23	30	35	29	31	31	31	19	33	25	21
4710300890	Perkins Oil and Gas, Inc.	2011	282	15	18	22	21	33	26	34	30	29	19	18	17
4710300890	Perkins Oil and Gas, Inc.	2012	211	20	16	21	15	22	11	7	20	21	22	20	16
4710300890	Perkins Oil and Gas, Inc.	2013	193	16	11	6	17	19	15	25	22	20	20	11	11
4710300890	Perkins Oil and Gas, Inc.	2014	209	7	10	11	20	17	25	25	24	20	21	16	16
4710300890	Perkins Oil and Gas, Inc.	2015	91	6	0	1	6	16	12	5	14	9	8	7	7
4710300890	Perkins Oil and Gas, Inc.	2016	157	3	13	11	9	19	17	16	18	24	16	9	0
4710300890	Perkins Oil and Gas, Inc.	2017	320	34	10	16	30	34	30	12	46	22	50	14	22
4710300890	Perkins Oil and Gas, Inc.	2018	74	3	6	6	9	5	9	7	7	8	6	8	0
4710300890	Perkins Oil and Gas, Inc.	2019	96	21	19	15	17	5	0	3	0	1	1	3	11
4710300890	Perkins Oil and Gas, Inc.	2020	1,295	98	92	113	108	111	114	119	122	112	112	95	99

4710303595

WV Geological & Economic Survey

Well: County = 103 Permit = 71614

Report Time: Wednesday, October 20, 2021 11:24:00 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710371614	Wetzel	71614	Proctor	New Martinsville	New Martinsville	39.695204	-80.752255	521241.2	4393958.1

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.
4710371614	-/-		unknown	Prpty Map James Parsons	24					----- 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
4710371614	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

WV Geological & Economic Survey

Well: County = 103 Permit = 71607

Report Time: Wednesday, October 20, 2021 11:24:16 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710371607	Wetzel	71607	Proctor	New Martinsville	New Martinsville	39.703477	-80.760325	520546.8	4394874.4

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.
4710371607	-/-		unknown	Prpty Map Meshack Yoho		1264				----- 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
4710371607	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

WV Geological & Economic Survey:

Well: County = 103 Permit = 71608

Report Time: Wednesday, October 20, 2021 11:24:33 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710371608	Wetzel	71608	Proctor	New Martinsville	New Martinsville	39.704348	-80.759198	520643.1	4394971.3

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.
4710371608	-/-		unknown	Prpty Map George Cozart		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
4710371608	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

WV Geological & Economic Survey:

Well: County = 103 Permit = 71602

Report Time: Wednesday, October 20, 2021 11:24:47 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710371602	Wetzel	71602	Proctor	New Martinsville	New Martinsville	39.718873	-80.771209	519609.4	4396580.6

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.
4710371602	-/-		unknown	Prpty Map Jason Parsons		3	1280			----- 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
4710371602	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

4710303595

WV Geological & Economic Survey

Well: County = 51 Permit = 70084

Report Time: Wednesday, October 20, 2021 11:25:05 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170084	Marshall	70084	Franklin	New Martinsville	New Martinsville	39.730211	-80.778359	518993.5	4397837.5

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_E
4705170084	-/-		Original Loc	Completed	James Henry	1	M 117			Wheeling Natural Gas Co., The			

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
4705170084	-/-	-/-	1180	Barometer		Gordon (undiff)	Gordon (undiff)	unclassified	unclassified	not available	unknown	unknown	2793			2793	

4710303595



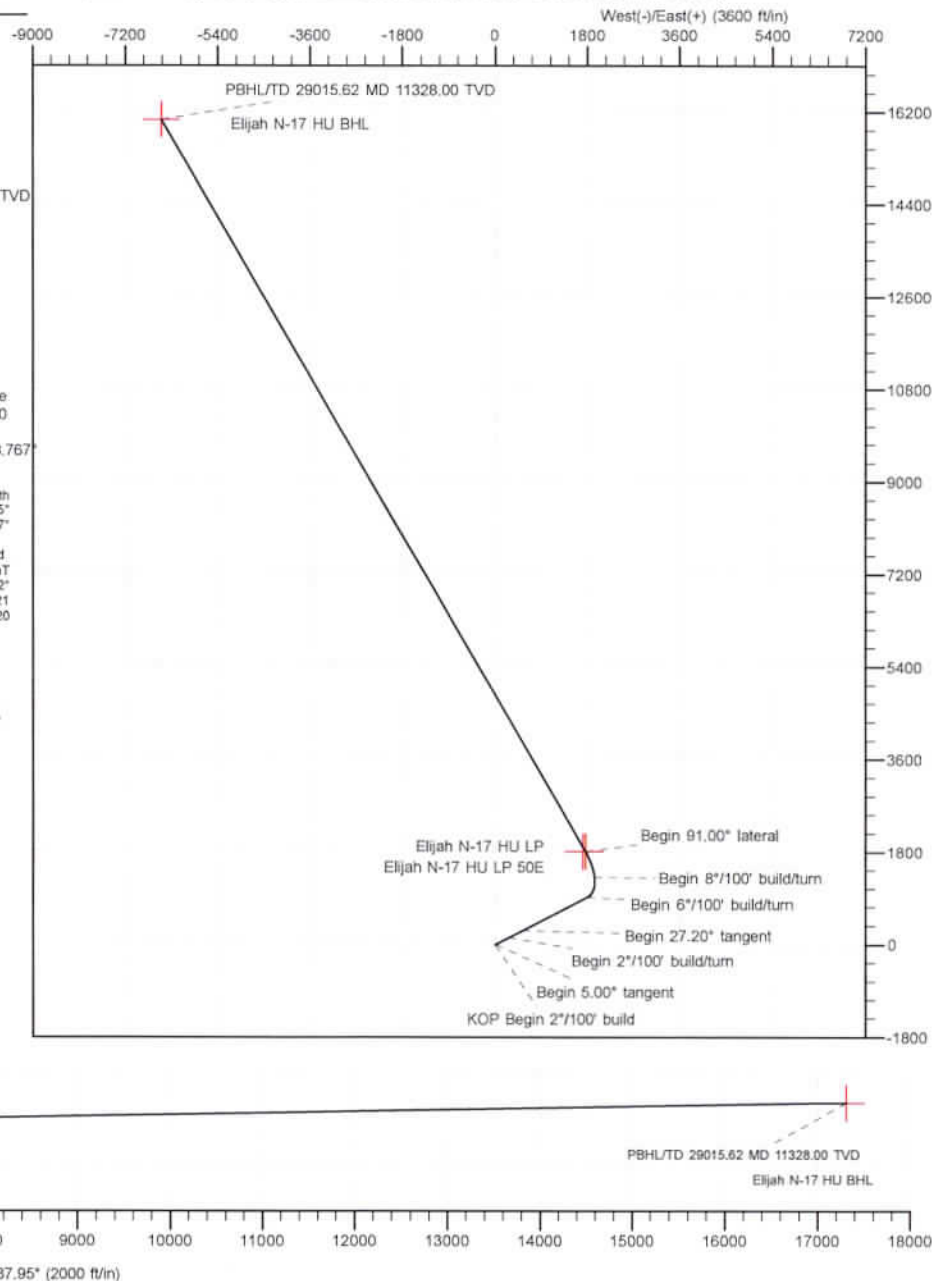
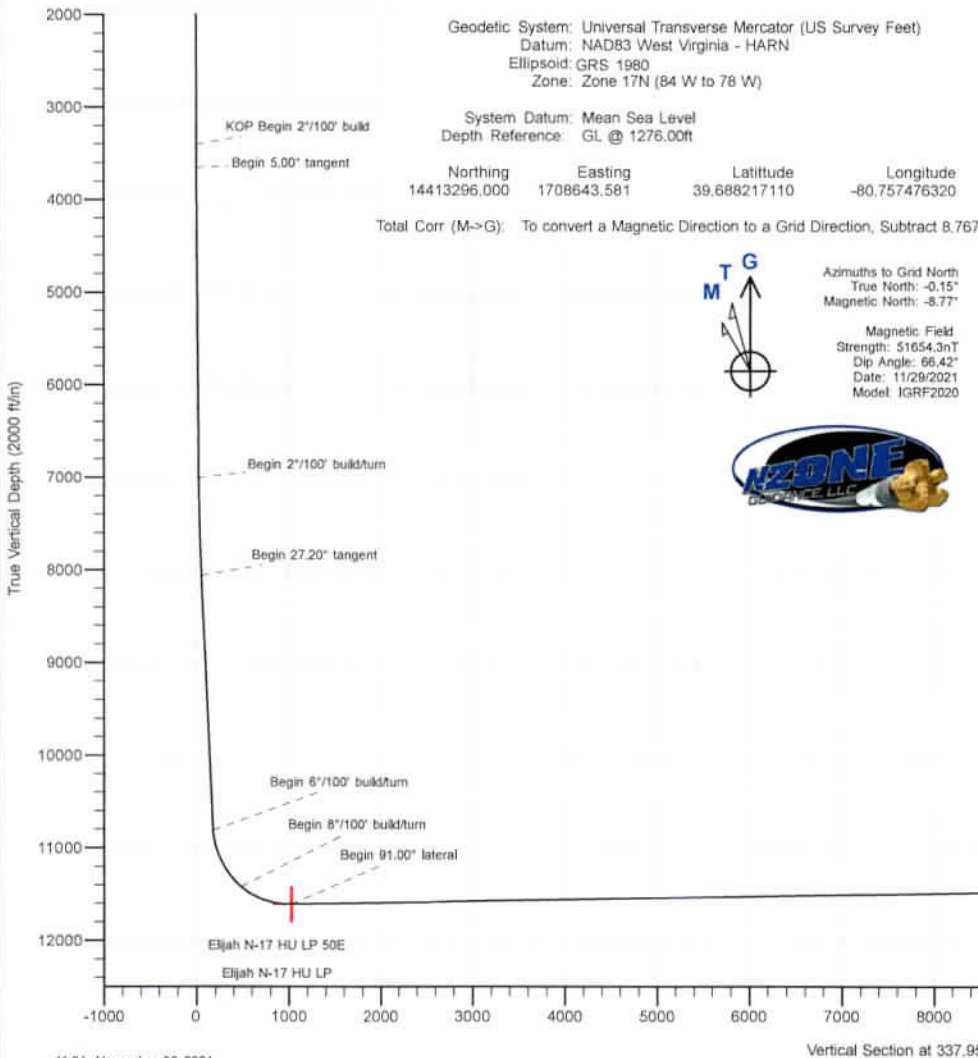
Well: Elijah N-17 HU (slot C)
Site: Elijah
Project: Wetzel County, West Virginia (UTM17 NAD83)
Design: rev1
Rig:

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Elijah N-17 HU BHL	11328.00	16044.08	-6498.09	4429340.050	1702145.502	39.732325000	-80.780435000
- plan hits target center							
Elijah N-17 HU LP	11615.00	1816.91	1715.91	4415112.904	1710359.489	39.693194000	-80.751359000
- plan misses target center by 43.28ft at 12585.08ft MD (11614.56 TVD, 1838.64 N, 1753.34 E)							
Elijah N-17 HU LP 50E	11615.00	1816.91	1765.91	4415112.904	1710409.488	39.693193619	-80.751181261
- plan misses target center by 0.04ft at 12559.97ft MD (11615.00 TVD, 1816.93 N, 1765.95 E)							

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSEct	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	
2	3402.00	0.00	0.00	3402.00	0.00	0.00	0.00	0.000	0.00	KOP Begin 2°/100' build
3	3652.00	5.00	62.92	3651.68	4.96	9.71	2.00	62.920	0.96	Begin 5.00° tangent
4	7015.11	5.00	62.92	7002.00	138.40	270.69	0.00	0.000	26.66	Begin 2°/100' build/turn
5	8124.99	27.20	62.92	8061.70	277.63	543.00	2.00	0.000	53.49	Begin 27.20° tangent
6	11219.24	27.20	62.92	10813.84	921.46	1802.21	0.00	0.000	177.52	Begin 6°/100' build/turn
7	11967.63	50.00	355.88	11418.45	1305.06	1941.08	6.00	-92.274	480.94	Begin 8°/100' build/turn
8	12559.99	91.00	329.85	11615.00	1816.95	1765.94	8.00	-36.599	1021.14	Begin 91.00° lateral
9	29015.62	91.00	329.85	11328.00	16044.08	-6498.09	0.00	0.000	17310.05	PBHL/TD 29015.62 MD 11328.00 TVD



4710303595



Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-17 HU (slot C)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1276.00ft
Project:	Wetzel County, West Virginia (UTM17 NAD83)	MD Reference:	GL @ 1276.00ft
Site:	Elijah	North Reference:	Grid
Well:	Elijah N-17 HU (slot C)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Project	Wetzel County, West Virginia (UTM17 NAD83)		
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	Elijah				
Site Position:		Northing:	14,413,248.590 usft	Latitude:	39.688086510
From:	Lat/Long	Easting:	1,708,696.803 usft	Longitude:	-80.757287590
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Elijah N-17 HU (slot C)					
Well Position	+N/-S	0.00 ft	Northing:	14,413,296.001 usft	Latitude:	39.688217110
	+E/-W	0.00 ft	Easting:	1,708,643.581 usft	Longitude:	-80.757476320
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	1,276.00 ft
Grid Convergence:						

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/29/2021	-8.612	66.423	51,654.34867978

Design	rev1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	337.95

Plan Survey Tool Program		Date		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	29,015.62 rev1 (Original Hole)		



4710303595

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-17 HU (slot C)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1276.00ft
Project:	Wetzel County, West Virginia (UTM17 NAD83)	MD Reference:	GL @ 1276.00ft
Site:	Elijah	North Reference:	Grid
Well:	Elijah N-17 HU (slot C)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Plan Sections											
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000		
3,402.00	0.00	0.00	3,402.00	0.00	0.00	0.00	0.00	0.00	0.000		
3,652.00	5.00	62.92	3,651.68	4.96	9.71	2.00	2.00	0.00	62.920		
7,015.12	5.00	62.92	7,002.00	138.40	270.69	0.00	0.00	0.00	0.000		
8,124.99	27.20	62.92	8,061.70	277.63	543.00	2.00	2.00	0.00	0.000		
11,219.24	27.20	62.92	10,813.84	921.46	1,802.21	0.00	0.00	0.00	0.000		
11,967.63	50.00	355.88	11,418.45	1,305.06	1,941.08	6.00	3.05	-8.96	-92.274		
12,559.99	91.00	329.85	11,615.00	1,816.95	1,765.94	8.00	6.92	-4.39	-36.599		
29,015.62	91.00	329.85	11,328.00	16,044.08	-6,498.09	0.00	0.00	0.00	0.000	Elijah N-17 HU BHL	



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-17 HU (slot C)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1276.00ft
Project:	Wetzel County, West Virginia (UTM17 NAD83)	MD Reference:	GL @ 1276.00ft
Site:	Elijah	North Reference:	Grid
Well:	Elijah N-17 HU (slot C)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
100.00	0.00	0.00	100.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
200.00	0.00	0.00	200.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
300.00	0.00	0.00	300.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
400.00	0.00	0.00	400.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
500.00	0.00	0.00	500.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
600.00	0.00	0.00	600.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
700.00	0.00	0.00	700.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
800.00	0.00	0.00	800.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
900.00	0.00	0.00	900.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
3,100.00	0.00	0.00	3,100.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
3,402.00	0.00	0.00	3,402.00	0.00	0.00	14,413,296.001	1,708,643.581	39.688217110	-80.757476320	
KOP Begin 2°/100' build										
3,500.00	1.96	62.92	3,499.98	0.76	1.49	14,413,296.764	1,708,645.073	39.688219195	-80.757471008	
3,600.00	3.96	62.92	3,599.84	3.11	6.09	14,413,299.114	1,708,649.671	39.688225616	-80.757454643	
3,652.00	5.00	62.92	3,651.68	4.96	9.71	14,413,300.963	1,708,653.287	39.688230667	-80.757441770	
Begin 5.00° tangent										
3,700.00	5.00	62.92	3,699.50	6.87	13.43	14,413,302.868	1,708,657.012	39.688235870	-80.757428511	
3,800.00	5.00	62.92	3,799.12	10.83	21.19	14,413,306.835	1,708,664.772	39.688246709	-80.757400889	
3,900.00	5.00	62.92	3,898.74	14.80	28.95	14,413,310.803	1,708,672.532	39.688257547	-80.757373267	
4,000.00	5.00	62.92	3,998.36	18.77	36.71	14,413,314.771	1,708,680.292	39.688268386	-80.757345644	
4,100.00	5.00	62.92	4,097.98	22.74	44.47	14,413,318.738	1,708,688.052	39.688279225	-80.757318022	
4,200.00	5.00	62.92	4,197.60	26.71	52.23	14,413,322.706	1,708,695.812	39.688290064	-80.757290399	
4,300.00	5.00	62.92	4,297.22	30.67	59.99	14,413,326.673	1,708,703.573	39.688300902	-80.757262777	
4,400.00	5.00	62.92	4,396.84	34.64	67.75	14,413,330.641	1,708,711.333	39.688311741	-80.757235154	
4,500.00	5.00	62.92	4,496.46	38.61	75.51	14,413,334.609	1,708,719.093	39.688322580	-80.757207532	
4,600.00	5.00	62.92	4,596.08	42.58	83.27	14,413,338.576	1,708,726.853	39.688333418	-80.757179909	
4,700.00	5.00	62.92	4,695.69	46.54	91.03	14,413,342.544	1,708,734.613	39.688344257	-80.757152287	
4,800.00	5.00	62.92	4,795.31	50.51	98.79	14,413,346.511	1,708,742.373	39.688355096	-80.757124664	
4,900.00	5.00	62.92	4,894.93	54.48	106.55	14,413,350.479	1,708,750.133	39.688365934	-80.757097042	
5,000.00	5.00	62.92	4,994.55	58.45	114.31	14,413,354.447	1,708,757.893	39.688376773	-80.757069419	



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-17 HU (slot C)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1276.00ft
Project:	Wetzel County, West Virginia (UTM17 NAD83)	MD Reference:	GL @ 1276.00ft
Site:	Elijah	North Reference:	Grid
Well:	Elijah N-17 HU (slot C)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,100.00	5.00	62.92	5,094.17	62.41	122.07	14,413,358.414	1,708,765.653	39.688387611	-80.757041797	
5,200.00	5.00	62.92	5,193.79	66.38	129.83	14,413,362.382	1,708,773.413	39.688398450	-80.757014174	
5,300.00	5.00	62.92	5,293.41	70.35	137.59	14,413,366.350	1,708,781.173	39.688409289	-80.756986552	
5,400.00	5.00	62.92	5,393.03	74.32	145.35	14,413,370.317	1,708,788.934	39.688420127	-80.756958929	
5,500.00	5.00	62.92	5,492.65	78.28	153.11	14,413,374.285	1,708,796.694	39.688430966	-80.756931307	
5,600.00	5.00	62.92	5,592.27	82.25	160.87	14,413,378.252	1,708,804.454	39.688441805	-80.756903684	
5,700.00	5.00	62.92	5,691.89	86.22	168.63	14,413,382.220	1,708,812.214	39.688452643	-80.756876062	
5,800.00	5.00	62.92	5,791.51	90.19	176.39	14,413,386.188	1,708,819.974	39.688463482	-80.756848439	
5,900.00	5.00	62.92	5,891.13	94.15	184.15	14,413,390.155	1,708,827.734	39.688474320	-80.756820817	
6,000.00	5.00	62.92	5,990.75	98.12	191.91	14,413,394.123	1,708,835.494	39.688485159	-80.756793194	
6,100.00	5.00	62.92	6,090.37	102.09	199.67	14,413,398.091	1,708,843.254	39.688495997	-80.756765571	
6,200.00	5.00	62.92	6,189.99	106.06	207.43	14,413,402.058	1,708,851.014	39.688506836	-80.756737949	
6,300.00	5.00	62.92	6,289.61	110.03	215.19	14,413,406.026	1,708,858.774	39.688517675	-80.756710326	
6,400.00	5.00	62.92	6,389.23	113.99	222.95	14,413,409.993	1,708,866.534	39.688528513	-80.756682703	
6,500.00	5.00	62.92	6,488.85	117.96	230.71	14,413,413.961	1,708,874.294	39.688539352	-80.756655081	
6,600.00	5.00	62.92	6,588.46	121.93	238.47	14,413,417.929	1,708,882.055	39.688550190	-80.756627458	
6,700.00	5.00	62.92	6,688.08	125.90	246.23	14,413,421.896	1,708,889.815	39.688561029	-80.756599836	
6,800.00	5.00	62.92	6,787.70	129.86	253.99	14,413,425.864	1,708,897.575	39.688571867	-80.756572213	
6,900.00	5.00	62.92	6,887.32	133.83	261.75	14,413,429.831	1,708,905.335	39.688582706	-80.756544590	
7,000.00	5.00	62.92	6,986.94	137.80	269.51	14,413,433.799	1,708,913.095	39.688593544	-80.756516968	
7,015.12	5.00	62.92	7,002.00	138.40	270.69	14,413,434.399	1,708,914.268	39.688595182	-80.756512792	
Begin 2°/100' build/turn										
7,100.00	6.70	62.92	7,086.44	142.34	278.39	14,413,438.337	1,708,921.969	39.688605939	-80.756485378	
7,200.00	8.70	62.92	7,185.53	148.43	290.31	14,413,444.434	1,708,933.895	39.688622596	-80.756442928	
7,300.00	10.70	62.92	7,284.10	156.10	305.31	14,413,452.102	1,708,948.892	39.688643543	-80.756389543	
7,400.00	12.70	62.92	7,382.02	165.33	323.36	14,413,461.331	1,708,966.944	39.688668755	-80.756325288	
7,500.00	14.70	62.92	7,479.17	176.11	344.45	14,413,472.111	1,708,988.026	39.688698201	-80.756250242	
7,600.00	16.70	62.92	7,575.43	188.43	368.53	14,413,484.427	1,709,012.115	39.688731846	-80.756164496	
7,700.00	18.70	62.92	7,670.70	202.27	395.60	14,413,498.265	1,709,039.180	39.688769648	-80.756068154	
7,800.00	20.70	62.92	7,764.84	217.61	425.61	14,413,513.609	1,709,069.189	39.688811562	-80.755961334	
7,900.00	22.70	62.92	7,857.75	234.44	458.53	14,413,530.438	1,709,102.105	39.688857536	-80.755844166	
8,000.00	24.70	62.92	7,949.31	252.73	494.31	14,413,548.734	1,709,137.889	39.688907514	-80.755716792	
8,100.00	26.70	62.92	8,039.42	272.47	532.92	14,413,568.473	1,709,176.495	39.688961435	-80.755579368	
8,124.99	27.20	62.92	8,061.70	277.63	543.00	14,413,573.630	1,709,186.580	39.688975521	-80.755543468	
Begin 27.20° tangent										
8,200.00	27.20	62.92	8,128.41	293.24	573.52	14,413,589.236	1,709,217.104	39.689018152	-80.755434816	
8,300.00	27.20	62.92	8,217.36	314.04	614.22	14,413,610.043	1,709,257.799	39.689074991	-80.755289956	
8,400.00	27.20	62.92	8,306.30	334.85	654.91	14,413,630.850	1,709,298.494	39.689131829	-80.755145096	
8,500.00	27.20	62.92	8,395.24	355.66	695.61	14,413,651.657	1,709,339.189	39.689188686	-80.755000235	
8,600.00	27.20	62.92	8,484.19	376.46	736.31	14,413,672.465	1,709,379.884	39.689245504	-80.754855375	
8,700.00	27.20	62.92	8,573.13	397.27	777.00	14,413,693.272	1,709,420.580	39.689302341	-80.754710514	
8,800.00	27.20	62.92	8,662.07	418.08	817.70	14,413,714.079	1,709,461.275	39.689359179	-80.754565653	
8,900.00	27.20	62.92	8,751.02	438.89	858.39	14,413,734.886	1,709,501.970	39.689416016	-80.754420792	
9,000.00	27.20	62.92	8,839.96	459.69	899.09	14,413,755.693	1,709,542.665	39.689472853	-80.754275930	
9,100.00	27.20	62.92	8,928.90	480.50	939.78	14,413,776.500	1,709,583.360	39.689529689	-80.754131068	
9,200.00	27.20	62.92	9,017.85	501.31	980.48	14,413,797.307	1,709,624.056	39.689586526	-80.753986206	
9,300.00	27.20	62.92	9,106.79	522.11	1,021.17	14,413,818.114	1,709,664.751	39.689643362	-80.753841344	
9,400.00	27.20	62.92	9,195.73	542.92	1,061.87	14,413,838.922	1,709,705.446	39.689700198	-80.753696481	
9,500.00	27.20	62.92	9,284.68	563.73	1,102.56	14,413,859.729	1,709,746.141	39.689757034	-80.753551619	
9,600.00	27.20	62.92	9,373.62	584.54	1,143.26	14,413,880.536	1,709,786.837	39.689813869	-80.753406756	
9,700.00	27.20	62.92	9,462.57	605.34	1,183.95	14,413,901.343	1,709,827.532	39.689870705	-80.753261892	
9,800.00	27.20	62.92	9,551.51	626.15	1,224.65	14,413,922.150	1,709,868.227	39.689927541	-80.753117029	
9,900.00	27.20	62.92	9,640.45	646.96	1,265.34	14,413,942.957	1,709,908.922	39.689984376	-80.752972165	
10,000.00	27.20	62.92	9,729.40	667.77	1,306.04	14,413,963.764	1,709,949.617	39.690041211	-80.752827301	

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-17 HU (slot C)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1276.00ft
Project:	Wetzel County, West Virginia (UTM17 NAD83)	MD Reference:	GL @ 1276.00ft
Site:	Elijah	North Reference:	Grid
Well:	Elijah N-17 HU (slot C)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
10,100.00	27.20	62.92	9,818.34	688.57	1,346.73	14,413,984.571	1,709,990.313	39.690098046	-80.752682437	
10,200.00	27.20	62.92	9,907.28	709.38	1,387.43	14,414,005.378	1,710,031.008	39.690154881	-80.752537573	
10,300.00	27.20	62.92	9,996.23	730.19	1,428.12	14,414,026.186	1,710,071.703	39.690211715	-80.752392708	
10,400.00	27.20	62.92	10,085.17	750.99	1,468.82	14,414,046.993	1,710,112.398	39.690268549	-80.752247843	
10,500.00	27.20	62.92	10,174.11	771.80	1,509.52	14,414,067.800	1,710,153.093	39.690325384	-80.752102978	
10,600.00	27.20	62.92	10,263.06	792.61	1,550.21	14,414,088.607	1,710,193.789	39.690382218	-80.751958113	
10,700.00	27.20	62.92	10,352.00	813.42	1,590.91	14,414,109.414	1,710,234.484	39.690439051	-80.751813247	
10,800.00	27.20	62.92	10,440.94	834.22	1,631.60	14,414,130.221	1,710,275.179	39.690495885	-80.751668381	
10,900.00	27.20	62.92	10,529.89	855.03	1,672.30	14,414,151.028	1,710,315.874	39.690552719	-80.751523515	
11,000.00	27.20	62.92	10,618.83	875.84	1,712.99	14,414,171.835	1,710,356.569	39.690609552	-80.751378649	
11,100.00	27.20	62.92	10,707.78	896.64	1,753.69	14,414,192.643	1,710,397.265	39.690666385	-80.751233783	
11,200.00	27.20	62.92	10,796.72	917.45	1,794.38	14,414,213.450	1,710,437.960	39.690723218	-80.751088916	
11,219.24	27.20	62.92	10,813.84	921.46	1,802.21	14,414,217.454	1,710,445.791	39.690734155	-80.751061037	
Begin 6°/100' build/turn										
11,250.00	27.18	58.88	10,841.19	928.29	1,814.49	14,414,224.285	1,710,458.064	39.690752821	-80.751017342	
11,300.00	27.40	52.35	10,885.64	941.22	1,833.38	14,414,237.218	1,710,476.956	39.690788196	-80.750950058	
11,350.00	27.92	45.99	10,929.93	956.39	1,850.91	14,414,252.384	1,710,494.490	39.690829712	-80.750887580	
11,400.00	28.72	39.89	10,973.96	973.74	1,867.04	14,414,269.740	1,710,510.617	39.690877255	-80.750830080	
11,450.00	29.78	34.14	11,017.59	993.24	1,881.72	14,414,289.240	1,710,525.294	39.690930696	-80.750777715	
11,500.00	31.07	28.79	11,060.71	1,014.83	1,894.90	14,414,310.829	1,710,538.480	39.690989887	-80.750730628	
11,550.00	32.57	23.86	11,103.20	1,038.45	1,906.56	14,414,334.450	1,710,550.139	39.691054666	-80.750688949	
11,600.00	34.24	19.33	11,144.95	1,064.04	1,916.66	14,414,360.036	1,710,560.240	39.691124856	-80.750652791	
11,650.00	36.06	15.19	11,185.83	1,091.52	1,925.18	14,414,387.517	1,710,568.754	39.691200265	-80.750622255	
11,700.00	38.02	11.41	11,225.75	1,120.82	1,932.08	14,414,416.820	1,710,575.658	39.691280686	-80.750597423	
11,750.00	40.08	7.96	11,264.58	1,151.86	1,937.36	14,414,447.862	1,710,580.933	39.691365897	-80.750578364	
11,800.00	42.24	4.79	11,302.23	1,184.56	1,940.99	14,414,480.560	1,710,584.565	39.691455667	-80.750565130	
11,850.00	44.48	1.88	11,338.58	1,218.82	1,942.97	14,414,514.822	1,710,586.544	39.691549748	-80.750557757	
11,900.00	46.79	359.20	11,373.54	1,254.56	1,943.29	14,414,550.557	1,710,586.864	39.691647884	-80.750556266	
11,950.00	49.15	356.71	11,407.02	1,291.67	1,941.95	14,414,587.665	1,710,585.524	39.691749804	-80.750560660	
11,967.63	50.00	355.88	11,418.45	1,305.06	1,941.08	14,414,601.058	1,710,584.657	39.691786593	-80.750563611	
Begin 8°/100' build/turn										
12,000.00	52.10	353.92	11,438.80	1,330.13	1,938.84	14,414,626.127	1,710,582.414	39.691855457	-80.750571337	
12,050.00	55.39	351.11	11,468.37	1,370.09	1,933.57	14,414,666.087	1,710,577.145	39.691965241	-80.750589674	
12,100.00	58.75	348.52	11,495.55	1,411.38	1,926.13	14,414,707.377	1,710,569.707	39.692078694	-80.750615704	
12,150.00	62.15	346.10	11,520.21	1,453.80	1,916.56	14,414,749.796	1,710,560.139	39.692195262	-80.750649299	
12,200.00	65.59	343.83	11,542.23	1,497.14	1,904.91	14,414,793.137	1,710,548.485	39.692314378	-80.750690297	
12,250.00	69.07	341.69	11,561.50	1,541.19	1,891.23	14,414,837.188	1,710,534.804	39.692435461	-80.750738498	
12,300.00	72.57	339.64	11,577.92	1,585.74	1,875.58	14,414,881.735	1,710,519.161	39.692557921	-80.750793666	
12,350.00	76.09	337.67	11,591.42	1,630.56	1,858.06	14,414,926.562	1,710,501.633	39.692681162	-80.750855534	
12,400.00	79.63	335.75	11,601.94	1,675.45	1,838.73	14,414,971.449	1,710,482.305	39.692804584	-80.750923799	
12,450.00	83.18	333.88	11,609.41	1,720.18	1,817.89	14,415,016.178	1,710,461.271	39.692927584	-80.750998129	
12,500.00	86.73	332.04	11,613.81	1,764.53	1,795.06	14,415,060.531	1,710,438.634	39.693049564	-80.751078162	
12,550.00	90.29	330.21	11,615.11	1,808.30	1,770.93	14,415,104.292	1,710,414.505	39.693169930	-80.751163509	
12,559.99	91.00	329.85	11,615.00	1,816.95	1,765.94	14,415,112.946	1,710,409.515	39.693193734	-80.751181162	
Begin 91.00° lateral										
12,600.00	91.00	329.85	11,614.30	1,851.54	1,745.84	14,415,147.538	1,710,389.422	39.693288886	-80.751252249	
12,700.00	91.00	329.85	11,612.56	1,938.00	1,695.62	14,415,233.995	1,710,339.202	39.693526708	-80.751429924	
12,800.00	91.00	329.85	11,610.81	2,024.46	1,645.40	14,415,320.452	1,710,288.982	39.693764529	-80.751607600	
12,900.00	91.00	329.85	11,609.07	2,110.91	1,595.18	14,415,406.910	1,710,238.762	39.694002349	-80.751785278	
13,000.00	91.00	329.85	11,607.33	2,197.37	1,544.96	14,415,493.367	1,710,188.542	39.694240170	-80.751962956	
13,100.00	91.00	329.85	11,605.58	2,283.83	1,494.74	14,415,579.824	1,710,138.322	39.694477990	-80.752140636	
13,200.00	91.00	329.85	11,603.84	2,370.29	1,444.52	14,415,666.282	1,710,088.102	39.694715810	-80.752318317	
13,300.00	91.00	329.85	11,602.09	2,456.74	1,394.30	14,415,752.739	1,710,037.882	39.694953629	-80.752495999	
13,400.00	91.00	329.85	11,600.35	2,543.20	1,344.08	14,415,839.196	1,709,987.662	39.695191449	-80.752673683	

Database:	DB_Dec2220_v18	Local Co-ordinate Reference:	Well Elijah N-17 HU (slot C)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1276.00ft
Project:	Wetzel County, West Virginia (UTM17 NAD83)	MD Reference:	GL @ 1276.00ft
Site:	Elijah	North Reference:	Grid
Well:	Elijah N-17 HU (slot C)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
24,500.00	91.00	329.85	11,406.76	12,139.99	-4,230.34	14,425,435.962	1,704,413.246	39.721587662	-80.772404112	
24,600.00	91.00	329.85	11,405.01	12,226.44	-4,280.56	14,425,522.419	1,704,363.026	39.721825451	-80.772581932	
24,700.00	91.00	329.85	11,403.27	12,312.90	-4,330.78	14,425,608.876	1,704,312.806	39.722063238	-80.772759753	
24,800.00	91.00	329.85	11,401.52	12,399.36	-4,381.00	14,425,695.334	1,704,262.586	39.722301026	-80.772937575	
24,900.00	91.00	329.85	11,399.78	12,485.82	-4,431.22	14,425,781.791	1,704,212.366	39.722538813	-80.773115398	
25,000.00	91.00	329.85	11,398.04	12,572.27	-4,481.44	14,425,868.249	1,704,162.146	39.722776600	-80.773293223	
25,100.00	91.00	329.85	11,396.29	12,658.73	-4,531.66	14,425,954.706	1,704,111.927	39.723014387	-80.773471049	
25,200.00	91.00	329.85	11,394.55	12,745.19	-4,581.88	14,426,041.163	1,704,061.707	39.723252174	-80.773648876	
25,300.00	91.00	329.85	11,392.80	12,831.65	-4,632.10	14,426,127.621	1,704,011.487	39.723489960	-80.773826705	
25,400.00	91.00	329.85	11,391.06	12,918.10	-4,682.32	14,426,214.078	1,703,961.267	39.723727746	-80.774004534	
25,500.00	91.00	329.85	11,389.32	13,004.56	-4,732.54	14,426,300.535	1,703,911.047	39.723965531	-80.774182365	
25,600.00	91.00	329.85	11,387.57	13,091.02	-4,782.76	14,426,386.993	1,703,860.827	39.724203317	-80.774360187	
25,700.00	91.00	329.85	11,385.83	13,177.48	-4,832.98	14,426,473.450	1,703,810.607	39.724441102	-80.774538030	
25,800.00	91.00	329.85	11,384.08	13,263.93	-4,883.20	14,426,559.907	1,703,760.387	39.724678887	-80.774715865	
25,900.00	91.00	329.85	11,382.34	13,350.39	-4,933.42	14,426,646.365	1,703,710.167	39.724916671	-80.774893700	
26,000.00	91.00	329.85	11,380.60	13,436.85	-4,983.64	14,426,732.822	1,703,659.947	39.725154454	-80.775071537	
26,100.00	91.00	329.85	11,378.85	13,523.31	-5,033.86	14,426,819.279	1,703,609.727	39.725392238	-80.775249375	
26,200.00	91.00	329.85	11,377.11	13,609.76	-5,084.08	14,426,905.737	1,703,559.507	39.725630022	-80.775427215	
26,300.00	91.00	329.85	11,375.36	13,696.22	-5,134.30	14,426,992.194	1,703,509.287	39.725867805	-80.775605055	
26,400.00	91.00	329.85	11,373.62	13,782.68	-5,184.52	14,427,078.651	1,703,459.067	39.726105588	-80.775782897	
26,500.00	91.00	329.85	11,371.87	13,869.14	-5,234.74	14,427,165.109	1,703,408.847	39.726343371	-80.775960739	
26,600.00	91.00	329.85	11,370.13	13,955.59	-5,284.96	14,427,251.566	1,703,358.627	39.726581154	-80.776138583	
26,700.00	91.00	329.85	11,368.39	14,042.05	-5,335.18	14,427,338.023	1,703,308.407	39.726818936	-80.776316429	
26,800.00	91.00	329.85	11,366.64	14,128.51	-5,385.40	14,427,424.481	1,703,258.187	39.727056718	-80.776494275	
26,900.00	91.00	329.85	11,364.90	14,214.97	-5,435.63	14,427,510.938	1,703,207.967	39.727294501	-80.776672123	
27,000.00	91.00	329.85	11,363.15	14,301.42	-5,485.85	14,427,597.395	1,703,157.747	39.727532281	-80.776849972	
27,100.00	91.00	329.85	11,361.41	14,387.88	-5,536.07	14,427,683.853	1,703,107.527	39.727770062	-80.777027823	
27,200.00	91.00	329.85	11,359.67	14,474.34	-5,586.29	14,427,770.310	1,703,057.307	39.728007843	-80.777205674	
27,300.00	91.00	329.85	11,357.92	14,560.80	-5,636.51	14,427,856.767	1,703,007.087	39.728245624	-80.777383527	
27,400.00	91.00	329.85	11,356.18	14,647.25	-5,686.73	14,427,943.225	1,702,956.867	39.728483404	-80.777561381	
27,500.00	91.00	329.85	11,354.43	14,733.71	-5,736.95	14,428,029.682	1,702,906.647	39.728721184	-80.777739236	
27,600.00	91.00	329.85	11,352.69	14,820.17	-5,787.17	14,428,116.139	1,702,856.427	39.728958964	-80.777917092	
27,700.00	91.00	329.85	11,350.95	14,906.63	-5,837.39	14,428,202.597	1,702,806.207	39.729196744	-80.778094950	
27,800.00	91.00	329.85	11,349.20	14,993.08	-5,887.61	14,428,289.054	1,702,755.987	39.729434523	-80.778272809	
27,900.00	91.00	329.85	11,347.46	15,079.54	-5,937.83	14,428,375.512	1,702,705.768	39.729672302	-80.778450669	
28,000.00	91.00	329.85	11,345.71	15,166.00	-5,988.05	14,428,461.969	1,702,655.548	39.729910080	-80.778628530	
28,100.00	91.00	329.85	11,343.97	15,252.46	-6,038.27	14,428,548.426	1,702,605.328	39.730147859	-80.778806393	
28,200.00	91.00	329.85	11,342.23	15,338.91	-6,088.49	14,428,634.884	1,702,555.108	39.730385637	-80.778984256	
28,300.00	91.00	329.85	11,340.48	15,425.37	-6,138.71	14,428,721.341	1,702,504.888	39.730623415	-80.779162121	
28,400.00	91.00	329.85	11,338.74	15,511.83	-6,188.93	14,428,807.798	1,702,454.668	39.730861192	-80.779339988	
28,500.00	91.00	329.85	11,336.99	15,598.29	-6,239.15	14,428,894.256	1,702,404.448	39.731098970	-80.779517855	
28,600.00	91.00	329.85	11,335.25	15,684.74	-6,289.37	14,428,980.713	1,702,354.228	39.731336747	-80.779695724	
28,700.00	91.00	329.85	11,333.50	15,771.20	-6,339.59	14,429,067.170	1,702,304.008	39.731574523	-80.779873593	
28,800.00	91.00	329.85	11,331.76	15,857.66	-6,389.81	14,429,153.628	1,702,253.788	39.731812300	-80.780051464	
28,900.00	91.00	329.85	11,330.02	15,944.12	-6,440.03	14,429,240.085	1,702,203.568	39.732050076	-80.780229337	
29,000.00	91.00	329.85	11,328.27	16,030.57	-6,490.25	14,429,326.542	1,702,153.348	39.732287852	-80.780407210	
29,015.62	91.00	329.85	11,328.00	16,044.08	-6,498.09	14,429,340.050	1,702,145.502	39.732325000	-80.780435000	

PBHL/TD 29015.62 MD 11328.00 TVD



Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-17 HU (slot C)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1276.00ft
Project:	Wetzel County, West Virginia (UTM17 NAD83)	MD Reference:	GL @ 1276.00ft
Site:	Elijah	North Reference:	Grid
Well:	Elijah N-17 HU (slot C)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Elijah N-17 HU BHL - plan hits target center - Point	0.00	0.00	11,328.00	16,044.08	-6,498.09	14,429,340.050	1,702,145.502	39.732325000	-80.780435000
Elijah N-17 HU LP - plan misses target center by 43.28ft at 12585.08ft MD (11614.56 TVD, 1838.64 N, 1753.34 E) - Point	0.00	0.00	11,615.00	1,816.91	1,715.91	14,415,112.904	1,710,359.489	39.693194000	-80.751359000
Elijah N-17 HU LP 50E - plan misses target center by 0.04ft at 12559.97ft MD (11615.00 TVD, 1816.93 N, 1765.95 E) - Point	0.00	0.00	11,615.00	1,816.91	1,765.91	14,415,112.904	1,710,409.487	39.693193619	-80.751181260

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
3,402.00	3,402.00	0.00	0.00	KOP Begin 2°/100' build
3,652.00	3,651.68	4.96	9.71	Begin 5.00° tangent
7,015.12	7,002.00	138.40	270.69	Begin 2°/100' build/turn
8,124.99	8,061.70	277.63	543.00	Begin 27.20° tangent
11,219.24	10,813.84	921.46	1,802.21	Begin 6°/100' build/turn
11,967.63	11,418.45	1,305.06	1,941.08	Begin 8°/100' build/turn
12,559.99	11,615.00	1,816.95	1,765.94	Begin 91.00° lateral
29,015.62	11,328.00	16,044.08	-6,498.09	PBHL/TD 29015.62 MD 11328.00 TVD

4710303595

WW-9
(4/16)

API Number 47 - 103 - _____
Operator's Well No. Elijah N-17HU

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) French Creek - Ohio River Quadrangle New Martinsville 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 water for frac and flow back water

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

Proposed Disposal Method For Treated Pit Wastes:

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

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

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

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

Additives to be used in drilling medium? Barite for weight

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

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

-Landfill or offsite name/permit number? Wetzel County Sanitary Landfill (SWF-1021 / WV0109185) and Westmoreland Sanitary Landfill, LLC (SAN1405 / PA DEP EC#1386426)

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

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

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

Company Official Signature James A Pancake

Company Official (Typed Name) Jim Pancake

Company Official Title Vice President Geoscience

Subscribed and sworn before me this 23rd day of May, 2023

Susanne Deliere Notary Public

My commission expires 1/15/2025

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

08/18/2023

Tug Hill Operating, LLC

Proposed Revegetation Treatment: Acres Disturbed 21.22 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:

SMC

Comments:

Properly reclaim, seed, mulch all disturbed areas.

Title: Oil and Gas Inspector

Date: 5/18/23

Field Reviewed?

Yes

No

WW-9

SUPPLEMENT PG 1

PROPOSED ELIJAH PAD

12-7-21
CHARLES & JUDITH ROSE - L.E.
CHARLES D. ROSE, JR., ET AL.
DB 427-667
18 AC

12-7-31.1
NANCY JAYNE &
MARK J DAVIS
DB 333-412
0.808 AC

12-7-31.2
NANCY J. & MARK J DAVIS
DB 351-92
17.37 AC

12-7-31
WILLIAM C. CROSS JR. IRREV TRUST
DB 422-275
(PARCEL TWO)
72.57 AC

12-7-29
WILLIAM C. CROSS
JR. IRREV TRUST
DB 422-275
(PARCEL THREE)
171.0 AC

12-7-30
WILLIAM C. CROSS
JR. IRREV TRUST
DB 422-275
(PARCEL ONE)
19.75 AC

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.

DRAWING NOT TO SCALE.



LEGEND

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

Jackson Surveying Inc.
 2410 E. Main St. #112
 Charleston, WV 25301
 Phone: 204-823-5861

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	12-01-2021	NONE

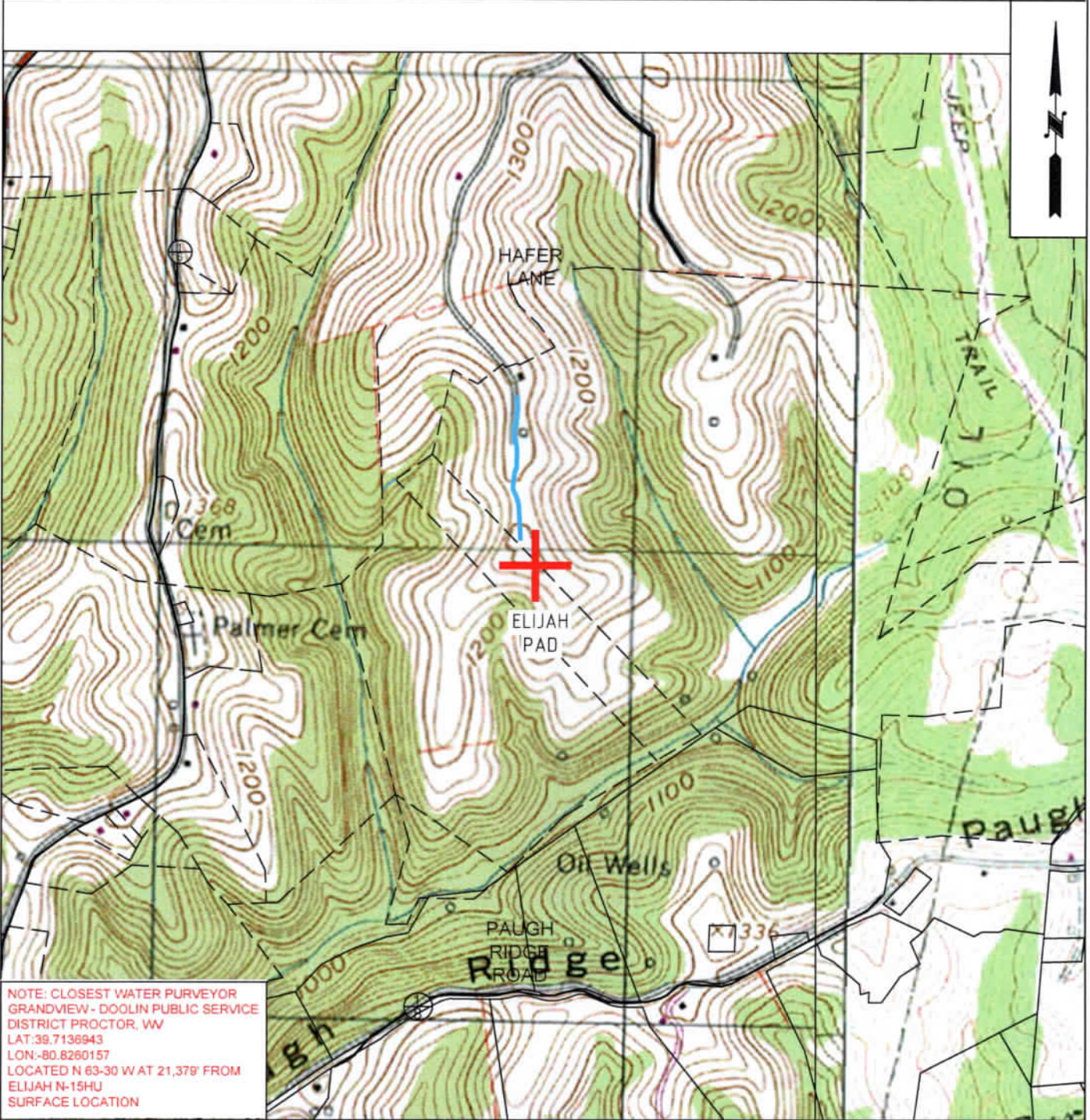
TUG HILL OPERATING

08/18/2023

WW-9

PROPOSED ELIJAH PAD

SUPPLEMENT PG 2



NOTE: CLOSEST WATER PURVEYOR
GRANDVIEW - DOOLIN PUBLIC SERVICE
DISTRICT PROCTOR, WW
LAT: 39.7136943
LON: -80.8260157
LOCATED N 63-30 W AT 21,379' FROM
ELIJAH N-15HU
SURFACE LOCATION



OPERATOR	494510851	TOPO SECTION	LEASE NAME
TUG HILL OPERATING, LLC 380 SOUTHPONTE BLVD SUITE 200 CANONSBURG, PA 15317		NEW MARTINSVILLE 7.5'	ELIJAH
		SCALE: 1" = 1000'	DATE: DATE: 12-01-2021

08/18/2023



TUG HILL
OPERATING

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

Well Name: Elijah N-17HU

Pad Name: Elijah

County: Wetzel

UTM (meters), NAD83, Zone 17

Northing: 4,393,181.41

Easting: 520,795.60

**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

SMY
08/18/2023

AMANDA MOSKO - DRS LAND SERVICES CORP
SUITE 145
6000 TOWN CENTER BLVD
CANDONSBURG PA 15317

CERTIFICATE OF CONSENT AND EASEMENT

4710303595

I, the undersigned, for valuable consideration, the receipt and sufficiency of which is hereby acknowledged, being all the owners of the surface of that certain lot, tract or parcel of land located in Proctor District, Wetzel County, State of West Virginia, shown on the attached plat or survey, or hereby consent and grant 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 29th day of August 2021.

Linda Simms

Linda Simms
Executrix for the Last Will and Testament
Of The William C Cross, Jr. Irrevocable Trust

ACKNOWLEDGMENT

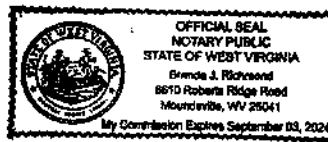
STATE OF WEST VIRGINIA §
§ SS:
COUNTY OF Wetzel §

On this the 29th day of August 2021, before me, a notary public, the undersigned authority, personally appeared Linda Simms, Executrix for the Last Will and Testament Of The William C Cross, Jr. Irrevocable Trust known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he/she executed the same for the purposes therein contained.

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

My Commission Expires: Sept. 31, 2024
Signature/Notary Public: Brenda J. Richmond
Name/Notary Public (print): Brenda J. Richmond

Consideration is 0.

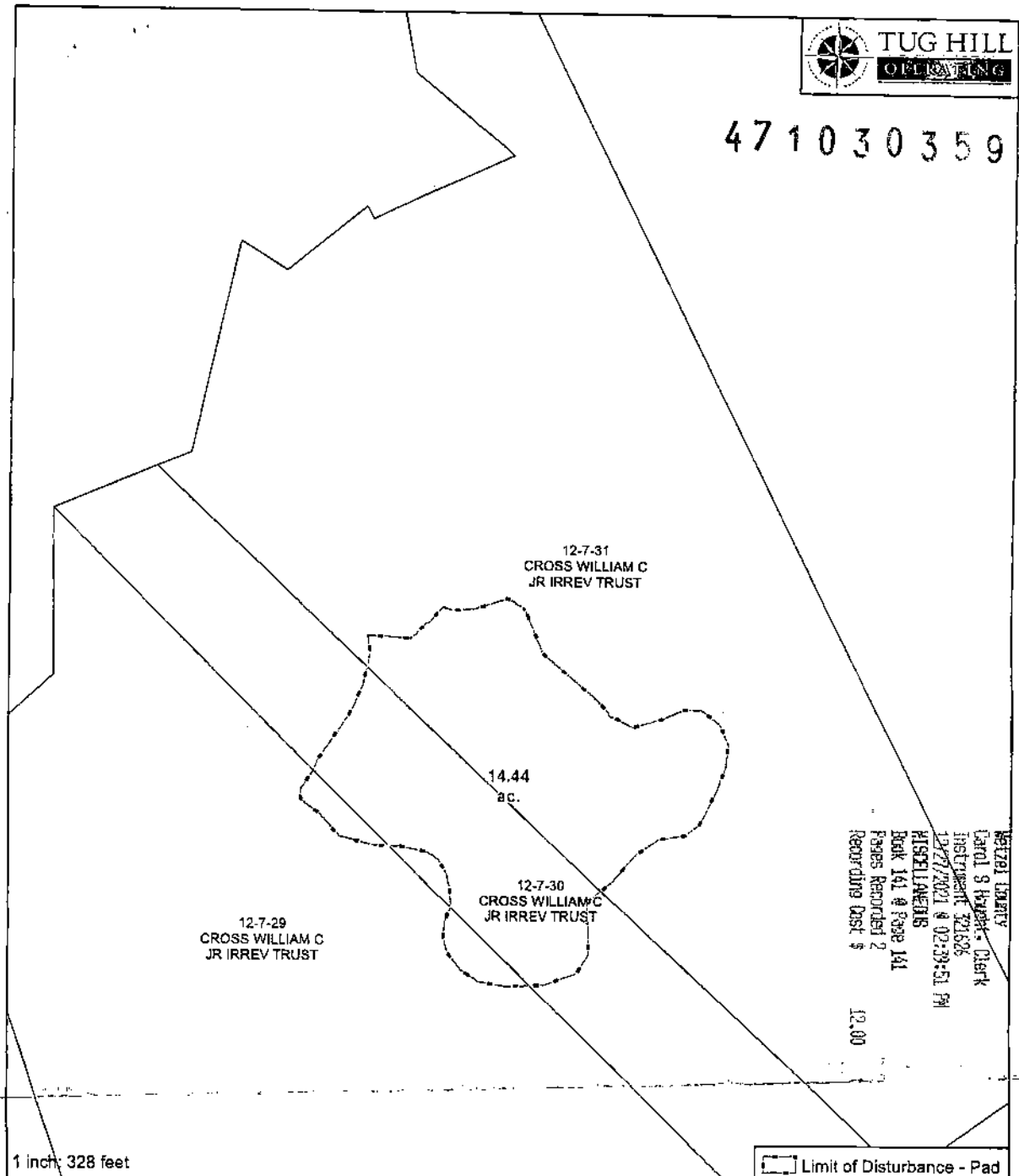


This instrument prepared by:
WV Oil and Gas Conservation Commission
601 57th Street
Charleston, WV 25304

08/18/2023



4710303595



Wetzel County
Carol S. Hayslett, Clerk
Investment 721626
12/27/2021 @ 02:39:51 PM
MISCELLANEOUS
Book 141 @ Page 141
Pages Recorded 2
Recording Cost \$ 12.00

1 inch: 328 feet

Limit of Disturbance - Pad

0 95 190 380 Feet

N

NOTE: THE SURVEYING LOCATION FOR THE SURVEY WAS ACCURATE TO THE BEST OF THE SURVEYOR'S KNOWLEDGE AND BELIEF. THE SURVEYOR HAS CONDUCTED A VISUAL CHECK OF THE RECORDS AND HAS DETERMINED THAT THE RECORDS ARE CORRECT. THE SURVEYOR HAS CONDUCTED A VISUAL CHECK OF THE RECORDS AND HAS DETERMINED THAT THE RECORDS ARE CORRECT. THE SURVEYOR HAS CONDUCTED A VISUAL CHECK OF THE RECORDS AND HAS DETERMINED THAT THE RECORDS ARE CORRECT.

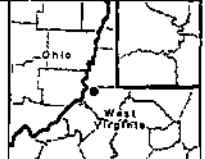
Exhibit "A"

CROSS WILLIAM C JR IRREV TRUST
Wetzel County, WV

Date: _____

Name: _____

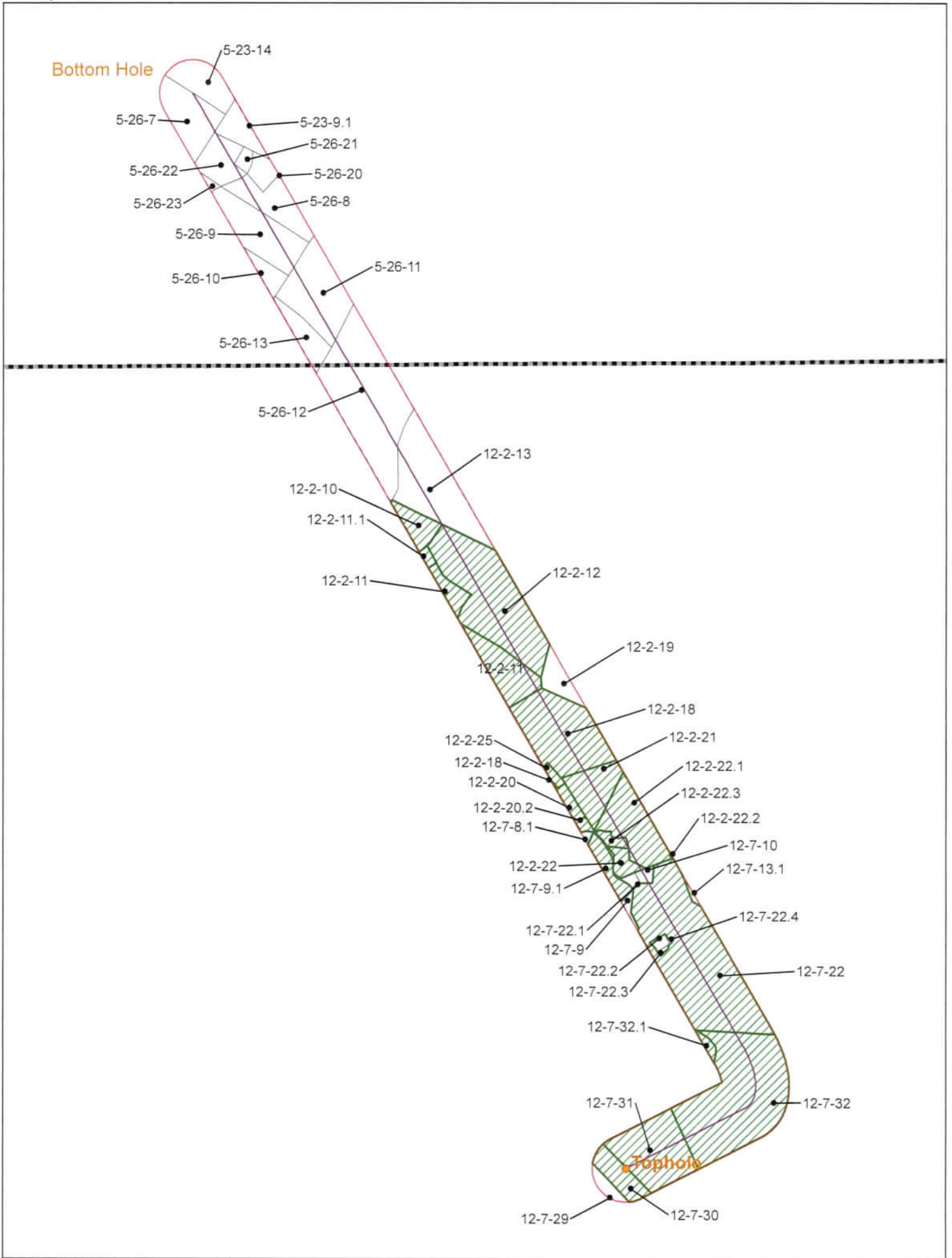
Name: _____



Date: 09/2021
PCS: NAD 1983 UTM Zone 17N Foot US

08/18/2023

Elijah N-17HU



Coordinate System: NAD 1983 UTM Zone 18E
 Projection: Transverse Mercator
 Datum: North American 1983
 Prime Meridian: 100° 0' 0" W
 False Easting: 300000
 False Northing: 0
 Central Meridian: -81° 0' 0" W
 Scale Factor: 0.9996
 Latitude of Origin: 39° 0' 0" N
 Units: Feet

CONFIDENTIAL



- Utica Well
- 500' Buffer
- Force Pool

Elijah N-17HU
 Operators within 500 Feet of Well Borehole



Operator's within 500' of Well Boreholes 4 7 1 0 3 0 3 5 9 5
Elijah N - 17HU

COUNTY	DISTRICT	TMP	MINERAL OWNER/LESSEE	ADDRESS
WETZEL	PROCTOR	12-2-10	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-10	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-10	BILLY MASON SULLIVAN AKA BILLY J SULLIVAN	1410 SOUTH 24TH AVE, UNIT B PHOENIX, AZ 85009
WETZEL	PROCTOR	12-2-10	LIGHTNING CREEK HOLDINGS, LP	81 DUTILH RIDGE CRANBERRY TOWNSHIP, PA 16066
WETZEL	PROCTOR	12-2-10	STONE HILL MINERALS HOLDINGS LLC	P. O. BOX 470426 FORT WORTH, TX 76147
WETZEL	PROCTOR	12-2-11	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-11	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-11	KENNETH JAMES PARSONS	502 E COURT ST., APT 103 LAWRENCEBURG, KY 40342
WETZEL	PROCTOR	12-2-11	MASTER MINERAL HOLDINGS II, LP	P.O. BOX 10886 MIDLAND, TX 79702
WETZEL	PROCTOR	12-2-11	PAM ISOM	71 VENABLE ROAD ANNVILLE, KY 40447
WETZEL	PROCTOR	12-2-11	REBECCA J HARRELL AKA REBECCA J ANTIBUS	533 N KALAMAZOO AVENUE MARSHALL, MI 49068
WETZEL	PROCTOR	12-2-11	SHANNON HEMINGWAY	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-2-11	STONE HILL MINERALS HOLDINGS LLC	P. O. BOX 470426 FORT WORTH, TX 76147
WETZEL	PROCTOR	12-2-12	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-12	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-12	KENNETH JAMES PARSONS	502 E COURT ST., APT 103 LAWRENCEBURG, KY 40342
WETZEL	PROCTOR	12-2-12	MASTER MINERAL HOLDINGS II, LP	P.O. BOX 10886 MIDLAND, TX 79702
WETZEL	PROCTOR	12-2-12	PAM ISOM	71 VENABLE ROAD ANNVILLE, KY 40447
WETZEL	PROCTOR	12-2-12	REBECCA J HARRELL AKA REBECCA J ANTIBUS	533 N KALAMAZOO AVENUE MARSHALL, MI 49068
WETZEL	PROCTOR	12-2-12	SHANNON HEMINGWAY	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-2-12	STONE HILL MINERALS HOLDINGS LLC	P. O. BOX 470426 FORT WORTH, TX 76147
WETZEL	PROCTOR	12-2-13	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-18	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-18	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-19	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107

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WETZEL	PROCTOR	12-2-20	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-20	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-21	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-21	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-22	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-22.1	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-22.2	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-22.3	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-25	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-25	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-25	JAMIE D POTTS AND TISHA M POTTS	P.O. BOX 104 SARDIS, OH 43946
WETZEL	PROCTOR	12-7-8.1	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-9	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-9.1	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-10	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-13.1	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-22	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-22	APRIL D AMRHEIN	53 SALORI COURT WEBSTER, NY 14580
WETZEL	PROCTOR	12-7-22	CANDACE KIMBLE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-22	CINDY LOU UPDEGRAFF	2352 BLAIRS RIDGE ROAD MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-22	DEBRA KIMBLE	1405 1ST STREET MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-22	DONNA FOX	44 JADE COURT NOVATO, CA 94945
WETZEL	PROCTOR	12-7-22	ELSIE MULDREW	103 SHERWOOD AVENUE WHEELING, WV 26003

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**Operator's within 500' of Well Boreholes 4 7 1 0 3 0 3 5 9 5
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WETZEL	PROCTOR	12-7-22	FRANKLIN D KIMBLE	425 MAGNOLIA DRIVE MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-22	FREDERICK W WILKERSON	3121 MIDDLE GRAVE CREEK RD MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-22	HAROLD W HUGGINS	5146 EDISON STREET NE HARTVILLE, OH 44632
WETZEL	PROCTOR	12-7-22	JAMES D UPDEGRAFF	156 EDINGTON LANE WHEELING, WV 26003
WETZEL	PROCTOR	12-7-22	JESSICA L DIAZ	40 PLEASANT STREET LUBEC, ME 04652
WETZEL	PROCTOR	12-7-22	JOHN E KIMBLE	815 32ND STREET PARKERSBURG, WV 26104
WETZEL	PROCTOR	12-7-22	JOHN MATTHEW HUGGINS SR	729 N 4TH ST., APT 1 STEUBENVILLE, OH 43952
WETZEL	PROCTOR	12-7-22	JOSEPH F GOBLOWSKY	305 APACHE DRIVE EFFORT, PA 18330
WETZEL	PROCTOR	12-7-22	JOYCE A MOORE	1552 ROBERTS RIDGE ROAD MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-22	LAURA M PARSONS	2202 FORK RIDGE ROAD MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-22	LOIS J BOSO	1908 CENTER STREET MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-22	MARK W UPDEGRAFF	103 BLANEY AVENUE MOUNDSVILLE, PA 26041
WETZEL	PROCTOR	12-7-22	MICHAEL A UPDEGRAFF	3045 MIDDLE GRAVE CREEK ROAD MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-22	MICKY FOX	344 ROCKYDALE ROAD CAVE JUNCTION, OR 97523
WETZEL	PROCTOR	12-7-22	REVOCABLE INTER VIVOS TRUST ARGMT, TRUSTEE ALLEN LLOYD PARSONS	3300 NE 36TH ST., APT 406 FORT LAUDERDALE, FL 33308
WETZEL	PROCTOR	12-7-22	RICHARD I UPDEGRAFF	501 TENTH ST., APT 707 MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-22	ROBIN KIMBLE	3 WILLOW LANE GLEN DALE, WV 26038
WETZEL	PROCTOR	12-7-22	SHANE MURAVSKY	289 MILLWOOD SQUARE STERLING, VA 20165
WETZEL	PROCTOR	12-7-22	UNKNOWN & UNLOCATABLE HEIRS OF WILFORD W PARSONS	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-22	UNKNOWN DAUGHTER TINA OF LARRY ALLEN CROSS	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-22	UNKNOWN TWIN DAUGHTER OF LARRY ALLEN CROSS	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-22	VICTORIA J. CARVER FNA VICKIE BROWN	12 VILLAGE DRIVE WHEELING, WV 26003
WETZEL	PROCTOR	12-7-22.1	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-22.2	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-22.3	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-22.4	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107

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Operator's within 500' of Well Boreholes 4710303595

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WETZEL	PROCTOR	12-7-29	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-29	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-7-29	BILL ANTILL	3276 WARREN ROAD, APT 2 CLEVELAND, OH 44111
WETZEL	PROCTOR	12-7-29	CHARLOTTE S BURGAN	7613 WHEAT FALL CT. DERWOOD, MD 20855-1168
WETZEL	PROCTOR	12-7-29	DAVIS FAMILY REVOCABLE TRUST DATED 2/22/95	9547 W COUNTRY CLUB DR SUN CITY, AZ 85373
WETZEL	PROCTOR	12-7-29	JAMES B HAWKINS	18 MARLPIT PLACE MIDDLETOWN, NJ 07748
WETZEL	PROCTOR	12-7-29	JOHN HAFFER THAXTON	50 N PINCH ROAD ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-29	DOROTHY HAWKINS	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-29	DELORES DRAKE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-29	JOYCE RHODES	8714 SW 60TH CIR OCALA, FL 34476
WETZEL	PROCTOR	12-7-29	UNKNOWN & UNLOCATABLE HEIRS OF LARRY ANTILL	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-29	LINDA RIVERIA	11051 NAOMI DRIVE, PARMA, OH 4413
WETZEL	PROCTOR	12-7-29	LINDA RYBOSKI	53710 QUIMBY AVENUE BRIDGEPORT, OH 43912
WETZEL	PROCTOR	12-7-29	LISA THAXTON DICKENS	48 HAFFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-29	MARJORIE ALTMAN	2870 SAN PAEIL STREET JACKSONVILLE, FL 32246
WETZEL	PROCTOR	12-7-29	MARY L THAXTON	47 HAFFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-29	GERALDINE HAWKINS	534 CASCADE COURT MAHWAH, NJ 07430
WETZEL	PROCTOR	12-7-29	SANDRA EKELS	7373 SHERMAN CHURCH AVE SW LOT 312 EAST SPARTA, OH 44626
WETZEL	PROCTOR	12-7-29	SARAH THAXTON	48 HAFFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-29	SHAWN POULAIN	97 GLENWOOD HTS MANSFIELD, OH 44903
WETZEL	PROCTOR	12-7-29	UNKNOWN & UNLOCATABLE HEIRS OF CARRIE HAFFER LITTLE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-29	UNKNOWN & UNLOCATABLE HEIRS OF EVA HAFFER	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-29	TRUSTEES OF ST ANDREW PRESBYTERIAN	246 S. PINCH ROAD ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-30	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-30	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-7-30	BILL ANTILL	3276 WARREN ROAD, APT 2 CLEVELAND, OH 44111
WETZEL	PROCTOR	12-7-30	CHARLOTTE S BURGAN	7613 WHEAT FALL CT. DERWOOD, MD 20855-1168

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Operator's within 500' of Well Boreholes 4710303595
Elijah N - 17HU

WETZEL	PROCTOR	12-7-30	DAVIS FAMILY REVOCABLE TRUST DATED 2/22/95	9547 W COUNTRY CLUB DR SUN CITY, AZ 85373
WETZEL	PROCTOR	12-7-30	JAMES B HAWKINS	18 MARLPIT PLACE MIDDLETOWN, NJ 07748
WETZEL	PROCTOR	12-7-30	JOHN HAFER THAXTON	50 N PINCH ROAD ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-30	JOYCE RHODES	8714 SW 60TH CIR OCALA, FL 34476
WETZEL	PROCTOR	12-7-30	UNKNOWN & UNLOCATABLE HEIRS OF LARRY ANTILL	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-30	LINDA RIVERIA	11051 NAOMI DRIVE, PARMA, OH 4413
WETZEL	PROCTOR	12-7-30	LINDA RYBOSKI	53710 QUIMBY AVENUE BRIDGEPORT, OH 43912
WETZEL	PROCTOR	12-7-30	LISA THAXTON DICKENS	48 HAFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-30	MARJORIE ALTMAN	2870 SAN PAEIL STREET JACKSONVILLE, FL 32246
WETZEL	PROCTOR	12-7-30	MARY L THAXTON	47 HAFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-30	GERALDINE HAWKINS	534 CASCADE COURT MAHWAH, NJ 07430
WETZEL	PROCTOR	12-7-30	SANDRA EKELS	7373 SHERMAN CHURCH AVE SW LOT 312 EAST SPARTA, OH 44626
WETZEL	PROCTOR	12-7-30	SARAH THAXTON	48 HAFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-30	SHAWN POULAIN	97 GLENWOOD HTS MANSFIELD, OH 44903
WETZEL	PROCTOR	12-7-30	UNKNOWN & UNLOCATABLE HEIRS OF CARRIE HAFER LITTLE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-30	UNKNOWN & UNLOCATABLE HEIRS OF EVA HAFER	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-30	TRUSTEES OF ST ANDREW PRESBYTERIAN	246 S. PINCH ROAD ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-31	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-7-31	BILL ANTILL	3276 WARREN ROAD, APT 2 CLEVELAND, OH 44111
WETZEL	PROCTOR	12-7-31	CHARLOTTE S BURGAN	7613 WHEAT FALL CT. DERWOOD, MD 20855-1168
WETZEL	PROCTOR	12-7-31	DAVIS FAMILY REVOCABLE TRUST DATED 2/22/95	9547 W COUNTRY CLUB DR SUN CITY, AZ 85373
WETZEL	PROCTOR	12-7-31	JAMES B HAWKINS	18 MARLPIT PLACE MIDDLETOWN, NJ 07748
WETZEL	PROCTOR	12-7-31	JOHN HAFER THAXTON	50 N PINCH ROAD ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31	JOYCE RHODES	8714 SW 60TH CIR OCALA, FL 34476
WETZEL	PROCTOR	12-7-31	UNKNOWN & UNLOCATABLE HEIRS OF LARRY ANTILL	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31	LINDA RIVERIA	11051 NAOMI DRIVE, PARMA, OH 4413

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Operator's within 500' of Well Boreholes

4710303595

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WETZEL	PROCTOR	12-7-31	LINDA RYBOSKI	53710 QUIMBY AVENUE BRIDGEPORT, OH 43912
WETZEL	PROCTOR	12-7-31	LISA THAXTON DICKENS	48 HAFFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31	MARJORIE ALTMAN	2870 SAN PAEIL STREET JACKSONVILLE, FL 32246
WETZEL	PROCTOR	12-7-31	MARY L THAXTON	47 HAFFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31	GERALDINE HAWKINS	534 CASCADE COURT MAHWAH, NJ 07430
WETZEL	PROCTOR	12-7-31	SANDRA EKELS	7373 SHERMAN CHURCH AVE SW LOT 312 EAST SPARTA, OH 44626
WETZEL	PROCTOR	12-7-31	SARAH THAXTON	48 HAFFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31	SHAWN POULAIN	97 GLENWOOD HTS MANSFIELD, OH 44903
WETZEL	PROCTOR	12-7-31	UNKNOWN & UNLOCATABLE HEIRS OF CARRIE HAFFER LITTLE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31	UNKNOWN & UNLOCATABLE HEIRS OF EVA HAFFER	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31	TRUSTEES OF ST ANDREW PRESBYTERIAN	246 S. PINCH ROAD ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-32	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-32.1	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-23-9.1	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-23-14	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-7	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-8	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-8	TH EXPLORATION II LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-9	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-9	TH EXPLORATION II LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-10	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-10	TH EXPLORATION II LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-11	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107

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MARSHALL	FRANKLIN	5-26-11	TH EXPLORATION II LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-13	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-20	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-20	TH EXPLORATION II LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-21	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-21	TH EXPLORATION II LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-22	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-22	TH EXPLORATION II LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-23	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-23	TH EXPLORATION II LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107

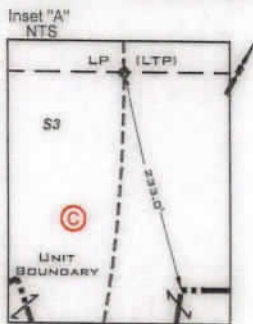
08/18/2023

(BH) 8,616'

(TH) 2,160'

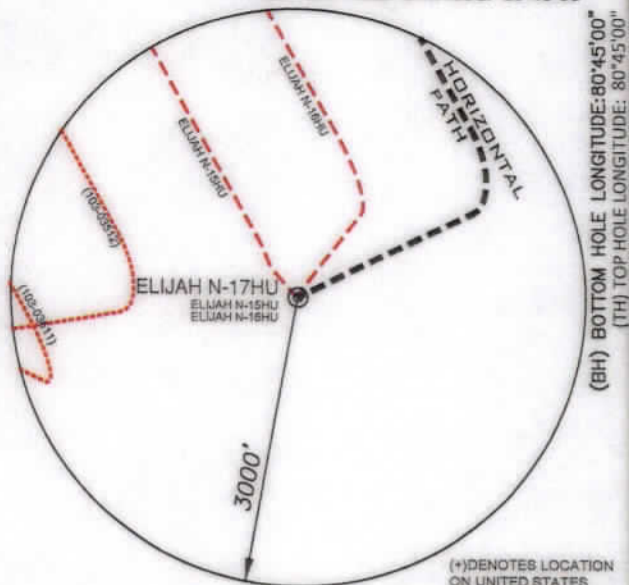
ELIJAH N-17HU UTICA UNIT - 488.9759± ACRES TUG HILL OPERATING, LLC

TOP HOLE LATITUDE: 39°42'30"
BOTTOM HOLE LATITUDE: 39°45'00"



LEGEND

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

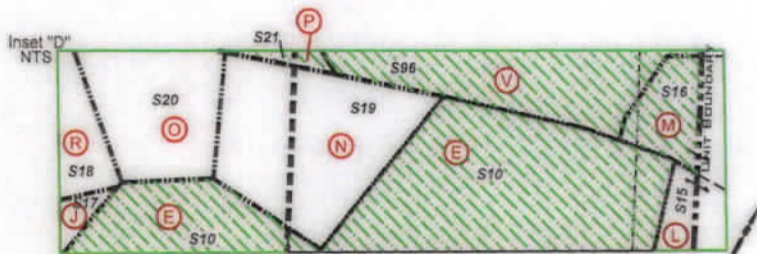


(BH) BOTTOM HOLE LONGITUDE: 80°45'00"
(TH) TOP HOLE LONGITUDE: 80°45'00"

(BH) 6,458'
(TH) 7,336'

NOTES

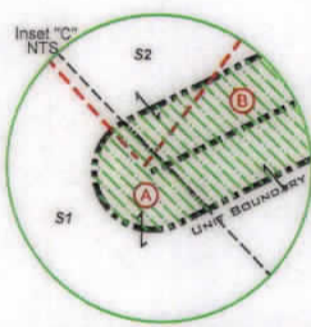
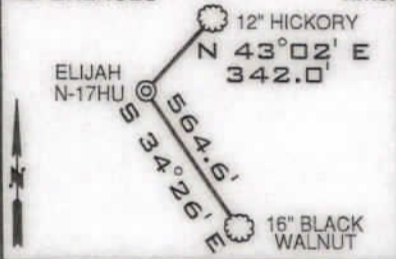
- BORE PATH BASED ON GRID NORTH.
- NO WATER WELLS WITHIN 250' OF WELL WERE FOUND, NO DWELLINGS WITHIN 625' OF PAD CENTER WERE FOUND.
- OWNERSHIP TAKEN FROM PUBLIC RECORDS OF WETZEL COUNTY, WV IN NOVEMBER, 2021. TAG TRACT OWNERSHIPS UPDATED IN MAY, 2023. COORDINATES AND WELL TIES BASED UPON DIFFERENTIAL GPS MEASUREMENTS.
- WELL LOCATION REFERENCES ARE BASED UPON THE MAGNETIC MERIDIAN.
- ALL DEEP WELLS WITHIN 1,000' ARE SHOWN ON THIS PLAT.
- BOUNDARIES ALONG ROADWAYS ARE BASED UPON MEMORANDUM BY DICKIE, MCCAMEY & CHILCOTE, P.C. FILE 0058304.0401147.
- LP & LTP ARE THE SAME POINT.



DETAIL SKETCH "A" N.T.S.

ELIJAH N-15HU
ELIJAH N-16HU
ELIJAH N-17HU

REFERENCES N.T.S.



SURFACE HOLE	
UTM. NAD83, ZONE 17 IN METERS	
N)	4,393,181.41
E)	520,795.60
LANDING POINT	
UTM. NAD83, ZONE 17 IN METERS	
N)	4,393,735.22
E)	521,333.86
BOTTOM HOLE	
UTM. NAD83, ZONE 17 IN METERS	
N)	4,398,071.64
E)	518,814.99

LINE	BEARING	DISTANCE
L1	N 80°56' W	1088.95'
L2	S 32°03' W	1851.49'
L3	N 63°52' E	2031.81'

CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH
C1	N 47°58' E	100.32'	208.26'	101.32'
C2	N 20°17' E	168.15'	357.54'	169.74'
C3	N 01°31' W	259.85'	764.41'	261.12'
C4	N 18°24' W	327.40'	1261.26'	328.32'
C5	N 27°11' W	109.78'	1579.09'	109.80'

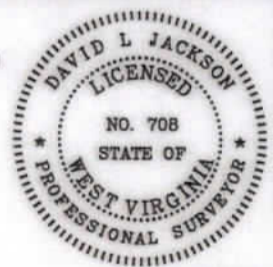
FILE NUMBER _____
DRAWING NUMBER: ELIJAH_N-17HU_REV1
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING
GRADE GPS

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

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: JULY 25, 2023

OPERATORS WELL NO. ELIJAH N-17HU
API WELL NO. _____

47-103-03595
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP X SHALLOW ___

LOCATION ELEVATION 1275.8' 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 TRUSTEES OF THE WILLIAM CROSS SUB TRUST; FBO CRISTA E KING, ET AL ACREAGE 19.75

OIL & GAS ROYALTY OWNER TRUSTEES OF THE WILLIAM CROSS SUB TRUST; FBO CRISTA E KING, ET AL LEASE ACREAGE 19.75

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

PLUG & ABANDON ___ CLEAN OUT & REPLUG ___

TARGET FORMATION POINT PLEASANT ESTIMATED DEPTH TVD: 11,834' TMD: 29,016'

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

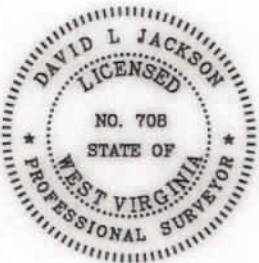
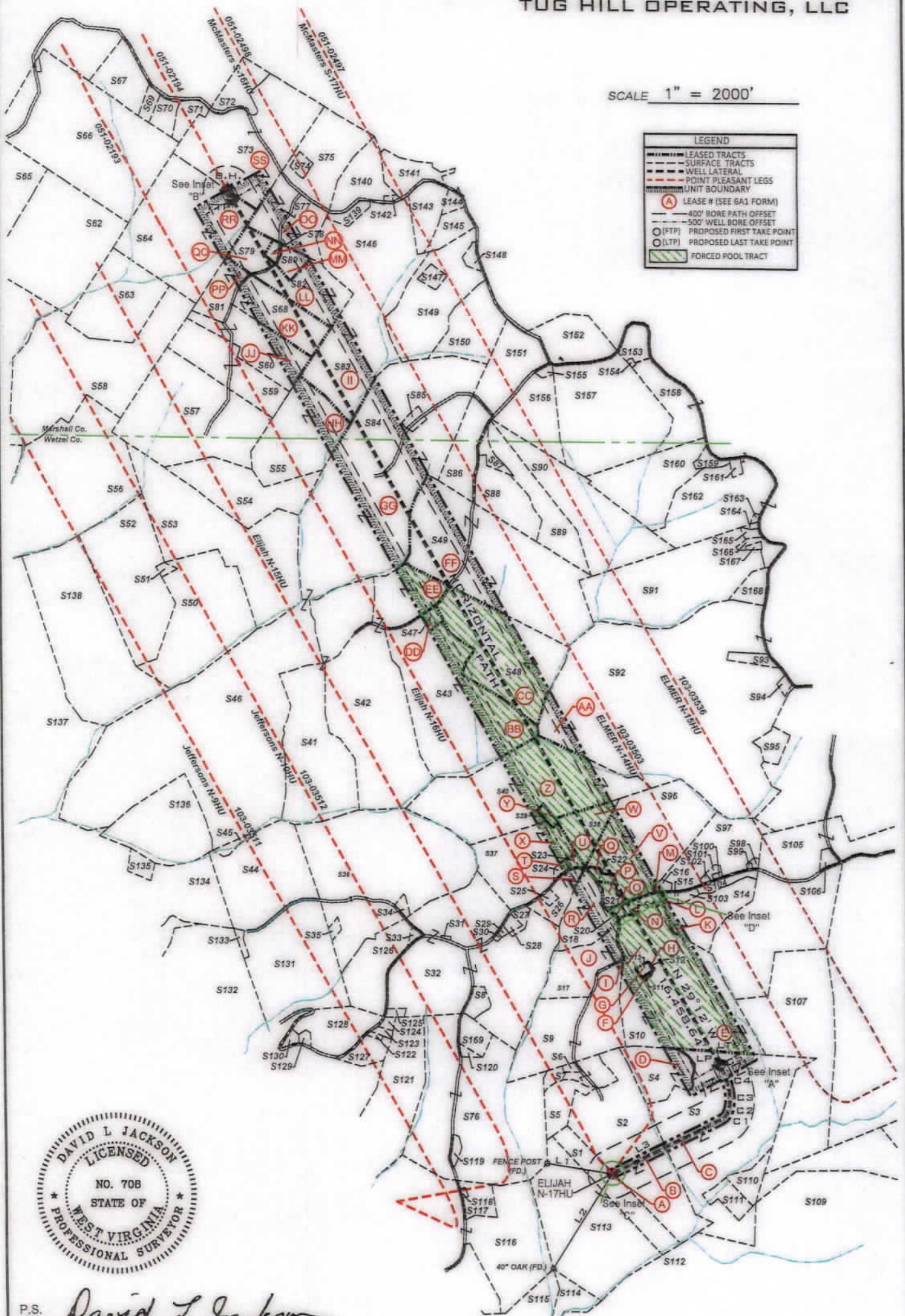
08/18/2023

ELIJAH N-17HU UTICA UNIT - 488.9759± ACRES TUG HILL OPERATING, LLC

SCALE 1" = 2000'

LEGEND

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



P.S. 708
David L Jackson

08/18/2023



TUG HILL
 OPERATING

OPERATOR'S
 WELL #: ELIJAH N-17HU
 DISTRICT: Proctor
 COUNTY: Wetzel
 STATE: WV
 API #: 47-103-

WELL PLAT
 PAGE 2 OF 4
 DATE: 07/25/2023

ELIJAH N-17HU UTICA UNIT - 488.9759± ACRES TUG HILL OPERATING, LLC

Parcels within Unit Boundary			
Tags	Number	Tax Map - Parcel	Surface Owner
A	51	12-7-30	TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHRISTA E KING; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO MATTHEW LOOKADOO; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO BETTY JEAN MAYFIELD; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO JAMES W SIMMS & LINDA J SIMMS; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO LINDA J SIMMS & TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHERYL JUNE ACREE
B	52	12-7-31	TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHRISTA E KING; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO MATTHEW LOOKADOO; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO BETTY JEAN MAYFIELD; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO JAMES W SIMMS & LINDA J SIMMS; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO LINDA J SIMMS & TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHERYL JUNE ACREE
C	53	12-7-32	CHARLES D. ROSE JR. ET AL;
D	54	12-7-32.1	CHARLES D. ROSE JR. ET AL;
E	510	12-7-22	WAYNE PAUL GODDARD
F	511	12-7-22.3	TIMOTHY ROGER FERGUSON
G	513	12-7-22.2	TIMOTHY ROGER FERGUSON
H	512	12-7-22.4	WAYNE PAUL GODDARD
I	59	12-7-21	ALENA & MICHAEL J. FAYAD III
J	517	12-7-9	MICHAEL J & ALENA R. FAYAD
K	514	12-7-13.1	WAYNE PAUL GODDARD
L	515	12-7-11	JOE R VILLER
M	516	12-2-22.2	DAVID A & MANDY L TRUEX
N	519	12-7-10	WAYNE PAUL GODDARD
O	520	12-7-22.1	NANCY C MURPHY - L/E; KARI KIM CLARK
P	521	12-2-22	MARY JOSEPHINE NICE
Q	522	12-2-22.3	DAVID A & KIMBERLY NICE
R	518	12-7-9.1	JAMES T EDDY
S	526	12-7-8.1	BRIAN & CHRISTINE L NICE
T	524	12-2-20.1	SHIRLEY L & KENNETH L HAUGHT
U	523	12-2-20.2	MICHAEL K COZART
V	596	12-2-22.1	DAVID A. NICE
W	538	12-2-21	MICHAEL KEN NETH & ROSETTA ANNETTE COZART
X	537	12-2-20	MICHAEL K & ROSETTA A COZART
Y	539	12-2-25	MICHAEL K. & ROSETTA A. COZART
Z	540	12-2-18	MICHAEL K. & ROSETTA A. COZART
AA	592	12-2-19	NICHOLAS M & ASHLEY GODDARD
BB	543	12-2-11	BERYLE MASON
CC	548	12-2-12	BERYLE MASON
DD	547	12-2-11.1	BERYLE MASON
EE	542	12-2-10	LAURA RICHARDS COOK
FF	549	12-2-13	JAY S. BOOTH; DANIEL T. BOOTH & DIANE BETH OVERDORFF
GG	584	5-26-12	MARJORIE ANN STONEKING - LIFE
HH	555	5-26-13	MARJORIE ANN STONEKING - LIFE
I	583	5-26-11	MARK A YOHO
JJ	560	5-26-10	THERESA H WALTON AS TRUSTEE OF THE ROBERT D & BONNIE L OLIVER TRUST
KK	568	5-26-09	THERESA H. WALTON AS TRUSTEE OF THE ROBERT D. & BONNIE L. OLIVER TRUST
LL	582	5-26-08	RICHARD JOSEPH OTTE
MM	580	5-26-20	RICHARD JOSEPH OTTE
NN	578	5-26-21	RICHARD JOSEPH OTTE
OO	577	5-23-9.1	JOHN W VAN ORDEN ET UX
PP	581	5-26-23	RICHARD JOSEPH OTTE
QQ	579	5-26-22	RICHARD JOSEPH OTTE
RR	564	5-26-7	DOMINION TRANSMISSION, INC
SS	573	5-23-14	DOMINION TRANSMISSION, INC

DAVID L JACKSON
LICENSED
NO. 708
STATE OF WEST VIRGINIA
PROFESSIONAL SURVEYOR

* FORCED POOLED TRACTS ARE HIGHLIGHTED

P.S. 708
David L Jackson

Adjoining Parcels Ownership Table		
Number	Tax Map - Parcel	Surface Owner
552	12-2-3	ROY YOHO
553	12-2-5	CLIFFORD W. & ALBERTA B. JOHNSON
554	12-2-6	CLIFFORD W. & ALBERTA B. JOHNSON
556	5-26-16	HEARTLAND FORESTLAND FUND VII LP
557	5-26-15	THERESA H WALTON AS TRUSTEE OF THE ROBERT D & BONNIE L OLIVER TRUST
558	5-26-17	HEARTLAND FORESTLAND FUND VII LP
559	5-26-14	THERESA H WALTON AS TRUSTEE OF THE ROBERT D & BONNIE L OLIVER TRUST
561	5-26-4.4	OTIS F & GLENDA M RUSH
562	5-26-5	MICHAEL J WILEY ET AL
563	5-26-6	HEARTLAND FORESTLAND FUND VII LP
565	5-26-2	EDWIN BOOTH ANDERSON & MARK W ANDERSON
566	5-23-26	MICHAEL J WILEY ET AL
567	5-23-17.2	DICK ROWAN JR
569	5-23-17.4	TAMMY D MEADOWS
570	5-23-17	TAMMY & THOMAS EBROWN
571	5-23-17.3	WILLIAM & KATHERINE FLEWELLING
572	5-23-15	VIRGINIA ETHEL HENRY EST
574	5-23-9.4	JACKSON R DAVIS JR
575	5-23-9.2	LINDA D GREATHOUSE
576	12-7-20	JEFFERY A. & PAULA J GOBBY
585	5-26-12.1	ALVIN F JR & KRISTEN R STONEKING
586	5-25-15	ROBERT S KELLER ET AL
587	12-2-14.3	QUENNA BENNETT
588	12-2-14.1	SAMMY J GREATHOUSE SR - LIFE
589	12-2-14.2	JOHN G JR & GERALDINE W ROGERS
590	12-2-14	DAVID L CUNNINGHAM
591	12-3-4.7	JOSEPH P & BARBARA A CAIN
592	12-3-12	ROONEY DEAN JACKSON
594	12-3-48	RONALD W. & JULIE A. NICE
595	12-3-13.1	ZACHARY L KIRKLAND
597	12-2-23	DAVID A. NICE
598	12-3-46	CATHY A PURPURA
599	12-3-27	CATHY A PURPURA
5100	12-2-23.1	KENNETH W. GODDARD
5101	12-2-23.3	KENNETH W. GODDARD
5102	12-7-23.4	SHARON HOWELL, ETAL: GLORIA A. NICE - L/E
5103	12-7-12	JOSEPH H. VILLERS
5104	12-3-26.1	JOSEPH MARK KLUIG
5105	12-8-1.1	R SHANNE & KATHRYN GODDARD
5106	12-8-1.2	JOSH GODDARD
5107	12-8-1	JL SHANE & KATHRYN GODDARD
5108	12-8-20.5	JOE MILLER, GERALD & SUE YEATER
5109	12-8-26	GERALD & SUE YEATER, & JOE B MILLER
5110	12-8-18	CHARLES D. ROSE JR ET AL; CHARLES & JUDITH ROSE - L/E
5111	12-7-33	CHARLES D. ROSE JR., ET AL: CHARLES & JUDITH ROSE - L/E
5112	12-7-50	CHARLES D. ROSE JR., ET AL: CHARLES & JUDITH ROSE - L/E
5113	12-7-29	TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHRISTA E KING; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO MATTHEW LOOKADOO; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO BETTY JEAN MAYFIELD; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO JAMES W SIMMS & LINDA J SIMMS; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO LINDA J SIMMS & TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHERYL JUNE ACREE
5114	12-12-46	TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHRISTA E KING; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO MATTHEW LOOKADOO; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO BETTY JEAN MAYFIELD; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO JAMES W SIMMS & LINDA J SIMMS; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO LINDA J SIMMS & TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHERYL JUNE ACREE
5115	12-7-45	TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHRISTA E KING; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO MATTHEW LOOKADOO; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO BETTY JEAN MAYFIELD; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO JAMES W SIMMS & LINDA J SIMMS; TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO LINDA J SIMMS & TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHERYL JUNE ACREE
5116	12-7-27	EDWARD H & JOAN E ESTEP
5117	12-7-27.1	EDWARD H & JOAN E ESTEP
5118	12-7-43	FURBER CEMETERY
5119	12-7-28	PALMER CEMETERY
5120	12-7-20.2	PETER R TAMBORELLO & ANNIS E PONIKVAR
5121	12-7-19	JEFFREY S UNDERWOOD & VELVET K PARKS
5122	12-7-15.5	JIMMY L & SHARON SUE COLVIN
5123	12-7-15.4	JIMMY L & SHARON SUE COLVIN
5124	12-7-18	ANTHONY M & ELIZABETH G PARKS
5125	12-7-7.6	WILLIAM E & GLENDA E KALFMAN
5126	12-7-5	MATTHEW D ARRICK
5127	12-7-15.6	JEFFREY S UNDERWOOD & VELVET K PARKS
5128	12-7-15.1	BILLY SWEENEY
5129	12-7-15.2	BILLY SWEENEY
5130	12-7-15.3	BILLY SWEENEY
5131	12-7-4.1	ROBERT JOSEPH COLEMAN
5132	12-7-3	MATTHEW ROSSI & WAYNE RASER
5133	12-7-59	TANNER KELLY
5134	12-7-3.2	LISA M NAEGELE
5135	12-2-15.1	VIVIAN A PARSON, ET AL
5136	12-2-16	LAURA LEE COOK
5137	12-1-20	CHARLES E FROHNAPFEL, TRUSTEE OF THE CHARLES E.
5138	12-7-2	RUBY WOOD, ET AL
5139	5-23-12	MARK A YOHO
5140	5-23-13	LINDA D GREATHOUSE
5141	5-23-11.4	EVELYN L HUDSON
5142	5-23-13.1	JAMES E & PAMELA J FERRELL
5143	5-23-11.3	COLIN R YOHO
5144	5-23-11.8	ROY F YOHO
5145	5-23-11.5	ZACHARY R STEVEY
5147	5-25-18.1	PAMELA JOAN FERRELL ET VXI
5148	5-25-19	JOSEPH JOHNSON ET UX
5149	5-25-18	JOSEPH JOHNSON ET UX, LIFE
5150	5-25-17	CRAIG & ASHLEY FERRELL
5151	5-25-16	CRAIG R & ASHLEY FERRELL
5152	5-25-14	ROY F YOHO
5153	5-25-13.2	DAVID A FLUG
5154	5-25-13.4	PARSONS CEMETERY
5155	5-25-16.2	ROONEY J LOY
5156	5-25-16.1	DAVID L CUNNINGHAM
5157	5-25-14.1	JUDITH L WEIGAND
5158	5-25-12	MARION PARSONS JR, ET AL
5159	5-25-11.1	EDWARD W & DIANA KLUIG
5160	5-25-11.4	EDWARD W KLUIG, ET UX
5161	12-3-44	JAMES A & JOCELYN ESTEP
5162	5-25-11.2	JAMES W KILGUS
5163	12-3-1	JAMES W KILGUS
5164	12-3-4.5	HAZEL M BLAIR
5165	12-3-4.6	STEVEN P WAYMAN
5166	12-3-4.3	JOSEPH P & BARBARA A CAIN
5167	12-3-4.8	ERRI HUBBS
5168	12-3-4.2	DEREK L BAUER
5169	12-7-20.1	PETER R TAMBORELLO & ANNIS E PONIKVAR

OPERATOR'S
WELL #: ELIJAH N-17HU

DISTRICT: Proctor

COUNTY: Wetzel

STATE: WV

API #: _____

WELL PLAT
PAGE 3 OF 4
DATE: 07/25/2023



08/18/2023

**ELIJAH N-17HU
UTICA UNIT - 488.9759± ACRES
TUG HILL OPERATING, LLC**

TAG	LEASE ID	TMP	GRANTOR, LESSOR, ETC.	DEED BOOK/PAGE	
A	**FORCE POOL**	12-7-30	BRC APPALACHIA MINERAL I LLC, ET AL	102A	505
B	**FORCE POOL**	12-7-31	BRC APPALACHIA MINERAL I LLC, ET AL	103A	320
C	10*31436	12-7-32	J R HUGGINS	56	465
D	10*31436	12-7-32.1	J R HUGGINS	56	465
E	**FORCE POOL**	12-7-22	APRIL D AMRHEIN, ET AL	NA	NA
F	10*41336	12-7-22.3	LARRY D GARNER, ET AL	313A	616
G	10*41336	12-7-22.2	LARRY D GARNER, ET AL	313A	616
H	10*41336	12-7-22.4	LARRY D GARNER, ET AL	313A	616
I	**FORCE POOL**	12-7-21	APRIL D AMRHEIN, ET AL	NA	NA
J	10*41336	12-7-9	LARRY D GARNER, ET AL	313A	616
K	10*31435	12-7-13.1	HENRY AND NANCY GARNER	55	394
L	10*31435	12-7-11	HENRY AND NANCY GARNER	55	394
M	**FORCE POOL**	12-2-22.2	THOMAS E GARNER, ET AL	255A	816
N	10*41336	12-7-10	LARRY D GARNER, ET AL	313A	616
O	10*41336	12-7-22.1	LARRY D GARNER, ET AL	313A	616
P	**FORCE POOL**	12-2-22	LARRY D GARNER, ET AL	255A	825
Q	**FORCE POOL**	12-2-22.3	LARRY D GARNER, ET AL	255A	825
R	10*41336	12-7-9.1	LARRY D GARNER, ET AL	313A	616
S	10*22570	12-7-8.1	BRIAN M NICE AND CHRISTINE NICE	209A	279
T	**FORCE POOL**	12-2-20.1	CHERYL ANN COCHRAN FKA CHERYL ANN RICHMOND, ET AL	173A	198
U	**FORCE POOL**	12-2-20.2	CHERYL ANN COCHRAN FKA CHERYL ANN RICHMOND, ET AL	173A	198
V	**FORCE POOL**	12-2-22.1	THOMAS E GARNER, ET AL	166A	436
W	**FORCE POOL**	12-2-21	CHERYL ANN COCHRAN, ET AL	173A	198
X	**FORCE POOL**	12-2-20	NOELS YOHO, ET AL	172A	608
Y	**FORCE POOL**	12-2-25	CHERYL ANN COCHRAN FKA CHERYL ANN RICHMOND, ET AL	173A	198
Z	**FORCE POOL**	12-2-18	CHERYL ANN COCHRAN FKA CHERYL ANN RICHMOND, ET AL	173A	198
AA	10*39464	12-2-19	ROBERT AND SARAH J COFFIELD, ET AL	55	216
BB	**FORCE POOL**	12-2-11	VICTORIA MCCLINTOCK, ET AL	143A	531
CC	**FORCE POOL**	12-2-12	MASTER MINERAL HOLDINGS II, LP, ET AL	NA	NA
DD	**FORCE POOL**	12-2-11.1	CARL GILBERT AND LANA R GILBERT	144A	331
EE	**FORCE POOL**	12-2-10	LIGHTNING CREEK HOLDINGS, LP, ET AL	NA	NA
FF	10*40304	12-2-13	DANIEL T BOOTH, ET AL	292A	309
GG	10*31441	5-26-12	JASON AND S M PARSONS	59	3
HH	10*29670	5-26-13	ALVIN F STONEKING JR	1100	97
II	10*14786	5-26-11	TWILA O WHIPKEY, ET AL	799	61
JJ	10*25626	5-26-10	CHESTNUT HOLDINGS INC, ET AL	1034	552
KK	10*14723	5-26-9	HERBERT D MINOR, ET AL	724	202
LL	10*14797	5-26-8	ORVILLE YOUNG, ET AL	800	598
MM	10*14722	5-26-20	HERBERT D MINOR, ET AL	724	200
NN	10*14722	5-26-21	HERBERT D MINOR, ET AL	724	200
OO	10*17189	5-23-9.1	ROBERT J HENRY	716	197
PP	10*14723	5-26-23	HERBERT D MINOR, ET AL	724	202
QQ	10*14722	5-26-22	HERBERT D MINOR, ET AL	724	200
RR	10*18343	5-26-7	DOMINION ENERGY TRANSMISSION INC	936	79
SS	10*18343	5-23-14	DOMINION ENERGY TRANSMISSION INC	936	79

■ *FORCED POOLED TRACTS ARE HIGHLIGHTED

08/18/2023



**TUG HILL
OPERATING**

OPERATOR'S
WELL #: ELIJAH N-17HU
DISTRICT: Proctor
COUNTY: Wetzel
STATE: WV
API #: _____

WELL PLAT
PAGE 4 OF 4
DATE: 07/25/2023

**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 
 Its: Permitting Specialist - Appalachia Region

Well No.	Effective Date	Owner	Operator	Acres	Mineral Interest	Surface Interest	Other	Notes
10*41335	12-7-22	E HENRY AND NANCY GARNER	J A PHILLIPS	1/8-	55	394	N/A	N/A
10*39146	12-7-22	E CHAD GONCHOFF	TH EXPLORATION LLC	1/8-	260A	472	N/A	N/A
10*39246	12-7-22	E CONNIE L COLVIN AND DUANE COLVIN	TH EXPLORATION LLC	1/8-	260A	845	N/A	N/A
10*39250	12-7-22	E STAR SUPERIOR AND ALLAN J SUPERIOR	TH EXPLORATION LLC	1/8-	261A	126	N/A	N/A
10*39365	12-7-22	E FERRY CURTIS HUGGINS	TH EXPLORATION LLC	1/8-	262A	662	N/A	N/A
10*40241	12-7-22	E SEAN P AND TAMMY M HUGGINS	TH EXPLORATION LLC	1/8-	262A	100	N/A	N/A
10*40351	12-7-22	E STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8-	282A	435	N/A	N/A
10*40389	12-7-22	E SHIRLEY UNDERWOOD A/J DANIEL WILLIAMS	TH EXPLORATION LLC	1/8-	290A	164	N/A	N/A
10*40565	12-7-22	E MICHAEL WILLIAM AND SHERRY STAMPER HALL	TH EXPLORATION LLC	1/8-	294A	159	N/A	N/A
10*40701	12-7-22	E CHERYL LYNN & DENNIS WAYNE DEPEW	TH EXPLORATION LLC	1/8-	296A	481	N/A	N/A
10*40786	12-7-22	E JEFFREY SCOTT & SHEILA KAREN HALL	TH EXPLORATION LLC	1/8-	298A	380	N/A	N/A
10*40869	12-7-22	E JAMIE BLINCO	TH EXPLORATION LLC	1/8-	300A	433	N/A	N/A
10*40956	12-7-22	E ROBERT W AND MARY M COFFIELD	TH EXPLORATION LLC	1/8-	303A	424	N/A	N/A
10*40967	12-7-22	E JASON A BLAKE AND ANNETTE BLAKE	TH EXPLORATION LLC	1/8-	303A	422	N/A	N/A
10*41014	12-7-22	E MELISSA UPDEGRAFF AND WILLIAM WYATT	TH EXPLORATION LLC	1/8-	302A	738	N/A	N/A
10*41049	12-7-22	E DANIEL GREATHOUSE	TH EXPLORATION LLC	1/8-	305A	233	N/A	N/A
10*41089	12-7-22	E STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8-	305A	239	N/A	N/A
10*41336	12-7-22	E LARRY D GARNER	ANTERO RESOURCES CORPORATION	1/8-	313A	616	N/A	N/A
10*41337	12-7-22	E THOMAS E GARNER	ANTERO RESOURCES CORPORATION	1/8-	313A	613	N/A	N/A
10*41452	12-7-22	E NICOLE CROOKS	TH EXPLORATION LLC	1/8-	317A	405	N/A	N/A
FORCE POOL	12-7-22	E APRIL D AMRHEIN	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E CANDACE KIMBLE	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E CINDY LOUI UPDEGRAFF	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E DEBRA KIMBLE	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E DONNA FOX	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E ELSE MILDREW	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E FRANKLIN D KIMBLE	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E FREDERICK W WILKERSON	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E HAROLD W HUGGINS	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E JAMES D UPDEGRAFF	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E JOHN E KIMBLE	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E JOHN MATTHEW HUGGINS SR	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E JOSEPH F SOBLOWSKY	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E JOYCE A MIDORE	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E LOIS J BOBO	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E MARK W UPDEGRAFF	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E MICHAEL A UPDEGRAFF	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E MICKY FOX	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E REVOCABLE INTER VIVOS TRUST ARGMT, TRUSTEE ALLEN	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E LLOYD PARSONS	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E RICHARD UPDEGRAFF	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E ROBIN KIMBLE	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E SHANE MURAVSKY	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E THE UNKNOWN HEIRS OF WILFORD W PARSONS	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E UNKNOWN DAUGHTER TINA OF LARRY ALLEN CROSS	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E UNKNOWN TWIN DAUGHTER OF LARRY ALLEN CROSS	UNLEASED	NA	NA	NA	N/A	N/A
FORCE POOL	12-7-22	E VICKIE BROWN	UNLEASED	NA	NA	NA	N/A	N/A
10*41336	12-7-10	N LARRY D GARNER	ANTERO RESOURCES CORPORATION	1/8-	313A	616	N/A	N/A
10*41337	12-7-10	N THOMAS E GARNER	ANTERO RESOURCES CORPORATION	1/8-	313A	613	N/A	N/A
FORCE POOL	12-2-22	P LARRY D GARNER	EQT PRODUCTION COMPANY	1/8-	255A	825	N/A	N/A
FORCE POOL	12-2-22	P THOMAS E GARNER	EQT PRODUCTION COMPANY	1/8-	255A	816	N/A	N/A
FORCE POOL	12-2-22.3	Q LARRY D GARNER	EQT PRODUCTION COMPANY	1/8-	255A	825	N/A	N/A
FORCE POOL	12-2-22.3	Q THOMAS E GARNER	EQT PRODUCTION COMPANY	1/8-	255A	816	N/A	N/A

FORCE POOL	12-2-18	Z	JAMIE LEE YOHO	ANTERO RESOURCES CORPORATION	1/8+	172A	153	Antero Resources Corporation to EQT Production Company: 231A/22		**FORCE POOL**													
FORCE POOL	12-2-18	Z	JAMIE D POTTS AND TISHA M POTTS	EQT PRODUCTION COMPANY	1/8+	249A	338			**FORCE POOL**													
FORCE POOL	12-2-18	Z	LAWRENCE E YOHO	ANTERO RESOURCES CORPORATION	1/8+	172A	503	Antero Resources Corporation to EQT Production Company: 231A/22		**FORCE POOL**													
FORCE POOL	12-2-18	Z	NOEL S YOHO	ANTERO RESOURCES CORPORATION	1/8+	172A	608	Antero Resources Corporation to EQT Production Company: 231A/22		**FORCE POOL**													
FORCE POOL	12-2-18	Z	RICHARD YOHO	ANTERO RESOURCES CORPORATION	1/8+	171A	840	Antero Resources Corporation to EQT Production Company: 231A/22		**FORCE POOL**													
FORCE POOL	12-2-18	Z	SHARON POTTS	ANTERO RESOURCES CORPORATION	1/8+	171A	498	Antero Resources Corporation to EQT Production Company: 231A/22		**FORCE POOL**													
FORCE POOL	12-2-18	Z	TAMMY JO EDGELL	EQT PRODUCTION COMPANY	1/8+	250A	884			**FORCE POOL**													
FORCE POOL	12-2-18	Z	THOMAS S YOHO	ANTERO RESOURCES CORPORATION	1/8+	172A	505	Antero Resources Corporation to EQT Production Company: 231A/22		**FORCE POOL**													
10*18336	12-2-11	BB	ED BROOME INC	TH EXPLORATION LLC	1/8+	198A	718	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22229	12-2-11	BB	MURIEL A MILLER	TH EXPLORATION LLC	1/8+	204A	150	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22230	12-2-11	BB	JOHN P SNYDER	TH EXPLORATION LLC	1/8+	204A	146	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23007	12-2-11	BB	JOHN M PARSONS & ANTOINETTE L COSTANTINO	TH EXPLORATION LLC	1/8+	209A	287	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23512	12-2-11	BB	VIVIAN A PARSONS	TH EXPLORATION LLC	1/8+	212A	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23824	12-2-11	BB	JAMES H PARSONS JR	TH EXPLORATION LLC	1/8+	215A	262	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24100	12-2-11	BB	ROME PRESBYTERIAN CHURCH OF PROCTORVILLE	TH EXPLORATION LLC	1/8+	216A	422	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24148	12-2-11	BB	ROY C PARSONS	TH EXPLORATION LLC	1/8+	212A	517	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24376	12-2-11	BB	WQ LEMON	TH EXPLORATION LLC	1/8+	218A	504	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24472	12-2-11	BB	ROY FRIEND YOHO	TH EXPLORATION LLC	1/8+	219A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*25359	12-2-11	BB	MASON A AND DENINA M BEGLEY	TH EXPLORATION LLC	1/8+	222A	468	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*25720	12-2-11	BB	CATHRA LYNN BEGLEY	TH EXPLORATION LLC	1/8+	223A	526	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*26574	12-2-11	BB	JACQUELINE R KOSKI	TH EXPLORATION LLC	1/8+	224A	505	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*26575	12-2-11	BB	ALANNA L HAMILTON	TH EXPLORATION LLC	1/8+	224A	502	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*26942	12-2-11	BB	SMERRY L FEE	TH EXPLORATION LLC	1/8+	226A	412	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27146	12-2-11	BB	IULIE P AND DOUGLAS A SIMMONS	TH EXPLORATION LLC	1/8+	228A	389	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27149	12-2-11	BB	MEL D PATTERSON JR & THERESA PATTERSON	TH EXPLORATION LLC	1/8+	228A	386	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27310	12-2-11	BB	CLARK E AND MALISSA D PATTERSON	TH EXPLORATION LLC	1/8+	228A	392	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*28421	12-2-11	BB	ROBERT G JEWELL	TH EXPLORATION LLC	1/8+	236A	838	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29189	12-2-11	BB	DWAYNE EARL BEGLEY	TH EXPLORATION LLC	1/8+	245A	373	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29327	12-2-11	BB	MICHAEL V AND LINDA D PARSONS	TH EXPLORATION LLC	1/8+	285A	567	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29899	12-2-11	BB	EDWARD A BROOME	TH EXPLORATION LLC	1/8+	273A	876	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*40367	12-2-11	BB	LAURA LEE RICHARDS COOK	TH EXPLORATION LLC	1/8+	289A	725	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*40391	12-2-11	BB	MASON ENERGY LLC	TH EXPLORATION LLC	1/8+	290A	190	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*40499	12-2-11	BB	ALLOALE MINERALS II LP	TH EXPLORATION LLC	1/8+	292A	937	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*41251	12-2-11	BB	HAMMETT LAND & MINERALS LLC	TH EXPLORATION LLC	1/8+	204A	182	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*41455	12-2-11	BB	JEFFREY MCGLONE	TH EXPLORATION LLC	1/8+	322A	459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*41456	12-2-11	BB	KELLY M MCGLONE	TH EXPLORATION LLC	1/8+	322A	456	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*43467	12-2-11	BB	STEVEN M AND ROSEMARIE MCGLONE	TH EXPLORATION LLC	1/8+	329A	229	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FORCE POOL	12-2-13	CC	MASTER MINERAL HOLDINGS II LP	UNLEASED	NA	NA	NA																
FORCE POOL	12-2-11	BB	CARRIE ELLEN MORSE	EQT PRODUCTION COMPANY	1/8+	219A	241																
FORCE POOL	12-2-11	BB	DOROTHY JOANNE HAAS	EQT PRODUCTION COMPANY	1/8+	212A	861																
FORCE POOL	12-2-11	BB	DOROTHY PIATT LEWIS	ANTERO RESOURCES CORPORATION	1/8+	175A	513	Antero Resources Corporation to EQT Production Company: 231A/22															
FORCE POOL	12-2-11	BB	DWG OIL & GAS ACQUISITIONS LLC	ANTERO RESOURCES CORPORATION	1/8+	187A	555	Antero Resources Corporation to EQT Production Company: 231A/22															
FORCE POOL	12-2-11	BB	JO ANDERSON COMBS	EQT PRODUCTION COMPANY	1/8+	219A	237																
FORCE POOL	12-2-11	BB	JOHN PHILLIP HOWSER	EQT PRODUCTION COMPANY	1/8+	219A	234																
FORCE POOL	12-2-11	BB	JOHN R WARWINSKY	TH EXPLORATION LLC	1/8+	327A	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FORCE POOL	12-2-11	BB	STONE HILL MINERALS HOLDINGS LLC	UNLEASED	NA	NA	NA																

WELL BORE PARCELS

FORCE POOL	12-2-12	CC	STONE HILL MINERALS HOLDINGS LLC	UNLEASED	NA	NA	NA			**FORCE POOL**
FORCE POOL	12-2-12	CC	KENNETH JAMES PARSONS	UNLEASED	NA	NA	NA			**FORCE POOL**
FORCE POOL	12-2-12	CC	LENDRA SHELTON	ANTERO RESOURCES CORPORATION	1/8-	175A	527	Antero Resources Corporation to EQT Production Company: 231A/22		**FORCE POOL**
FORCE POOL	12-2-12	CC	MONA LOU MOORE	ANTERO RESOURCES CORPORATION	1/8-	175A	519	Antero Resources Corporation to EQT Production Company: 231A/22		**FORCE POOL**
FORCE POOL	12-2-12	CC	PAM ISOM	UNLEASED	NA	NA	NA			**FORCE POOL**
FORCE POOL	12-2-12	CC	PATRICIA MAE SHRIVER	ANTERO RESOURCES CORPORATION	1/8-	175A	806	Antero Resources Corporation to EQT Production Company: 231A/22		**FORCE POOL**
FORCE POOL	12-2-12	CC	REBECCA J HARRELL AKA REBECCA J ANTIBUS	UNLEASED	NA	NA	NA			**FORCE POOL**
FORCE POOL	12-2-12	CC	ROSE MARIE BARKER	ANTERO RESOURCES CORPORATION	1/8-	175A	509	Antero Resources Corporation to EQT Production Company: 231A/22		**FORCE POOL**
FORCE POOL	12-2-12	CC	SHANNON HEMINGWAY	UNLEASED	NA	NA	NA			**FORCE POOL**
FORCE POOL	12-2-12	CC	TERRY W GILBERT	STONE ENERGY CORPORATION	1/8-	144A	325	Stone Energy Corp to EQT Production Company: 183A/305		**FORCE POOL**
FORCE POOL	12-2-12	CC	VICTORIA MCCLINTOCK	STONE ENERGY CORPORATION	1/8-	143A	531	Stone Energy Corp to EQT Production Company: 183A/305		**FORCE POOL**
10*27149	12-2-12	CC	NEIL D PATTERSON JR & THERESA PATTERSON	TH EXPLORATION LLC	1/8-	228A	176	N/A	N/A	N/A
10*18336	12-2-10	EE	LEO BROOME INC	TH EXPLORATION LLC	1/8-	198A	718	N/A	N/A	N/A
10*18256	12-2-10	EE	VANITA AND CORDOVA HOLDING COMPANY	TH EXPLORATION LLC	1/8-	188A	497	N/A	N/A	N/A
10*22219	12-2-10	EE	PAUL D MASON	TH EXPLORATION LLC	1/8-	202A	834	N/A	N/A	N/A
10*22229	12-2-10	EE	MURIEL A MILLER	TH EXPLORATION LLC	1/8-	204A	150	N/A	N/A	N/A
10*22230	12-2-10	EE	JOHN P SYNDER	TH EXPLORATION LLC	1/8-	204A	146	N/A	N/A	N/A
10*23207	12-2-10	EE	JOHN M PARSONS & ANTONETTE L COSTANTINO	TH EXPLORATION LLC	1/8-	209A	287	N/A	N/A	N/A
10*23266	12-2-10	EE	KEVIN P PARSONS	TH EXPLORATION LLC	1/8-	209A	225	N/A	N/A	N/A
10*23512	12-2-10	EE	VIVIAN A PARSONS	TH EXPLORATION LLC	1/8-	212A	59	N/A	N/A	N/A
10*23824	12-2-10	EE	JAMES H PARSONS JR	TH EXPLORATION LLC	1/8-	215A	262	N/A	N/A	N/A
10*24148	12-2-10	EE	BOY C PARSONS	TH EXPLORATION LLC	1/8-	212A	517	N/A	N/A	N/A
10*24376	12-2-10	EE	W/D LEMON	TH EXPLORATION LLC	1/8-	218A	504	N/A	N/A	N/A
10*24472	12-2-10	EE	BOY FRIEND YONG	TH EXPLORATION LLC	1/8-	219A	3	N/A	N/A	N/A
10*24620	12-2-10	EE	CORI D MASON	TH EXPLORATION LLC	1/8-	211A	854	N/A	N/A	N/A
10*24683	12-2-10	EE	OREY W DAVIS JR	TH EXPLORATION LLC	1/8-	220A	23	N/A	N/A	N/A
10*24732	12-2-10	EE	JEFFREY SMITH AND LESLIE SMITH	TH EXPLORATION LLC	1/8-	220A	44	N/A	N/A	N/A
10*24754	12-2-10	EE	WILLIAM M GREENE	TH EXPLORATION LLC	1/8-	222A	44	N/A	N/A	N/A
10*24755	12-2-10	EE	JOHNNY P GREENE	TH EXPLORATION LLC	1/8-	471	272A	N/A	N/A	N/A
10*25013	12-2-10	EE	KENNETH WAYNE & LANA FRETZ MASON	TH EXPLORATION LLC	1/8-	221A	311	N/A	N/A	N/A
10*25014	12-2-10	EE	RICHARD JOSEPH & VICKY ANN MASON	TH EXPLORATION LLC	1/8-	221A	307	N/A	N/A	N/A
10*25334	12-2-10	EE	LISA SUTPHIN	TH EXPLORATION LLC	1/8-	222A	123	N/A	N/A	N/A
10*29243	12-2-10	EE	HARRY L WILLIAMS AND ROBERTA L WILLIAMS	TH EXPLORATION LLC	1/8-	246A	693	N/A	N/A	N/A
10*29273	12-2-10	EE	LILLIAN GALLAGHER	TH EXPLORATION LLC	1/8-	246A	917	N/A	N/A	N/A
10*39899	12-2-10	EE	EDWARD A BROOME	TH EXPLORATION LLC	1/8-	273A	876	N/A	N/A	N/A
10*40351	12-2-10	EE	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8-	282A	435	N/A	N/A	N/A
10*40367	12-2-10	EE	LAURA LEE RICHARDS COOK	TH EXPLORATION LLC	1/8-	289A	725	N/A	N/A	N/A
10*40391	12-2-10	EE	MASON ENERGY LLC	TH EXPLORATION LLC	1/8-	290A	160	N/A	N/A	N/A
10*40785	12-2-10	EE	ALICE J PRATKO	TH EXPLORATION LLC	1/8-	298A	391	N/A	N/A	N/A
10*41089	12-2-10	EE	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8-	305A	239	N/A	N/A	N/A
10*41250	12-2-10	EE	HAMMETT LAND & MINERALS LLC	TH EXPLORATION LLC	1/8-	204A	184	N/A	N/A	N/A
10*41497	12-2-10	EE	ALF T AND CHERYLANN MOORE	TH EXPLORATION LLC	1/8-	325A	233	N/A	N/A	N/A
10*41505	12-2-10	EE	VICKIE NOLAN	TH EXPLORATION LLC	1/8-	325A	464	N/A	N/A	N/A
10*41613	12-2-10	EE	AARON DAVIS	TH EXPLORATION LLC	1/8-	323A	317	N/A	N/A	N/A
FORCE POOL	12-2-10	EE	LIGHTNING CREEK HOLDINGS, LP	UNLEASED	NA	NA	NA			**FORCE POOL**
FORCE POOL	12-2-10	EE	DANNY DAVIS JR AND JENNIFER DAVIS	STONE ENERGY CORPORATION	1/8-	143A	527	Stone Energy Corp to EQT Production Company: 183A/305		**FORCE POOL**
FORCE POOL	12-2-10	EE	DOROTHY JOANNE HAAS	EQT PRODUCTION COMPANY	1/8-	212A	861			**FORCE POOL**
FORCE POOL	12-2-10	EE	DWG OIL & GAS ACQUISITIONS LLC	ANTERO RESOURCES CORPORATION	1/8-	187A	555	Antero Resources Corporation to EQT Production Company: 231A/22		**FORCE POOL**
FORCE POOL	12-2-10	EE	KATHERINE J MCGUANE	STONE ENERGY CORPORATION	1/8-	143A	505	Stone Energy Corp to EQT Production Company: 183A/305		**FORCE POOL**

FORCE POOL	12-2-10	EE	STONE HILL MINERALS HOLDINGS LLC	UNLEASED	NA	NA	NA	**FORCE POOL**													
FORCE POOL	12-2-10	EE	BILLY IMASON SULLIVAN AKA BILLY J SULLIVAN	UNLEASED	NA	NA	NA	**FORCE POOL**													
10*40304	12-2-13	FF	DANIEL F BOOTH	TH EXPLORATION LLC	1/8+	292A	309	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10*40455	12-2-13	FF	ERIC JAY BOOTH	TH EXPLORATION LLC	1/8+	292A	307	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10*40490	12-2-13	FF	DIANE BETH OVERDORFF	TH EXPLORATION LLC	1/8+	292A	305	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10*31441	5-26-12	GG	JASON AND S M PARSONS	SOUTH PENN OIL COMPANY	1/8+	59	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	South Penn Oil Company to Tri-State Gas Company: 80/150	Tri-State Gas Company to The Manufacturers Light & Heat Company: 244/373	The Manufacturers Light & Heat Company to Hundred Gas Company: 401/89	Duane M Snider dba Hundred Gas Company to Carl D Perkins: 451/168	Carl D Perkins to Perkins Oil and Gas Inc: 583/72	Perkins Oil & Gas Inc to TH Exploration LLC: 46/190
10*14786	5-26-11	II	TWILA O WHIPKEY	GASTAR EXPLORATION USA INC	1/8+	799	61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			Gastar Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Name Change - Gastar Exploration USA Inc to Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563
10*14792	5-26-11	II	TIMOTHY YOHO	GASTAR EXPLORATION USA INC	1/8+	799	536	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			Gastar Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Name Change - Gastar Exploration USA Inc to Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563
10*14797	5-26-11	II	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8+	800	598	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			Gastar Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Name Change - Gastar Exploration USA Inc to Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563
10*14822	5-26-11	II	ONWARD E BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	463	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/144	Name Change - Gastar Exploration USA Inc to Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563
10*14823	5-26-11	II	SARAH L BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/144	Name Change - Gastar Exploration USA Inc to Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563
10*14969	5-26-11	II	REBECCA S WORD	GASTAR EXPLORATION USA INC	1/8+	872	219	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/119	Name Change - Gastar Exploration USA Inc to Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563
10*14970	5-26-11	II	GRACE EXLINE	GASTAR EXPLORATION USA INC	1/8+	872	623	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/119	Name Change - Gastar Exploration USA Inc to Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563
10*17195	5-26-11	II	PATRICIA HARTMAN	GASTAR EXPLORATION USA INC	1/8+	695	317	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256
10*17196	5-26-11	II	DELBERT R. MONTGOMERY	GASTAR EXPLORATION USA INC	1/8+	695	311	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256
10*17197	5-26-11	II	GLORIA L SIMMONS HAROLD SIMMONS	GASTAR EXPLORATION USA INC	1/8+	695	313	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256
10*17199	5-26-11	II	PAMELA L DRAZIC AND JEFFREY DRAZIC	GASTAR EXPLORATION USA INC	1/8+	695	315	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256

10*17200	5-26-11	II	STEPHANIE L BATES	GASTAR EXPLORATION USA INC	1/8-	697	156	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256
10*17201	5-26-11	II	DENISE A GALE	GASTAR EXPLORATION USA INC	1/8-	697	395	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256
10*17202	5-26-11	II	JANE GALE	GASTAR EXPLORATION USA INC	1/8-	697	385	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256
10*17203	5-26-11	II	BARRY RAY MOORE	GASTAR EXPLORATION USA INC	1/8-	697	387	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256
10*17204	5-26-11	II	CLARENCE RICHARD ZESIGER & MARY ZESIGER	GASTAR EXPLORATION USA INC	1/8-	697	391	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256
10*17206	5-26-11	II	M VIRGINIA & EDWARD C MARSH	GASTAR EXPLORATION USA INC	1/8-	697	399	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256
10*17207	5-26-11	II	DEBORAH K. KUMASZEWSKI FRANK KLIMASZEWSKI, SR.	GASTAR EXPLORATION USA INC	1/8-	697	389	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256
10*17210	5-26-11	II	MARILYN NOEL	GASTAR EXPLORATION USA INC	1/8-	697	393	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256
10*17211	5-26-11	II	GARY WAYNE ZESIGER & VITORINA ZESIGER	GASTAR EXPLORATION USA INC	1/8-	697	397	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256

Well ID	Acq Date	Acq Type	Operator	TH Exploration LLC	1/8-	1008	330	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23372	5-26-11	II	DEWEY A MILICIA	TH EXPLORATION LLC	1/8-	988	429	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23373	5-26-11	II	DANA MILICIA HUMPHREYS	TH EXPLORATION LLC	1/8-	1008	316	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23446	5-26-11	II	NICOLETTA MILICIA BLOODWORTH	TH EXPLORATION LLC	1/8-	1010	359	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23669	5-26-11	II	LINDA K TOTTEN AND JERRY STEPHEN TOTTEN	TH EXPLORATION LLC	1/8-	1020	193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24002	5-26-11	II	CHARLES SIBURT AND PAULA SIBURT	TH EXPLORATION LLC	1/8-	1024	285	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24291	5-26-11	II	MARY MARTHA BELLE DOYLE	TH EXPLORATION LLC	1/8-	1021	122	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24491	5-26-11	II	DENISE A GALE	TH EXPLORATION LLC	1/8-	1027	103	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24890	5-26-11	II	DEBRA JANE GALE	TH EXPLORATION LLC	1/8-	1027	97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*25065	5-26-11	II	COLBY G WOOD	TH EXPLORATION LLC	1/8-	1034	548	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*25066	5-26-11	II	RODGER A HENDERSON JR	TH EXPLORATION LLC	1/8-			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*25627	5-26-11	II	CHESTNUT HOLDINGS INC	TH EXPLORATION LLC	1/8-			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27078	5-26-11	II	CECILIA D NEWLAND	GASTAR EXPLORATION USA INC	1/8-	697	381	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27085	5-26-11	II	DAPHNE HUFFMAN AND CHARLES HUFFMAN	GASTAR EXPLORATION USA INC	1/8-	697	383	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27086	5-26-11	II	DONALD R NEWLAND AND SUZANNE NEWLAND	GASTAR EXPLORATION USA INC	1/8-	698	639	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27714	5-26-11	II	PIKEWOOD ENERGY CORPORATION AN OHIO CORPORATION	TH EXPLORATION LLC	1/8-	1060	572	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27959	5-26-11	II	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8-	1063	594	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*14723	5-26-9	KK	HERBERT D MINOR	TRIENERGY HOLDINGS, LLC	1/8-	724	202	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*14816	5-26-9	KK	DWG OIL AND GAS ACQUISITIONS LLC	STONE ENERGY CORPORATION	1/8-	787	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*14797	5-26-9	KK	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8-	800	598	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18681	5-26-9	KK	RICHARD WHITE II & GLORIA J WHITE	TH EXPLORATION LLC	1/8-	936	133	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18757	5-26-9	KK	CLAUDIA R SCHEEHLE	TH EXPLORATION LLC	1/8-	938	464	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18758	5-26-9	KK	SHIRLEY M DORSEY AND WILLIAM DORSEY	TH EXPLORATION LLC	1/8-	938	466	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18759	5-26-9	KK	SHARON E YOHO	TH EXPLORATION LLC	1/8-	938	472	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18947	5-26-9	KK	CHARLES ROBERT MYERS	TH EXPLORATION LLC	1/8-	940	129	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19719	5-26-9	KK	SHIRLEY K WHITE	TH EXPLORATION LLC	1/8-	944	581	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22410	5-26-9	KK	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8-	979	193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*25623	5-26-9	KK	CHESTNUT HOLDINGS INC	TH EXPLORATION LLC	1/8-	1034	556	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*14722	5-26-8	LL	HERBERT D MINOR	TRIENERGY HOLDINGS, LLC	1/8-	724	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*14816	5-26-8	LL	DWG OIL AND GAS ACQUISITIONS LLC	STONE ENERGY CORPORATION	1/8-	787	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*14797	5-26-8	LL	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8-	800	598	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18681	5-26-8	LL	RICHARD WHITE II & GLORIA J WHITE	TH EXPLORATION LLC	1/8-	936	133	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

10*18757	5-26-8	LL	CLAUDIA R SCHEEMLE	TH EXPLORATION LLC	1/8-	938	464	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10*18758	5-26-8	LL	SHIRLEY M DORSEY AND WILLIAM DORSEY	TH EXPLORATION LLC	1/8-	938	468	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10*18759	5-26-8	LL	SHARON E YOHO	TH EXPLORATION LLC	1/8-	938	472	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10*18947	5-26-8	LL	CHARLES ROBERT MYERS	TH EXPLORATION LLC	1/8-	940	429	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10*19719	5-26-8	LL	SHIRLEY K WHITE	TH EXPLORATION LLC	1/8-	944	581	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10*22410	5-26-8	LL	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8-	979	193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10*17779	5-26-8	LL	GARY DOBBS AND SUSAN DOBBS	TH EXPLORATION LLC	1/8-	938	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10*25629	5-26-8	LL	CHESTNUT HOLDINGS INC	TH EXPLORATION LLC	1/8-	1034	542	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10*17189	5-23-93	OO	ROBERT J HENRY	CHESAPEAKE APPALACHIA LLC	1/8-	716	197	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc. 29/325	Chesapeake Appalachia LLC to SWN Production Company LLC. 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC. 33/424	Merger - SWN LLC with and into SWN Production Company LLC. CB 13/296	Statoil USA Onshore Properties Inc to TH Exploration LLC. 41/238	SWN Production Company LLC to TH Exploration LLC. 41/256
10*14722	5-26-22	OQ	HERBERT D MINOR	TRIENERGY HOLDINGS, LLC	1/8-	728	300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	TriEnergy Holdings LLC to NPAR LLC. 25/463	NPAR LLC to Chevron USA Inc. 26/269	NPAR LLC to Chevron USA Inc. 758/307	Chevron USA Inc to Gastar Exploration Inc & Atinum Marcellus I LLC. 32/355	Gastar Exploration Inc to TH Exploration II LLC. 36/9	Atinum Marcellus I LLC to TH Exploration II LLC. 43/563	
10*14816	5-26-22	OQ	DWG OIL AND GAS ACQUISITIONS LLC	STONE ENERGY CORPORATION	1/8-	787	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Stone Energy Corporation to Gastar Exploration Inc & Atinum Marcellus I LLC. 31/113	Gastar Exploration Inc to TH Exploration II LLC. 36/9	Atinum Marcellus I LLC to TH Exploration II LLC. 43/563	
10*14797	5-26-22	OQ	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8-	800	598	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC. 806/1	Merger - Gastar Exploration USA Inc merged with and into Gastar Exploration Inc. ME 21/41	Gastar Exploration Inc to TH Exploration II LLC. 36/9	Atinum Marcellus I LLC to TH Exploration II LLC. 43/563
10*18681	5-26-22	OQ	RICHARD WHITE II & GLORIA J WHITE	TH EXPLORATION LLC	1/8-	936	133	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18757	5-26-22	OQ	CLAUDIA R SCHEEMLE	TH EXPLORATION LLC	1/8-	938	464	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18758	5-26-22	OQ	SHIRLEY M DORSEY AND WILLIAM DORSEY	TH EXPLORATION LLC	1/8-	938	468	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18759	5-26-22	OQ	SHARON E YOHO	TH EXPLORATION LLC	1/8-	938	472	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18947	5-26-22	OQ	CHARLES ROBERT MYERS	TH EXPLORATION LLC	1/8-	940	429	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*19719	5-26-22	OQ	SHIRLEY K WHITE	TH EXPLORATION LLC	1/8-	944	581	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22410	5-26-22	OQ	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8-	979	193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*17779	5-26-22	OQ	GARY DOBBS AND SUSAN DOBBS	TH EXPLORATION LLC	1/8-	938	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*25629	5-26-22	OQ	CHESTNUT HOLDINGS INC	TH EXPLORATION LLC	1/8-	1034	542	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18343	5-26-7	RR	DOMINION ENERGY TRANSMISSION INC	TH EXPLORATION LLC	1/8-	936	79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18343	5-23-14	SS	DOMINION ENERGY TRANSMISSION INC	TH EXPLORATION LLC	1/8-	936	79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

**MEMORANDUM OF CORRECTIVE PARTIAL ASSIGNMENT OF OIL AND GAS
LEASES**

STATE OF WEST VIRGINIA §
§
COUNTY OF WETZEL §

This **MEMORANDUM OF CORRECTIVE PARTIAL ASSIGNMENT OF OIL AND GAS LEASES** (hereinafter, the "Memorandum") is dated the 5th day of November, 2021, but effective for all purposes as of the 15th day of October, 2020 (the "Effective Date"), is made by and between **PERKINS OIL & GAS, INC.**, a West Virginia corporation, whose address is 2966 Northwest Turnpike, Pennsboro, West Virginia 26415 (hereinafter the "Assignor"), and **TH EXPLORATION, LLC**, a Texas limited liability company (hereinafter the "Assignee") whose address is 1320 South University Drive, Suite 500, Fort Worth, Texas 76107. Assignor and Assignee are sometimes referred to herein, collectively, as the "Parties" and, individually, as a "Party." This Memorandum is being executed for the purpose of providing notice to third parties of the execution of a certain Corrective Partial Assignment of Oil and Gas Leases (hereinafter, the "Corrective Assignment"), by and between the Parties.

WHEREAS, Assignor and Assignee desire to correct and replace that certain Partial Assignment of Oil and Gas Leases dated October 15, 2020, a memorandum of which is recorded in the Clerk's Office of Wetzel County, West Virginia, in Lease Book 251A, Page 463, as to those certain oil and gas leases located in Wetzel County, West Virginia, covering specific parcels and being more particularly described on Exhibit "A" attached hereto and made a part hereof (collectively, the "Oil and Gas Leases").

In the Corrective Assignment and this Memorandum dated effective as of the Effective Date, Assignor does hereby **GRANT, BARGAIN, SELL, CONVEY, TRANSFER and ASSIGN** unto Assignee, all right, title and interest in and to the Oil and Gas Leases **INSOFAR AND ONLY INSOFAR** as each lease and parcel covers those formations lying between two hundred (200) feet above and two hundred (200) feet below the formations commonly known to as the Utica/Point Pleasant Shale formations, or the stratigraphic equivalent thereof (such depths and formations being referred to as the "Assigned Formations"). The Assigned Formations are included with and part of the Assigned Rights as defined in the Corrective Assignment.

EXCLUDING THEREFROM AND EXCEPTING AND RESERVING UNTO THE ASSIGNOR, ITS SUCCESSORS AND ASSIGNS, THE OVERRIDING ROYALTY INTEREST, as defined in the Corrective Assignment.

The Corrective Assignment contains various other terms, provisions and conditions, all of which are incorporated herein by reference, and made a part hereof in all respects as though the same were fully set forth herein. To the extent that there are any inconsistencies between this Memorandum and the Corrective Assignment, the terms and provisions of the Corrective Assignment shall prevail.

Assignor does hereby bind itself and its successors and assigns to warrant and forever defend all and singular title to the Assigned Formations unto Assignee and Assignee's successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, by through, or under Assignor, but not otherwise.

This Memorandum is made expressly subject to the terms and conditions of the Purchase and Sale Agreement dated June, 24, 2020, by and between the Parties, all of which are fully incorporated herein by reference (the "Purchase Agreement").

This Memorandum may be executed in multiple counterparts, each of which shall be deemed an original instrument, but all such counterparts together shall constitute but one agreement.

MEMORANDUM OF PARTIAL ASSIGNMENT OF OIL AND GAS LEASES

STATE OF WEST VIRGINIA §
 §
COUNTY OF WETZEL §

This **MEMORANDUM OF PARTIAL ASSIGNMENT OF OIL AND GAS LEASES** (hereinafter, the "Memorandum") has been executed by and between **PERKINS OIL & GAS, INC.**, a West Virginia corporation, whose address is 2966 Northwest Turnpike, Pennsboro, West Virginia 26415 (hereinafter the "Assignor"), and **TH EXPLORATION, LLC**, a Texas limited liability company (hereinafter the "Assignee") whose address is 1320 South University Drive, Suite 500, Fort Worth, Texas 76107. Assignor and Assignee are sometimes referred to herein, collectively, as the "Parties" and, individually, as a "Party." This Memorandum is being executed for the purpose of providing notice to third parties of the execution of a certain Partial Assignment of Oil and Gas Leases (hereinafter, the "Assignment"), by and between the Parties.

WHEREAS, Assignor is the current owner and lessee of certain oil and gas leases located in Wetzel County, West Virginia, covering specific parcels and being more particularly described on **Exhibit "A"** attached hereto and made a part hereof (collectively, the "Oil and Gas Leases").

In the Assignment dated effective as of the 15th day of October, 2020 (hereinafter, the "Effective Date") and this Memorandum, Assignor does hereby **GRANT, BARGAIN, SELL, CONVEY, TRANSFER and ASSIGN** unto Assignee, all right, title and interest in and to the Oil and Gas Leases **INSOFAR AND ONLY INSOFAR** as each lease and parcel covers those formations lying between two hundred (200) feet above and two hundred (200) feet below the formations commonly known to as the Utica/Point Pleasant Shale formations, or the stratigraphic equivalent thereof (such depths and formations being referred to as the "Assigned Formations"). The Assigned Formations are included with and part of the Assigned Rights as defined in the Assignment.

EXCLUDING THEREFROM AND EXCEPTING AND RESERVING UNTO THE ASSIGNOR, ITS SUCCESSORS AND ASSIGNS, THE OVERRIDING ROYALTY INTEREST, as defined in the Assignment.

The Assignment contains various other terms, provisions and conditions, all of which are incorporated herein by reference, and made a part hereof in all respects as though the same were fully set forth herein. To the extent that there are any inconsistencies between this Memorandum and the Assignment, the terms and provisions of the Assignment shall prevail.

Assignor does hereby bind itself and its successors and assigns to warrant and forever defend all and singular title to the Assigned Formations unto Assignee and Assignee's successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, by through, or under Assignor, but not otherwise.

This Memorandum is made expressly subject to the terms and conditions of the Purchase and Sale Agreement dated June, 24, 2020, by and between the Parties, all of which are fully incorporated herein by reference (the "Purchase Agreement").

This Memorandum may be executed in multiple counterparts, each of which shall be deemed an original instrument, but all such counterparts together shall constitute but one agreement.

[TWO SIGNATURE PAGES TO FOLLOW]

MEMORANDUM OF PARTIAL ASSIGNMENT OF OIL AND GAS LEASES

STATE OF WEST VIRGINIA §
 §
COUNTY OF MARSHALL §

This **MEMORANDUM OF PARTIAL ASSIGNMENT OF OIL AND GAS LEASES** (hereinafter, the "Memorandum") has been executed by and between **PERKINS OIL & GAS, INC.**, a West Virginia corporation, whose address is 2966 Northwest Turnpike, Pennsboro, West Virginia 26415 (hereinafter the "Assignor"), and **TH EXPLORATION, LLC**, a Texas limited liability company (hereinafter the "Assignee") whose address is 1320 South University Drive, Suite 500, Fort Worth, Texas 76107. Assignor and Assignee are sometimes referred to herein, collectively, as the "Parties" and, individually, as a "Party." This Memorandum is being executed for the purpose of providing notice to third parties of the execution of a certain Partial Assignment of Oil and Gas Leases (hereinafter, the "Assignment"), by and between the Parties.

WHEREAS, Assignor is the current owner and lessee of certain oil and gas leases located in Wetzel County, West Virginia, covering specific parcels and being more particularly described on **Exhibit "A"** attached hereto and made a part hereof (collectively, the "Oil and Gas Leases").

In the Assignment dated effective as of the 15th day of October, 2020 (hereinafter, the "Effective Date") and this Memorandum, Assignor does hereby **GRANT, BARGAIN, SELL, CONVEY, TRANSFER and ASSIGN** unto Assignee, all right, title and interest in and to the Oil and Gas Leases **INSOFAR AND ONLY INSOFAR** as each lease and parcel covers those formations lying between two hundred (200) feet above and two hundred (200) feet below the formations commonly known to as the Utica/Point Pleasant Shale formations, or the stratigraphic equivalent thereof (such depths and formations being referred to as the "Assigned Formations"). The Assigned Formations are included with and part of the Assigned Rights as defined in the Assignment.

EXCLUDING THEREFROM AND EXCEPTING AND RESERVING UNTO THE ASSIGNOR, ITS SUCCESSORS AND ASSIGNS, THE OVERRIDING ROYALTY INTEREST, as defined in the Assignment.

The Assignment contains various other terms, provisions and conditions, all of which are incorporated herein by reference, and made a part hereof in all respects as though the same were fully set forth herein. To the extent that there are any inconsistencies between this Memorandum and the Assignment, the terms and provisions of the Assignment shall prevail.

Assignor does hereby bind itself and its successors and assigns to warrant and forever defend all and singular title to the Assigned Formations unto Assignee and Assignee's successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, by through, or under Assignor, but not otherwise.

This Memorandum is made expressly subject to the terms and conditions of the Purchase and Sale Agreement dated June, 24, 2020, by and between the Parties, all of which are fully incorporated herein by reference (the "Purchase Agreement").

This Memorandum may be executed in multiple counterparts, each of which shall be deemed an original instrument, but all such counterparts together shall constitute but one agreement.

[TWO SIGNATURE PAGES TO FOLLOW]

STATE OF WEST VIRGINIA §
 §
COUNTIES OF MARSHALL AND WETZEL §

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "**Assignment**") is made and entered into this 30th day of April, 2019 (the "**Effective Date**"), by and between **Atinum Marcellus I, LLC** (hereinafter "**Assignor**") and **TH Exploration II, LLC**, (hereinafter "**Assignee**" and, together with Assignor, the "**Parties**"). Capitalized terms used but not defined herein shall have the meanings commonly given to such terms in the industry.

WITNESSETH:

WHEREAS, Assignor desires to assign, set over, and transfer to Assignee all of Assignor's right, title, and interest in and to one hundred feet (100 ft.) above the formation commonly referred to as the Marcellus Shale formation down to one hundred feet (100 ft.) below the same, in those certain Oil and Gas Leases, or the portions of those certain Oil and Gas Leases, situated in Marshall and Wetzel Counties, West Virginia, as described in **Exhibit "A-1" and limited and described in Exhibit "A-2"**, attached hereto and made a part hereof. It being the Parties intention to assign all of Assignor's interest in each unit as described in Exhibit "A-1", including any changes, revisions, or amendments to the same, now or at any time in the future. (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 one hundred feet (100 ft.) above the formation commonly referred to as the Marcellus Shale formation down to one hundred feet (100 ft.) below the same, in the Leases, and the lands covered thereby, together with all rights incident thereto and appurtenances thereon. It being the Parties intention to assign all of Assignor's interest in each unit as described in Exhibit "A-1", including any changes, revisions, or amendments to the same, now or at any time in the future.

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 permits or easements, rights of way, surface leases and other rights with respect to surface operations that do not materially interfere with, impair or prohibit the operation of the affected Leases, hereinafter "**Permitted Encumbrances**") its interest in the Leases since the time that Assignor obtained its interests in the Leases. Assignor does covenant, promise and agree, to and with the

ASSIGNMENT AND CONVEYANCE

This Assignment and Conveyance (this "*Assignment*") is from SWN PRODUCTION COMPANY, LLC, a Texas limited liability company ("*Assignor*"), to TH Exploration, LLC, a Texas limited liability company ("*Assignee*"), and is executed on December 18, 2017 (the "*Effective Date*"). Assignor and Assignee may be referred to herein collectively as the "*Parties*," or individually as a "*Party*." Capitalized terms used herein but not otherwise defined herein (including in Section 3.7) shall have the meanings given such terms in that certain Acreage Trade Agreement between the Assignor and the Assignee dated August 24, 2017 (the "*Acreage Trade Agreement*").

**ARTICLE 1
ASSIGNMENT OF ASSETS**

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

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

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

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

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

Section 2.2 Disclaimers of Warranties and Representations.

(a) EXCEPT AS EXPRESSLY REPRESENTED OTHERWISE IN SECTION VI OF THE ACREAGE TRADE AGREEMENT OR THIS ASSIGNMENT, ASSIGNOR MAKES NO, AND HEREBY EXPRESSLY DISCLAIMS, ANY REPRESENTATION OR

ASSIGNMENT AND CONVEYANCE

This Assignment and Conveyance (this "*Assignment*") is from EQUINOR USA ONSHORE PROPERTIES, INC., a Delaware corporation ("*Assignor*"), to TH Exploration, LLC, a Texas limited liability company ("*Assignee*"), and is executed on June 18, 2019 (the "*Effective Date*"). Assignor and Assignee may be referred to herein collectively as the "*Parties*," or individually as a "*Party*." Capitalized terms used herein but not otherwise defined herein (including in Section 3.7) shall have the meanings given such terms in that certain Acreage Trade Agreement between the Assignor and the Assignee dated December 1, 2018 (the "*Acreage Trade Agreement*").

**ARTICLE 1
ASSIGNMENT OF ASSETS**

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

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

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

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

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

Section 2.2 Disclaimers of Warranties and Representations.

(a) EXCEPT AS EXPRESSLY REPRESENTED OTHERWISE IN SECTION VI OF THE ACREAGE TRADE AGREEMENT OR THIS ASSIGNMENT, ASSIGNOR MAKES NO, AND HEREBY EXPRESSLY DISCLAIMS, ANY REPRESENTATION OR WARRANTY, EXPRESS, IMPLIED OR STATUTORY, INCLUDING AS TO (I) TITLE TO THE LEASEHOLD RIGHTS, (II) THE CONTENTS, CHARACTER OR NATURE OF ANY DESCRIPTIVE MEMORANDUM, OR ANY REPORT OF ANY OF ITS PETROLEUM ENGINEERING CONSULTANTS, OR ANY GEOLOGICAL OR SEISMIC DATA OR INTERPRETATION, RELATING TO THE LEASEHOLD RIGHTS, (III) THE QUANTITY, QUALITY OR RECOVERABILITY OF PETROLEUM SUBSTANCES IN OR FROM THE LEASEHOLD RIGHTS, (IV) THE EXISTENCE OF ANY PROSPECT, OR ANY RECOMPLETION, INFILL OR STEP-OUT DRILLING OPPORTUNITIES, (V) ANY ESTIMATES OF THE VALUE OF THE LEASEHOLD RIGHTS, (VI) THE PRODUCTION OF PETROLEUM SUBSTANCES FROM THE LEASEHOLD RIGHTS, OR ANY PRODUCTION OR DECLINE RATES, (VII) THE MAINTENANCE, REPAIR, CONDITION, QUALITY, SUITABILITY, DESIGN OR MARKETABILITY OF THE LEASEHOLD RIGHTS, (VIII) INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT, AND (IX) ANY OTHER MATERIALS OR INFORMATION THAT MAY HAVE BEEN MADE AVAILABLE OR COMMUNICATED TO ASSIGNEE OR ITS AFFILIATES, OR ITS OR THEIR RESPECTIVE

ASSIGNMENT AND CONVEYANCE OF OIL AND GAS LEASES

STATE OF WEST VIRGINIA §
 §§
COUNTY OF WETZEL §

This Assignment and Conveyance of Oil and Gas Leases (this "*Assignment*"), dated effective as of February 17th, 2023, at 7:00 a.m. Central Time (the "*Effective Time*"), is made by **Antero Resources Corporation**, a Delaware corporation, whose address is 1615 Wynkoop Street, Denver, CO 80202 ("*Assignor*"), to **TH Exploration, LLC**, a Texas limited liability company, whose address is 1320 S. University Drive, Suite 500, Fort Worth, TX 76107 ("*Assignee*"). Assignor and Assignee are sometimes referred to herein together as the "*Parties*" and individually as a "*Party*."

WHEREAS, Assignor owns an undivided working interest in the Leases (as defined below).

WHEREAS, Assignor desire to assign to Assignee, and Assignee desires to accept such assignment of, the Leasehold Rights (as defined below), as more particularly described in this Assignment.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Assignor does hereby GRANT, BARGAIN, TRANSFER, ASSIGN and CONVEY to Assignee 100% of Assignor's right, title and interest in and to the following (in each case, less and except the Excluded Assets):

- (a) those oil and gas leases described in more detail on Exhibit A-Part I attached hereto, and further including the leasehold estates created thereby and all renewals, amendments, extensions and top leases thereof entered into prior to the Effective Time;
- (b) those oil and gas leases described on Exhibit A-Part II, insofar and only insofar as those lands expressly designated as "Conveyed Interests" on such Exhibit A-Part II (the oil and gas leases described on Exhibit A-Part I and Exhibit A-Part II, collectively, the "*Leases*", and 100% of Assignor's right, title and interest into the Leases, as so limited, the "*Leasehold Rights*"); and
- (c) the Records.

This Assignment is further made subject to the following:

- 1. **Assignment Subject to Trade Agreement.** This Assignment is made in accordance with and is subject to the terms, covenants and conditions contained in that certain Acreage Trade Agreement, dated February 17th, 2023, by and between Assignor and Assignee (as the same may be amended from time to time, the "*Trade Agreement*"). In the event of a conflict between the provisions of the Trade Agreement and this Assignment, the provisions of the Trade Agreement shall control. The execution and delivery of this Assignment by Assignor, and the execution and acceptance of this Assignment by Assignee, shall not operate to release or impair any surviving rights or obligations of Assignor or Assignee under the Trade Agreement. Capitalized terms used but not otherwise defined in this Assignment shall have the respective meanings given to such terms in the Trade Agreement.
- 2. **Assumption of Liabilities.** Subject to the terms of the Trade Agreement, effective as of the Effective Time, Assignee hereby acknowledges, assumes, and agrees to assume, pay, perform, fulfill and discharge the Antero Assumed Liabilities.



TUG HILL

4710303595

May 22, 2023

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

RE: Elijah N-17HU

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 89, CR 1/3 and CR 29/2 in the area reflected on the Elijah N-17HU well plat. THO has conducted a full title search in the relevant Court House to confirm its ownership under said County Route and is not currently aware of any recorded document that would suggest an ownership other than THO.

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

Sincerely,

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: 6/28/2023

API No. 47- 103 -
Operator's Well No. Elijah N-17HU
Well Pad Name: Elijah

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>520,795.60</u>
County:	<u>Wetzel</u>		Northing:	<u>4,393,181.41</u>
District:	<u>Proctor</u>	Public Road Access:	<u>Co. Rt. 89/2 - Hafer Road</u>	
Quadrangle:	<u>New Martinsville 7.5'</u>	Generally used farm name:	<u>William Cross, Jr. Irrevocable Trust</u>	
Watershed:	<u>French Creek - Ohio River (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:		OOG OFFICE USE ONLY
*PLEASE CHECK ALL THAT APPLY		
<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 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 checked="" type="checkbox"/> RECEIVED/ NOT REQUIRED
	<input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)	
<input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION		<input checked="" type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 5. PUBLIC NOTICE		<input checked="" type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		<input checked="" type="checkbox"/> RECEIVED

Required Attachments:

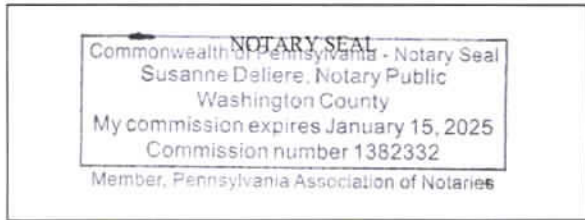
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication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

08/18/2023

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>[Signature]</i></u>		<u>Canonsburg, PA 15317</u>
Its:	<u>Permitting Specialist - Appalachia Region</u>	Facsimile:	<u></u>
Telephone:	<u>724-749-8388</u>	Email:	<u>amorris@tug-hillop.com</u>



Subscribed and sworn before me this 25th day of June, 2023.

[Signature] Notary Public

My Commission Expires 1/15/2025

Oil and Gas Privacy Notice:

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

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

4710303595

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

Date of Notice: 6/28/2023 Date Permit Application Filed: 6/29/2023

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: William C. Cross Irrev. Trust c/o Linda Simms ✓
Address: 531 Stewart Lane
Mount Clare, WV 26408

Name: _____
Address: _____

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

Name: _____
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: Consol Energy Inc. ✓
Address: 275 Technology Drive, Suite 101
Canonsburg, PA 15317

COAL OPERATOR
Name: _____
Address: _____

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

08/18/2023

4710303595

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

08/18/2023

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.

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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.**

08/18/2023

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. Elijah N-17HU
Well Pad Name: Elijah

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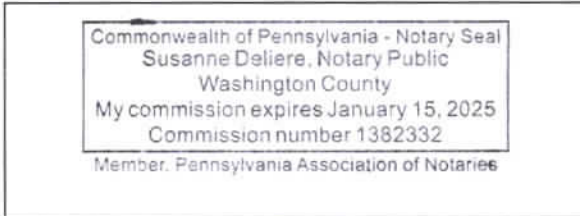
Notice is hereby given by:

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

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

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.



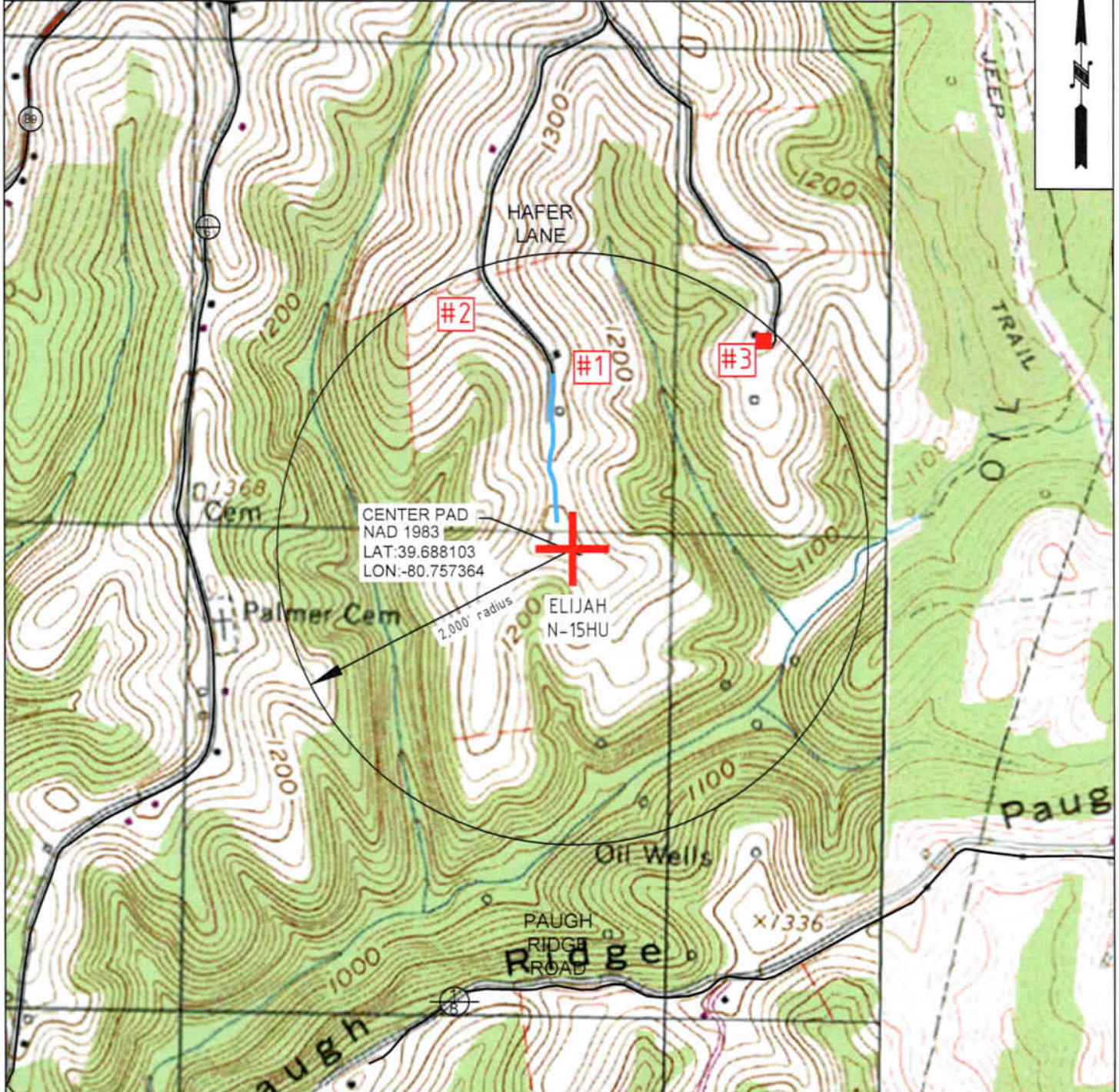
Subscribed and sworn before me this 28th day of June, 2023
Susanne Deliere Notary Public
My Commission Expires 1/15/2025

08/18/2023

Elijah Well Pad

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THERE APPEARS TO BE THREE (3) RESIDENCE & ZERO (0) BUSINESSES, CHURCHES, SCHOOLS, OR EMERGENCY FACILITIES WITHIN 1500'.



OPERATOR	494510851	TOPO SECTION	LEASE NAME
TUG HILL OPERATING, LLC 380 SOUTHPONTE BLVD SUITE 200 CANONSBURG, PA 15317		WILEYVILLE 7.5'	ELIJAH
		SCALE:	DATE:
		1" = 1000'	DATE: 12-16-2021

08/18/2023

RESIDENCES WITHIN 1 MILE OF ELIJAH WELL PAD				
WELL: Elijah				
DISTRICT: Proctor				
COUNTY: Wetzel				
STATE: WV				
	Topo Spot #	Description	Property Owner	Mailing Address
House/Cabin	#1	12-7-31	William C. Cross Irrev. Trust. c/o Linda Simms ✓	531 Stewart Lane Mount Clare, WV 26408
House/Cabin	#2	12-7-31.1	Fayad, Michael J, III & Alena R. ✓	460 N. Main St.; New Martinsville, WV 26155
House/Cabin	#3	12-7-32.1	Rose, Charles & Judith L/E; Charles D Rose et al ✓	702 Edgewood Ave.; Moundsville, WV 26041

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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least **TEN (10)** days prior to filing a permit application.

Date of Notice: 05/02/2023 **Date Permit Application Filed:** 06/01/2023

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

HAND DELIVERY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):

Name: William C. Cross Irrev. Trust c/o Linda Simms
Address: 531 Stewart Lane
Mount Clare, WV 26408

Name: _____
Address: _____

Notice is hereby given:

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

State: West Virginia UTM NAD 83 Easting: 520,795.60
County: Wetzel Northing: 4,393,181.41
District: Proctor Public Road Access: Hafer Road (CR 89/2)
Quadrangle: New Martinsville 7.5' Generally used farm name: William C. Cross Jr. Irrev. Trust
Watershed: Proctor Creek of French Creek - Ohio River (HUC 10)

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. 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.

Notice is hereby given by:

Well Operator: Tug Hill Operating, LLC
Address: 380 Southpointe Boulevard, Plaza II, Suite 200
Canonsburg, PA 15317
Telephone: 724-749-8388
Email: amorris@tug-hillop.com
Facsimile: _____

Authorized Representative: Darren Brown
Address: 5098 Washington Street W, Suite 407
Charleston, WV 25313-1561
Telephone: 877-467-3525
Email: ct-statecommunications@wolterskluwer.com
Facsimile: _____

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.

08/18/2023

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: 06/28/2023 **Date Permit Application Filed:** 06/29/2023

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: William C. Cross Irrev. Trust c/o Linda Simms
Address: 531 Stewart Lane
Mount Clare, WV 26408

Name: _____
Address: _____

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>520,795.60</u>
County:	<u>Wetzel</u>		Northing:	<u>4,393,181.41</u>
District:	<u>Proctor</u>	Public Road Access:	<u>Co. Rt. 89/2 - Hafer Road</u>	
Quadrangle:	<u>New Martinsville 7.5'</u>	Generally used farm name:	<u>William Cross, Jr. Irrevocable Trust</u>	
Watershed:	<u>French Creek - Ohio River (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: _____

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.

08/18/2023



4710303595

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways

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

Gregory L. Bailey, P.E.
Interim
State Highway Engineer

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

June 15, 2023

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 Elijah Pad, Wetzel County
Elijah N-17HU Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2021-0489 which has been issued to Tug Hill Operating for access to the State Road for a well site located off Wetzel County Route 89/2 SLS MP 0.67.

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 March 6, 2023. 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 Operations Engineer
Central Office O&G Coordinator

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



TUG HILL

4710303595

PLANNED ADDITIVES TO BE USED IN FRACTURING OR STIMULATION

Elijah Well Pad

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

OPERATOR: Tug Hill Operating, LLC

WELL NO: Elijah N-17HU

PAD NAME: Elijah

REVIEWED BY: Amy L. Morris

SIGNATURE: *Amy Morris*

WELL RESTRICTIONS CHECKLIST

HORIZONTAL 6A WELL

Well Restrictions



At Least 100 Feet from Pad and LOD (including any E&S Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland; OR

DEP Waiver and Permit Conditions



At Least 300 Feet from Pad and LOD (including any E&S Control Feature) to any Naturally Producing Trout Stream; OR

DEP Waiver and Permit Conditions



At Least 1000 Feet from Pad and LOD (including any E&S Control Feature) to any Groundwater Intake or Public Water Supply; OR

DEP Waiver and Permit Conditions



At Least 250 Feet from an Existing Water Well or Developed Spring to Well Being Drilled; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions



At Least 625 Feet from an Occupied Dwelling Structure to Center of the Pad; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions



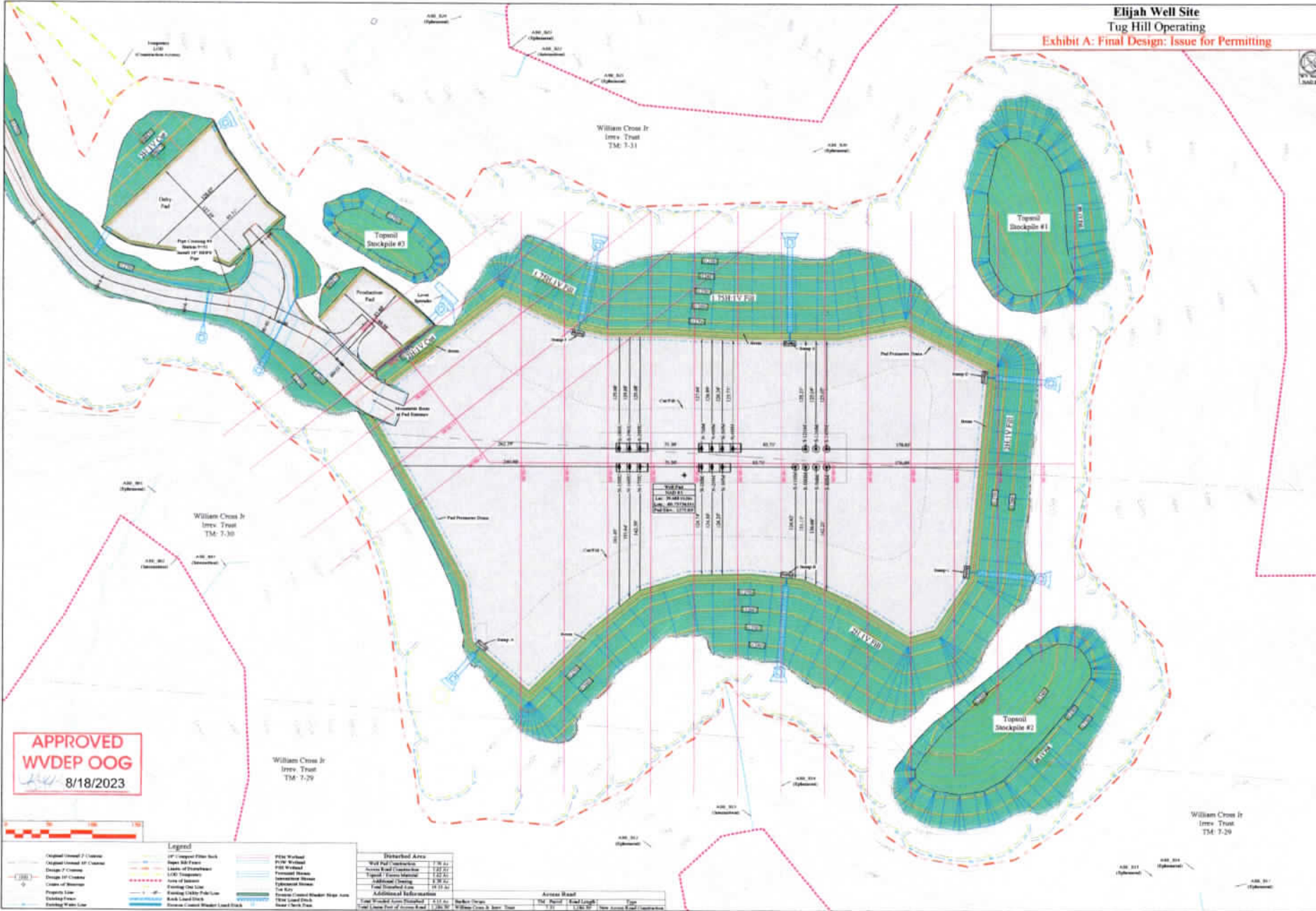
At Least 625 Feet from Agricultural Buildings Larger than 2500 Square Feet to the Center of the Pad; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

08/18/2023

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



APPROVED
WVDEP OOG
8/18/2023

Legend		Disturbed Area	
Original Contour of Contour	1" Contour Filter Bank	Well Pad Footprint	7.91.21
Design of Contour	Super 80 Fabric	Well Pad Footprint	7.91.22
Design of Contour	Leak of Stone/Gravel	Access Road Footprint	7.91.23
Design of Contour	Leak of Stone/Gravel	Topsoil/Erosion Material	7.91.24
Design of Contour	Leak of Stone/Gravel	Additional Footprint	7.91.25
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.26
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.27
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.28
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.29
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.30
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.31
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.32
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.33
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.34
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.35
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.36
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.37
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.38
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.39
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.40
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.41
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.42
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.43
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.44
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.45
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.46
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.47
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.48
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.49
Design of Contour	Leak of Stone/Gravel	Final Stockpile Footprint	7.91.50

TRUE DOCUMENT PREPARED FOR
TUG HILL OPERATING

Site Plan
Elijah Well Site
Precast District
Wetzel County, WV

Date: 01/08/2023
Scale: As Shown
Designed By: JH
File No:
Sheet 10 of 11