



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-16HU
47-103-03594-00-00

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-16HU
Farm Name: TRUSTEES OF THE WILLIAM 
U.S. WELL NUMBER: 47-103-03594-00-00
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 #47-103-03594

COMPANY: Tug Hill Operating, LLC

FARM: William Cross Jr. Irrevocable Trust Elijah N-16HU

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,

A handwritten signature in blue ink that reads "Susan Rose".
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-17HU 47-103-03595

08/18/2023

WW-6B
(04/15)

API NO. 47-103 - _____
OPERATOR WELL NO. Elijah N-16HU
Well Pad Name: Elijah

4710303594

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-16HU 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 11,534' - 11,653', thickness of 119' and anticipated pressure of approx. 7,500 psi.

8) Proposed Total Vertical Depth: 11,803'

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 28,061'

11) Proposed Horizontal Leg Length: 15,895.87'

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-16HU
 Well Pad Name: Elijah

4710303594

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#	10,528'	10,528'	3,439ft^3(CTS)
Production	5 1/2"	NEW	HCP110	23#	28,061'	28,061'	6,607ft^3(CTS)
Tubing	2 7/8"	NEW	P110	6.5#		11,422'	
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			

WW-6B
(10/14)

API NO. 47- 103 - _____
OPERATOR WELL NO. Elijah N-16HU
Well Pad Name: Elijah

4710303594

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

Drill through the Point Pleasant and TD Pilot Hole 150' into the Trenton. Log vertical section and run a solid cement plug back to proposed KOP (10,922'). 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 39,800,000 lb. proppant and 715,000 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

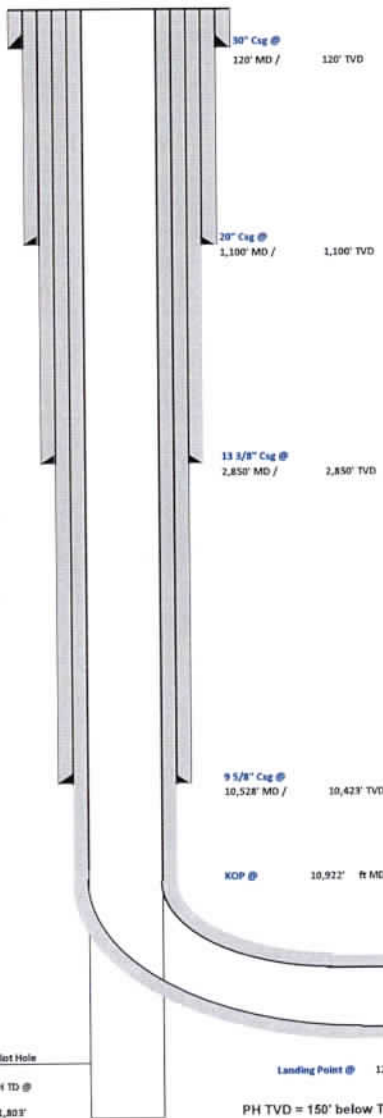
25) Proposed borehole conditioning procedures:

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-16HU
 STATE: WV COUNTY: Wetzel
 DISTRICT: Proctor
 OF Elev: 1,276' GL Elev: 1,276'
 TD: 28,061'
 TH Latitude: 39.68823909
 TH Longitude: -80.75750809
 BH Latitude: 39.730616
 BH Longitude: -80.784291



FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	990'
Sewickley Coal	890'
Pittsburgh Coal	984'
Big Lime	2,071'
Berea	2,713'
Tully	6,625'
Marcellus	6,706'
Onondaga	6,756'
Salina	7,394'
Lockport	8,521'
Utica	11,312'
Point Pleasant	11,534'
Landing Depth	11,584'
Trenton	11,653'
Pilot Hole TD	11,803'

CASING SUMMARY							
Type	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cement
Conductor	36	30	120'	120'	BW	BW	Surface
Surface	26	20	1,100'	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 3/4	9 5/8	10,528'	10,423'	47	HPP110	Surface
Production	8 1/2	5 1/2	28,061'	11,307'	21	HCP110	Surface

CEMENT SUMMARY				DRILLING DETAILS	
Type	Sacks	Class	Density (ppg)	Fluid Type	Centralizer Notes
Conductor	388	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	8,129	A	14.5	Air	1 Centralizer every other joint
Production	6,809	A	16.5	Air / SOBM	1 every other joint in lateral; 1 per joint in curve; 1 every other joint to surface

Pilot Hole
 PH TD @ 11,803'
 PH TVD = 150' below Trenton Top

Lateral TD @ 28,061' ft MD
 11,307' ft TVD

4710303594

4710303594



Tug Hill Operating, LLC Casing and Cement Program

Elijah N-16HU

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"	10,528'	CTS
Production	5 1/2"	HCP110	8 1/2"	28,061'	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

Area of Review

Sources of information to Support 35CSR8 - 5.11: 9.3 et seq.

Description of process to identify potential pathways for well communication during hydraulic fracturing activities.

Data Sources Reviewed:

1. Enverus and RS Energy Group Well Data service: Public nationwide data service that pulls directly from State agency Oil and Gas databases
2. Farm Maps
3. Topo Maps: Recent and older (contact WVGES)
4. Check with DPS

Contacted Adam Picard 724-485-9331, apicard@dpslandservices.com, DPS GIS (10/19/2021) to have him make maps of the wellbores with his information. DPS utilizes WVGES maps for their mapping seems it is the best publicly available. See attached map he provided.

Request maps for:

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

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

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

Wells within 500' Buffer

Note: Well spots depicted on Area of Review map are derived from State held coordinates. The spots may differ from those depicted on the Well Plat because the Plat locations represent actual field surveyed locations. Please refer to the Plat for surveyed well spots.

API Number	Operator Name	Total Depth	Perforated Fms	Producing zones not perforated	Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation	Comments
4710330135	Wiser Oil Company	1775' TVD	Maxton	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Well is plugged.	Well was plugged 5/18/1934.
4710371617	Hope Natural Gas Company	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.
4710331101	Manufacturers Light & Heat Co.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. Well is plugged.	Well was plugged 9/16/1960.
4710371606	Hope Natural Gas Company	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.

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
4710370533	Hope Natural Gas Company	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.
4705170365	Manufacturers Light & Heat Co.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.

4710303594

WV Geological & Economic Survey:

Well: County = 103 Permit = 30135

Report Time: Wednesday, October 20, 2021 11:21:06 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710330135	Wetzel	30135	Proctor	New Martinsville	New Martinsville	39.700146	-80.760139	520563.7	4394504.7

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
4710330135	2/1/1923	Original Loc	Completed	Pearl A Baxter	1				Pearl A Baxter et al	Wiser Oil Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOI
4710330135	2/1/1923	-/-	1222	Topo	Estimation	Cameron-Garner	Maxton	Maxton	Development Well	unclassified	Gas	Cable Tool	unknown	1775		1775

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4710330135	2/1/1923	Pay	Gas	Vertical	1775	Maxton		0	0	0			
4710330135	2/1/1923	Water	Salt Water	Vertical			1515	2nd Salt Sand					

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4710330135	Original Loc	unidentified coal	Well Record	360	Reasonable			1222	Topo Estimation
4710330135	Original Loc	Sewickley coal	Well Record	670	Reasonable			1222	Topo Estimation
4710330135	Original Loc	Pittsburgh coal	Well Record	760	Reasonable			1222	Topo Estimation
4710330135	Original Loc	Bufflo Ss/1st Cow Rn	Well Record	1170	Reasonable	30	Reasonable	1222	Topo Estimation
4710330135	Original Loc	Mahonig Ss/Big Dunk	Well Record	1295	Reasonable	8	Reasonable	1222	Topo Estimation
4710330135	Original Loc	1st Salt Sand	Well Record	1380	Reasonable	20	Reasonable	1222	Topo Estimation
4710330135	Original Loc	2nd Salt Sand	Well Record	1495	Reasonable	35	Reasonable	1222	Topo Estimation
4710330135	Original Loc	3rd Salt Sand	Well Record	1675	Reasonable	73	Reasonable	1222	Topo Estimation
4710330135	Original Loc	Maxton	Well Record	1775	Reasonable			1222	Topo Estimation

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

Plugging Information:

API	PLG_DT	DEPTH_PBT
4710330135	5/18/1934	0

4710303594

WV Geological & Economic Survey

Well: County = 103 Permit = 71617

Report Time: Wednesday, October 20, 2021 11:21:24 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710371617	Wetzel	71617	Proctor	New Martinsville	New Martinsville	39.699413	-80.759198	520644.6	4394423.6

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.
4710371617	-/-		unknown	Prpty Map Wilfred Garner		426				Hope Natural Gas Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BE	G_A
4710371617	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

4710303594

WV Geological & Economic Survey:

Well: County = 103 Permit = 31101

Report Time: Wednesday, October 20, 2021 11:21:39 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710331101	Wetzel	31101	Proctor	New Martinsville	New Martinsville	39.70498	-80.765021	520143.8	4395040.2

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_E
4710331101	-/-		Original Loc	Completed	Meshack YoHo	1	1264		3032				Manufacturers Light & Heat Co.

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G
4710331101	-/-	-/-	1364	Spirit Level				unclassified	unclassified	not available	unknown	unknown						

There is no Pay data for this well

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

There is no Stratigraphy data for this well

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

Plugging Information:

API	PLG_DT	DEPTH_PBT
4710331101	9/16/1960	0

4710303594

WV Geological & Economic Survey

Well: County = 103 Permit = 71606

Report Time: Wednesday, October 20, 2021 11:21:54 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710371606	Wetzel	71606	Proctor	New Martinsville	New Martinsville	39.705219	-80.766518	520015.4	4395066.2

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST.
4710371606	-/-		unknown	Prpty Map James Cozart				275		Hope Natural Gas Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_A
4710371606	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

WV Geological & Economic Survey

Well: County = 103 Permit = 70533

Report Time: Wednesday, October 20, 2021 11:22:09 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710370533	Wetzel	70533	Proctor	New Martinsville	New Martinsville	39.713246	-80.769528	519755.1	4395956.5

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
4710370533	-/-		Original Loc	Completed Maria Parsons				2		Hope Natural Gas Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_A
4710370533	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

4710303594

WV Geological & Economic Survey

Well: County = 51 Permit = 70365

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

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170365	Marshall	70365	Franklin	New Martinsville	New Martinsville	39 728306	-80 782846	518609 5	4397625 1

There is no Bottom Hole Location data for this well

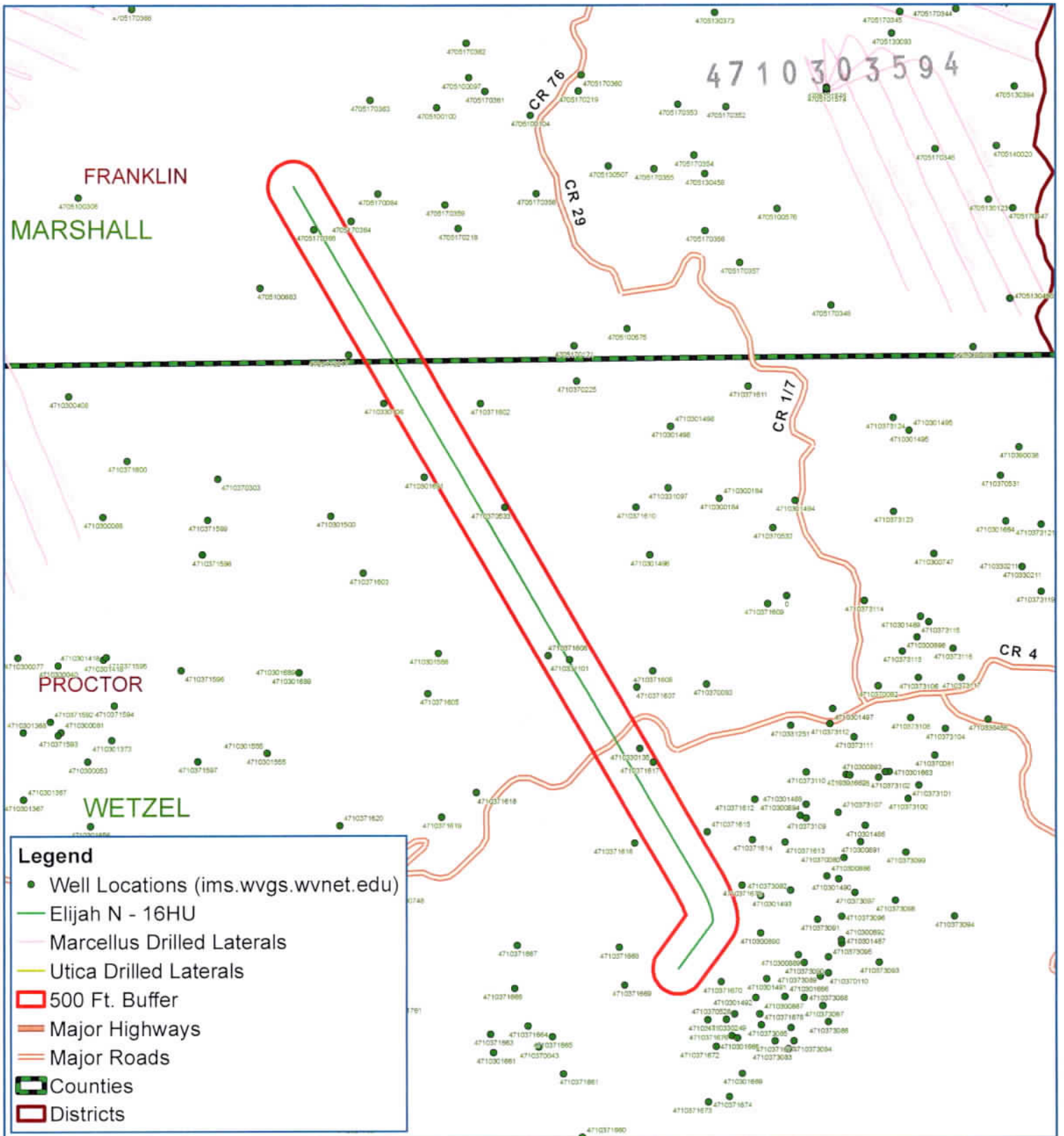
Owner Information:

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
4705170365	---	unknown	Prpty Map	Israel Parsons		1239				Manufacturers Light & Heat Co.			

Completion Information:

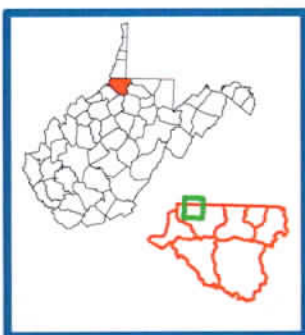
API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_A
4705170365	---	---						unclassified	unclassified	not available	unknown	unknown						

4710303594



Legend

- Well Locations (ims.wvgs.wvnet.edu)
- Elijah N - 16HU
- Marcellus Drilled Laterals
- Utica Drilled Laterals
- 500 Ft. Buffer
- Major Highways
- Major Roads
- ▭ Counties
- ▭ Districts



Elijah N - 16HU Proctor District Wetzel County, WV



Map Created: October 19, 2021
Map Current As Of: October 19, 2021

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



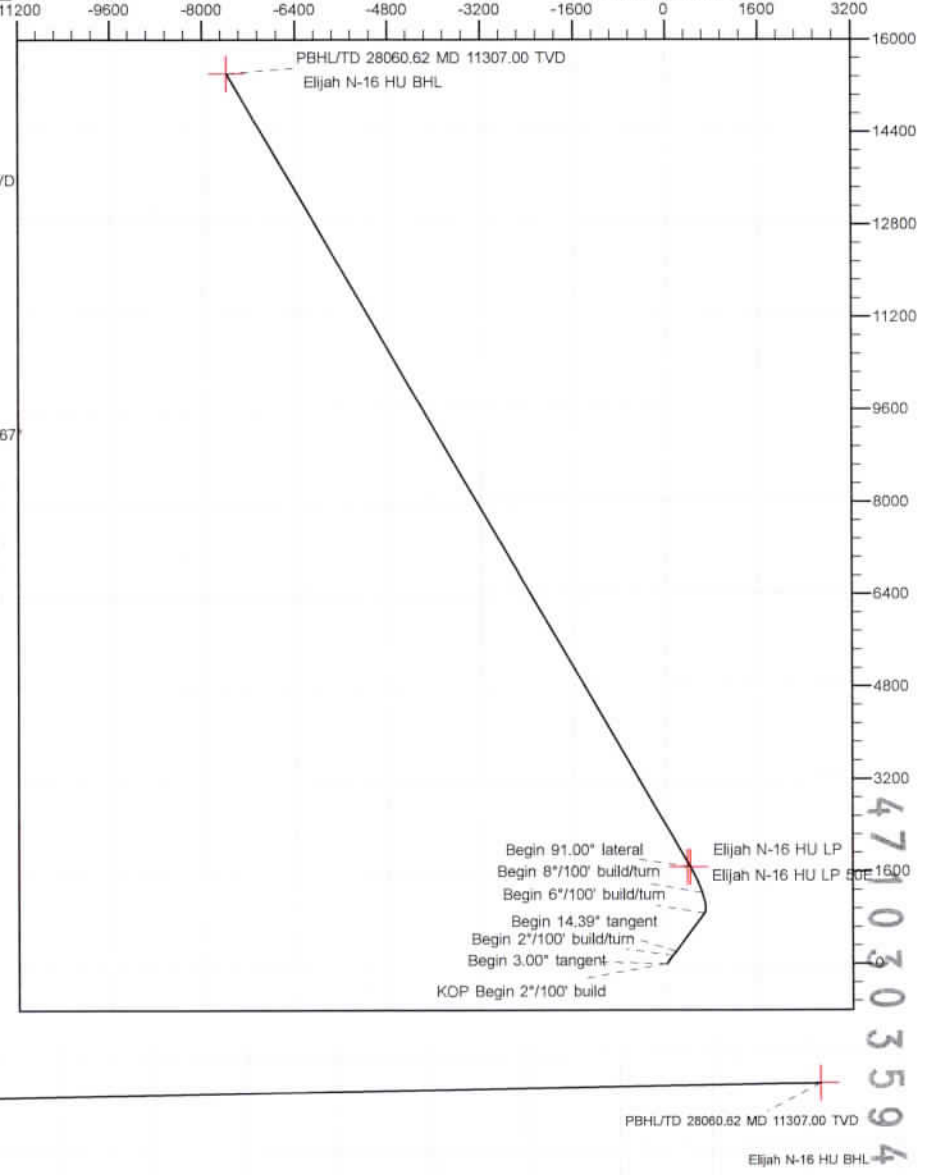
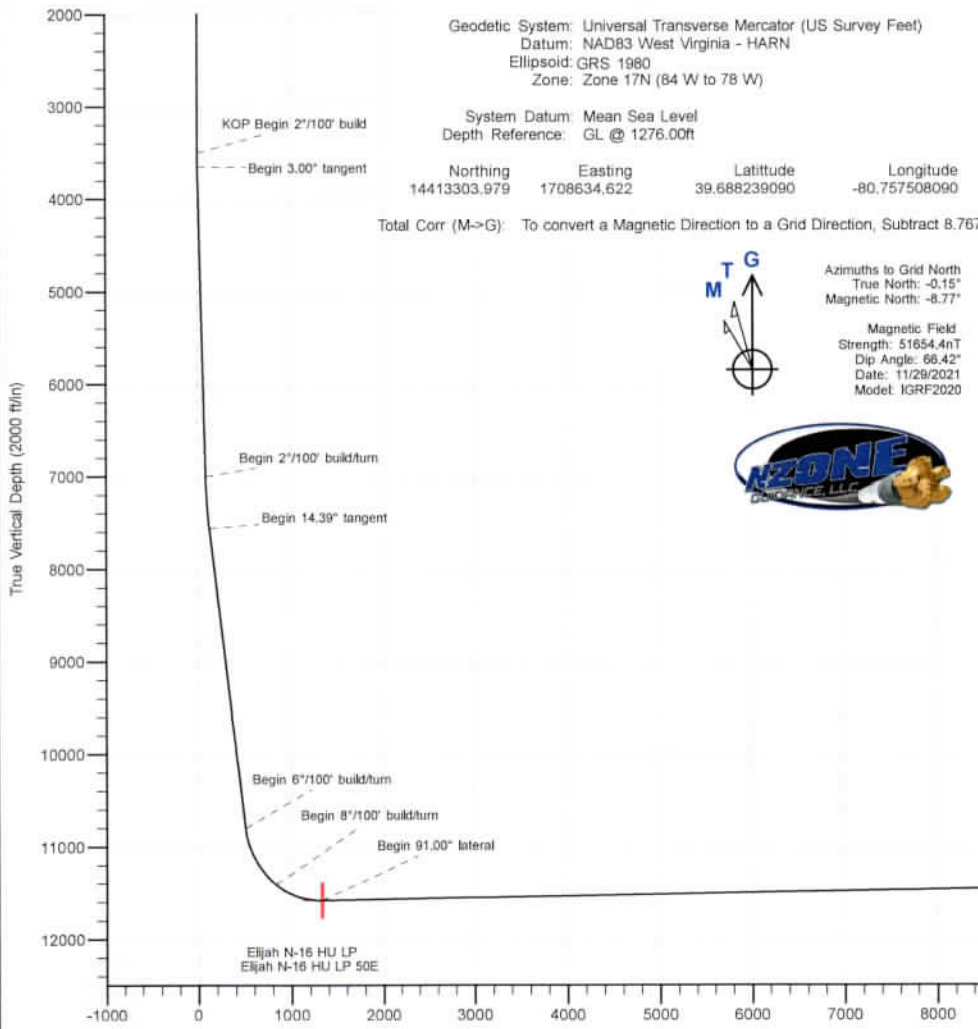
Well: Elijah N-16 HU (slot B)
Site: Elijah
Project: Wetzel County, West Virginia (UTM17 NAD83)
Design: rev1
Rig:

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Elijah N-16 HU BHL	11307.00	15411.18	-7571.72	4428715.130	1701062.917	39.730616000	-80.784291000
- plan hits target center							
Elijah N-16 HU LP	11584.00	1671.19	360.92	4414975.163	1708995.544	39.692826000	-80.756209000
- plan misses target center by 43.30ft at 12192.75ft MD (11583.57 TVD, 1692.93 N, 398.37 E)							
Elijah N-16 HU LP 50E	11584.00	1671.19	410.92	4414975.163	1709045.541	39.692825627	-80.756031268
- plan misses target center by 0.07ft at 12167.64ft MD (11584.00 TVD, 1671.22 N, 410.98 E)							

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	
2	3502.00	0.00	0.00	3502.00	0.00	0.00	0.00	0.000	0.00	KOP Begin 2°/100' build
3	3652.00	3.00	36.53	3651.93	3.15	2.34	2.00	36.530	1.80	Begin 3.00° tangent
4	7006.67	3.00	36.53	7002.00	144.23	106.84	0.00	0.000	82.34	Begin 2°/100' build/turn
5	7575.99	14.39	36.53	7563.85	213.26	157.98	2.00	0.000	121.75	Begin 14.39° tangent
6	10922.10	14.39	36.53	10805.04	881.31	652.85	0.00	0.000	503.11	Begin 6°/100' build/turn
7	11637.87	50.00	341.60	11410.36	1229.35	617.58	6.00	-66.961	831.04	Begin 8°/100' build/turn
8	12167.66	91.00	329.84	11584.00	1671.24	410.97	8.00	-17.590	1318.75	Begin 91.00° lateral
9	28060.62	91.00	329.84	11307.00	15411.18	-7571.72	0.00	0.00017170.77		PBHL/TD 28060.62 MD 11307.00 TVD



Vertical Section at 333.83° (2000 ft/in)



Planning Report - Geographic

Database:	DB_Dec2220_v18	Local Co-ordinate Reference:	Well Elijah N-16 HU (slot B)
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-16 HU (slot B)	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-16 HU (slot B)					
Well Position	+N/-S	0.00 ft	Northing:	14,413,303.980 usft	Latitude:	39.688239090
	+E/-W	0.00 ft	Easting:	1,708,634.622 usft	Longitude:	-80.757508090
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	51,654.36348609

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	333.83

Plan Survey Tool Program		Date		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	28,060.62 rev1 (Original Hole)		

4710303594



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-16 HU (slot B)
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-16 HU (slot B)	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	
3,502.00	0.00	0.00	3,502.00	0.00	0.00	0.00	0.00	0.00	0.000	
3,652.00	3.00	36.53	3,651.93	3.15	2.34	2.00	2.00	0.00	36.530	
7,006.67	3.00	36.53	7,002.00	144.23	106.84	0.00	0.00	0.00	0.000	
7,575.99	14.39	36.53	7,563.85	213.26	157.98	2.00	2.00	0.00	0.000	
10,922.10	14.39	36.53	10,805.04	881.31	652.85	0.00	0.00	0.00	0.000	
11,637.87	50.00	341.60	11,410.36	1,229.35	617.58	6.00	4.98	-7.67	-66.961	
12,167.66	91.00	329.84	11,584.00	1,671.24	410.97	8.00	7.74	-2.22	-17.590	
28,060.62	91.00	329.84	11,307.00	15,411.18	-7,571.72	0.00	0.00	0.00	0.000	Elijah N-16 HU BHL



Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-16 HU (slot B)
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-16 HU (slot B)	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	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
100.00	0.00	0.00	100.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
200.00	0.00	0.00	200.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
300.00	0.00	0.00	300.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
400.00	0.00	0.00	400.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
500.00	0.00	0.00	500.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
600.00	0.00	0.00	600.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
700.00	0.00	0.00	700.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
800.00	0.00	0.00	800.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
900.00	0.00	0.00	900.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
3,100.00	0.00	0.00	3,100.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
3,200.00	0.00	0.00	3,200.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
3,300.00	0.00	0.00	3,300.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
3,400.00	0.00	0.00	3,400.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
3,502.00	0.00	0.00	3,502.00	0.00	0.00	14,413,303.980	1,708,634.622	39.688239090	-80.757508090
KOP Begin 2°/100' build									
3,600.00	1.96	36.53	3,599.98	1.35	1.00	14,413,305.327	1,708,635.619	39.688242782	-80.757504531
3,652.00	3.00	36.53	3,651.93	3.15	2.34	14,413,307.135	1,708,636.959	39.688247737	-80.757499753
Begin 3.00° tangent									
3,700.00	3.00	36.53	3,699.87	5.17	3.83	14,413,309.153	1,708,638.454	39.688253270	-80.757494418
3,800.00	3.00	36.53	3,799.73	9.38	6.95	14,413,313.359	1,708,641.569	39.688264796	-80.757483304
3,900.00	3.00	36.53	3,899.59	13.58	10.06	14,413,317.564	1,708,644.685	39.688276322	-80.757472190
4,000.00	3.00	36.53	3,999.45	17.79	13.18	14,413,321.769	1,708,647.800	39.688287849	-80.757461076
4,100.00	3.00	36.53	4,099.32	22.00	16.29	14,413,325.975	1,708,650.915	39.688299375	-80.757449962
4,200.00	3.00	36.53	4,199.18	26.20	19.41	14,413,330.180	1,708,654.030	39.688310901	-80.757438848
4,300.00	3.00	36.53	4,299.04	30.41	22.52	14,413,334.386	1,708,657.146	39.688322428	-80.757427734
4,400.00	3.00	36.53	4,398.91	34.61	25.64	14,413,338.591	1,708,660.261	39.688333954	-80.757416620
4,500.00	3.00	36.53	4,498.77	38.82	28.75	14,413,342.797	1,708,663.376	39.688345480	-80.757405506
4,600.00	3.00	36.53	4,598.63	43.02	31.87	14,413,347.002	1,708,666.491	39.688357006	-80.757394392
4,700.00	3.00	36.53	4,698.50	47.23	34.98	14,413,351.207	1,708,669.607	39.688368533	-80.757383278
4,800.00	3.00	36.53	4,798.36	51.43	38.10	14,413,355.413	1,708,672.722	39.688380059	-80.757372164
4,900.00	3.00	36.53	4,898.22	55.64	41.22	14,413,359.618	1,708,675.837	39.688391585	-80.757361049
5,000.00	3.00	36.53	4,998.08	59.84	44.33	14,413,363.824	1,708,678.952	39.688403112	-80.757349935

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-16 HU (slot B)
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-16 HU (slot B)	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	3.00	36.53	5,097.95	64.05	47.45	14,413,368.029	1,708,682.068	39.688414638	-80.757338821
5,200.00	3.00	36.53	5,197.81	68.25	50.56	14,413,372.235	1,708,685.183	39.688426164	-80.757327707
5,300.00	3.00	36.53	5,297.67	72.46	53.68	14,413,376.440	1,708,688.298	39.688437690	-80.757316593
5,400.00	3.00	36.53	5,397.54	76.67	56.79	14,413,380.645	1,708,691.413	39.688449217	-80.757305479
5,500.00	3.00	36.53	5,497.40	80.87	59.91	14,413,384.851	1,708,694.529	39.688460743	-80.757294365
5,600.00	3.00	36.53	5,597.26	85.08	63.02	14,413,389.056	1,708,697.644	39.688472269	-80.757283251
5,700.00	3.00	36.53	5,697.12	89.28	66.14	14,413,393.262	1,708,700.759	39.688483796	-80.757272137
5,800.00	3.00	36.53	5,796.99	93.49	69.25	14,413,397.467	1,708,703.874	39.688495322	-80.757261023
5,900.00	3.00	36.53	5,896.85	97.69	72.37	14,413,401.672	1,708,706.990	39.688506848	-80.757249909
6,000.00	3.00	36.53	5,996.71	101.90	75.48	14,413,405.878	1,708,710.105	39.688518374	-80.757238795
6,100.00	3.00	36.53	6,096.58	106.10	78.60	14,413,410.083	1,708,713.220	39.688529901	-80.757227681
6,200.00	3.00	36.53	6,196.44	110.31	81.71	14,413,414.289	1,708,716.335	39.688541427	-80.757216566
6,300.00	3.00	36.53	6,296.30	114.51	84.83	14,413,418.494	1,708,719.451	39.688552953	-80.757205452
6,400.00	3.00	36.53	6,396.17	118.72	87.94	14,413,422.700	1,708,722.566	39.688564479	-80.757194338
6,500.00	3.00	36.53	6,496.03	122.93	91.06	14,413,426.905	1,708,725.681	39.688576006	-80.757183224
6,600.00	3.00	36.53	6,595.89	127.13	94.17	14,413,431.110	1,708,728.797	39.688587532	-80.757172110
6,700.00	3.00	36.53	6,695.75	131.34	97.29	14,413,435.316	1,708,731.912	39.688599058	-80.757160996
6,800.00	3.00	36.53	6,795.62	135.54	100.41	14,413,439.521	1,708,735.027	39.688610585	-80.757149882
6,900.00	3.00	36.53	6,895.48	139.75	103.52	14,413,443.727	1,708,738.142	39.688622111	-80.757138768
7,006.67	3.00	36.53	7,002.00	144.23	106.64	14,413,448.212	1,708,741.465	39.688634405	-80.757127651
Begin 2°/100' build/turn									
7,100.00	4.87	36.53	7,095.11	149.38	110.65	14,413,453.357	1,708,745.276	39.688648505	-80.757116537
7,200.00	6.87	36.53	7,194.58	157.59	116.74	14,413,461.570	1,708,751.360	39.688671015	-80.757096162
7,300.00	8.87	36.53	7,293.64	168.59	124.89	14,413,472.567	1,708,759.507	39.688701157	-80.757062547
7,400.00	10.87	36.53	7,392.15	182.36	135.08	14,413,486.336	1,708,769.706	39.688738893	-80.757026159
7,500.00	12.87	36.53	7,490.01	198.88	147.32	14,413,502.858	1,708,781.946	39.688784179	-80.756982492
7,575.99	14.39	36.53	7,563.85	213.26	157.98	14,413,517.242	1,708,792.601	39.688823603	-80.756944477
Begin 14.39° tangent									
7,600.00	14.39	36.53	7,587.12	218.06	161.53	14,413,522.037	1,708,796.153	39.688836744	-80.756931806
7,700.00	14.39	36.53	7,683.98	238.02	176.32	14,413,542.002	1,708,810.942	39.688891463	-80.756879042
7,800.00	14.39	36.53	7,780.84	257.99	191.11	14,413,561.966	1,708,825.732	39.688946183	-80.756826277
7,900.00	14.39	36.53	7,877.71	277.95	205.90	14,413,581.931	1,708,840.522	39.689000902	-80.756773513
8,000.00	14.39	36.53	7,974.57	297.92	220.69	14,413,601.896	1,708,855.311	39.689055621	-80.756720749
8,100.00	14.39	36.53	8,071.44	317.88	235.48	14,413,621.861	1,708,870.101	39.689110341	-80.756667984
8,200.00	14.39	36.53	8,168.30	337.85	250.27	14,413,641.825	1,708,884.890	39.689165060	-80.756615220
8,300.00	14.39	36.53	8,265.16	357.81	265.06	14,413,661.790	1,708,899.680	39.689219779	-80.756562455
8,400.00	14.39	36.53	8,362.03	377.78	279.85	14,413,681.755	1,708,914.469	39.689274499	-80.756509691
8,500.00	14.39	36.53	8,458.89	397.74	294.64	14,413,701.719	1,708,929.259	39.689329218	-80.756456926
8,600.00	14.39	36.53	8,555.76	417.71	309.43	14,413,721.684	1,708,944.048	39.689383937	-80.756404161
8,700.00	14.39	36.53	8,652.62	437.67	324.22	14,413,741.649	1,708,958.838	39.689438656	-80.756351396
8,800.00	14.39	36.53	8,749.49	457.63	339.01	14,413,761.614	1,708,973.627	39.689493375	-80.756298631
8,900.00	14.39	36.53	8,846.35	477.60	353.80	14,413,781.578	1,708,988.417	39.689548094	-80.756245866
9,000.00	14.39	36.53	8,943.21	497.56	368.59	14,413,801.543	1,709,003.206	39.689602814	-80.756193101
9,100.00	14.39	36.53	9,040.08	517.53	383.37	14,413,821.508	1,709,017.996	39.689657532	-80.756140335
9,200.00	14.39	36.53	9,136.94	537.49	398.16	14,413,841.473	1,709,032.785	39.689712251	-80.756087570
9,300.00	14.39	36.53	9,233.81	557.46	412.95	14,413,861.437	1,709,047.575	39.689766970	-80.756034805
9,400.00	14.39	36.53	9,330.67	577.42	427.74	14,413,881.402	1,709,062.364	39.689821689	-80.755982039
9,500.00	14.39	36.53	9,427.54	597.39	442.53	14,413,901.367	1,709,077.154	39.689876408	-80.755929274
9,600.00	14.39	36.53	9,524.40	617.35	457.32	14,413,921.332	1,709,091.943	39.689931127	-80.755876508
9,700.00	14.39	36.53	9,621.26	637.32	472.11	14,413,941.296	1,709,106.733	39.689985846	-80.755823742
9,800.00	14.39	36.53	9,718.13	657.28	486.90	14,413,961.261	1,709,121.522	39.690040564	-80.755770976
9,900.00	14.39	36.53	9,814.99	677.25	501.69	14,413,981.226	1,709,136.312	39.690095283	-80.755718210
10,000.00	14.39	36.53	9,911.86	697.21	516.48	14,414,001.190	1,709,151.101	39.690150002	-80.755665444
10,100.00	14.39	36.53	10,008.72	717.18	531.27	14,414,021.155	1,709,165.891	39.690204721	-80.755612678



Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-16 HU (slot B)
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-16 HU (slot B)	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	
10,200.00	14.39	36.53	10,105.58	737.14	546.06	14,414,041.120	1,709,180.680	39.690259440	-80.755559912	
10,300.00	14.39	36.53	10,202.45	757.11	560.85	14,414,061.085	1,709,195.470	39.690314159	-80.755507146	
10,400.00	14.39	36.53	10,299.31	777.07	575.64	14,414,081.049	1,709,210.260	39.690368877	-80.755454379	
10,500.00	14.39	36.53	10,396.18	797.04	590.43	14,414,101.014	1,709,225.049	39.690423596	-80.755401613	
10,600.00	14.39	36.53	10,493.04	817.00	605.22	14,414,120.979	1,709,239.839	39.690478315	-80.755348846	
10,700.00	14.39	36.53	10,589.91	836.97	620.01	14,414,140.944	1,709,254.628	39.690533033	-80.755296080	
10,800.00	14.39	36.53	10,686.77	856.93	634.80	14,414,160.908	1,709,269.418	39.690587752	-80.755243313	
10,900.00	14.39	36.53	10,783.63	876.90	649.59	14,414,180.873	1,709,284.207	39.690642471	-80.755190546	
10,922.10	14.39	36.53	10,805.04	881.31	652.85	14,414,185.285	1,709,287.475	39.690654562	-80.755178886	
Begin 6°/100' build/turn										
10,950.00	15.12	30.61	10,832.02	887.22	656.77	14,414,191.202	1,709,291.392	39.690670784	-80.755164906	
11,000.00	16.76	21.46	10,880.11	899.55	662.73	14,414,203.527	1,709,297.352	39.690704589	-80.755143599	
11,050.00	18.74	14.04	10,927.73	914.06	667.32	14,414,218.034	1,709,301.941	39.690744394	-80.755127148	
11,100.00	20.95	8.06	10,974.76	930.70	670.52	14,414,234.682	1,709,305.144	39.690790089	-80.755115597	
11,150.00	23.34	3.22	11,021.07	949.45	672.33	14,414,253.425	1,709,306.955	39.690841551	-80.755108979	
11,200.00	25.84	359.24	11,066.54	970.23	672.75	14,414,274.213	1,709,307.368	39.690898637	-80.755107311	
11,250.00	28.43	355.94	11,111.03	993.01	671.76	14,414,296.988	1,709,306.381	39.690961192	-80.755110598	
11,300.00	31.10	353.15	11,154.43	1,017.71	669.38	14,414,321.687	1,709,303.997	39.691029043	-80.755118831	
11,350.00	33.81	350.76	11,196.82	1,044.27	665.60	14,414,348.244	1,709,300.224	39.691102005	-80.755131987	
11,400.00	36.56	348.70	11,237.49	1,072.61	660.45	14,414,376.585	1,709,295.070	39.691179877	-80.755150031	
11,450.00	39.35	346.88	11,276.91	1,102.66	653.93	14,414,406.633	1,709,288.551	39.691262447	-80.755172914	
11,500.00	42.16	345.27	11,314.78	1,134.33	646.06	14,414,438.306	1,709,280.685	39.691349488	-80.755200571	
11,550.00	44.99	343.82	11,351.00	1,167.54	636.87	14,414,471.515	1,709,271.492	39.691440762	-80.755232928	
11,600.00	47.83	342.51	11,385.47	1,202.19	626.38	14,414,506.172	1,709,260.998	39.691536017	-80.755269896	
11,637.87	50.00	341.60	11,410.36	1,229.35	617.58	14,414,533.327	1,709,252.200	39.691610661	-80.755300905	
Begin 8°/100' build/turn										
11,650.00	50.93	341.22	11,418.08	1,238.21	614.60	14,414,542.191	1,709,249.219	39.691635027	-80.755311417	
11,700.00	54.75	339.76	11,448.28	1,275.76	601.28	14,414,579.738	1,709,235.904	39.691738242	-80.755358386	
11,750.00	58.60	338.44	11,475.74	1,314.78	586.37	14,414,618.755	1,709,220.993	39.691845505	-80.755411014	
11,800.00	62.45	337.21	11,500.34	1,355.07	569.94	14,414,659.051	1,709,204.558	39.691956294	-80.755469045	
11,850.00	66.32	336.07	11,521.96	1,396.45	552.06	14,414,700.430	1,709,186.681	39.692070068	-80.755532197	
11,900.00	70.19	335.00	11,540.48	1,438.71	532.83	14,414,742.691	1,709,167.447	39.692186274	-80.755600161	
11,950.00	74.07	333.98	11,555.82	1,481.65	512.33	14,414,785.628	1,709,146.950	39.692304346	-80.755672607	
12,000.00	77.96	332.99	11,567.90	1,525.05	490.67	14,414,829.031	1,709,125.291	39.692423707	-80.755749182	
12,050.00	81.84	332.04	11,576.67	1,568.71	467.95	14,414,872.690	1,709,102.575	39.692543778	-80.755829512	
12,100.00	85.73	331.10	11,582.08	1,612.41	444.29	14,414,916.391	1,709,078.912	39.692663972	-80.755913207	
12,150.00	89.62	330.17	11,584.10	1,655.95	419.80	14,414,959.922	1,709,054.418	39.692783704	-80.755998858	
12,167.66	91.00	329.84	11,584.00	1,671.24	410.97	14,414,975.214	1,709,045.592	39.692825766	-80.756031086	
Begin 91.00° lateral										
12,200.00	91.00	329.84	11,583.44	1,699.20	394.73	14,415,003.175	1,709,029.347	39.692902679	-80.756088565	
12,300.00	91.00	329.84	11,581.70	1,785.65	344.50	14,415,089.628	1,708,979.119	39.693140480	-80.756266283	
12,400.00	91.00	329.84	11,579.95	1,872.11	294.27	14,415,176.081	1,708,928.891	39.693378281	-80.756444003	
12,500.00	91.00	329.84	11,578.21	1,958.56	244.04	14,415,262.534	1,708,878.664	39.693616083	-80.756621724	
12,600.00	91.00	329.84	11,576.47	2,045.01	193.81	14,415,348.987	1,708,828.436	39.693853883	-80.756799445	
12,700.00	91.00	329.84	11,574.73	2,131.46	143.59	14,415,435.440	1,708,778.208	39.694091684	-80.756977169	
12,800.00	91.00	329.84	11,572.98	2,217.92	93.36	14,415,521.892	1,708,727.980	39.694329484	-80.757154893	
12,900.00	91.00	329.84	11,571.24	2,304.37	43.13	14,415,608.345	1,708,677.753	39.694567284	-80.757332619	
13,000.00	91.00	329.84	11,569.50	2,390.82	-7.10	14,415,694.798	1,708,627.525	39.694805084	-80.757510345	
13,100.00	91.00	329.84	11,567.75	2,477.28	-57.32	14,415,781.251	1,708,577.297	39.695042883	-80.757688073	
13,200.00	91.00	329.84	11,566.01	2,563.73	-107.55	14,415,867.704	1,708,527.069	39.695280682	-80.757865803	
13,300.00	91.00	329.84	11,564.27	2,650.18	-157.78	14,415,954.157	1,708,476.842	39.695518481	-80.758043533	
13,400.00	91.00	329.84	11,562.52	2,736.64	-208.01	14,416,040.610	1,708,426.614	39.695756280	-80.758221265	
13,500.00	91.00	329.84	11,560.78	2,823.09	-258.24	14,416,127.062	1,708,376.386	39.695994078	-80.758398998	
13,600.00	91.00	329.84	11,559.04	2,909.54	-308.46	14,416,213.515	1,708,326.159	39.696231876	-80.758576732	



Planning Report - Geographic

4710303594

Database: DB_Dec2220_v16
 Company: Tug Hill Operating LLC
 Project: Wetzel County, West Virginia (UTM17 NAD83)
 Site: Elijah
 Well: Elijah N-16 HU (slot B)
 Wellbore: Original Hole
 Design: rev1

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:

Well Elijah N-16 HU (slot B)
 GL @ 1276.00ft
 GL @ 1276.00ft
 Grid
 Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,700.00	91.00	329.84	11,557.30	2,995.99	-358.69	14,416,299.968	1,708,275.931	39.696469674	-80.758754467
13,800.00	91.00	329.84	11,555.55	3,082.45	-408.92	14,416,386.421	1,708,225.703	39.696707471	-80.758932204
13,900.00	91.00	329.84	11,553.81	3,168.90	-459.15	14,416,472.874	1,708,175.475	39.696945268	-80.759109941
14,000.00	91.00	329.84	11,552.07	3,255.35	-509.38	14,416,559.327	1,708,125.248	39.697183065	-80.759287680
14,100.00	91.00	329.84	11,550.32	3,341.81	-559.60	14,416,645.780	1,708,075.020	39.697420862	-80.759465420
14,200.00	91.00	329.84	11,548.58	3,428.26	-609.83	14,416,732.232	1,708,024.792	39.697658658	-80.759643162
14,300.00	91.00	329.84	11,546.84	3,514.71	-660.06	14,416,818.685	1,707,974.564	39.697896454	-80.759820905
14,400.00	91.00	329.84	11,545.10	3,601.17	-710.29	14,416,905.138	1,707,924.337	39.698134250	-80.759998648
14,500.00	91.00	329.84	11,543.35	3,687.62	-760.51	14,416,991.591	1,707,874.109	39.698372045	-80.760176393
14,600.00	91.00	329.84	11,541.61	3,774.07	-810.74	14,417,078.044	1,707,823.881	39.698609841	-80.760354140
14,700.00	91.00	329.84	11,539.87	3,860.52	-860.97	14,417,164.497	1,707,773.653	39.698847636	-80.760531887
14,800.00	91.00	329.84	11,538.12	3,946.98	-911.20	14,417,250.949	1,707,723.426	39.699085430	-80.760709636
14,900.00	91.00	329.84	11,536.38	4,033.43	-961.43	14,417,337.402	1,707,673.198	39.699323225	-80.760887386
15,000.00	91.00	329.84	11,534.64	4,119.88	-1,011.65	14,417,423.855	1,707,622.970	39.699561019	-80.761065137
15,100.00	91.00	329.84	11,532.89	4,206.34	-1,061.88	14,417,510.308	1,707,572.742	39.699798813	-80.761242889
15,200.00	91.00	329.84	11,531.15	4,292.79	-1,112.11	14,417,596.761	1,707,522.515	39.700036606	-80.761420643
15,300.00	91.00	329.84	11,529.41	4,379.24	-1,162.34	14,417,683.214	1,707,472.287	39.700274399	-80.761598398
15,400.00	91.00	329.84	11,527.67	4,465.70	-1,212.57	14,417,769.667	1,707,422.059	39.700512192	-80.761776154
15,500.00	91.00	329.84	11,525.92	4,552.15	-1,262.79	14,417,856.119	1,707,371.831	39.700749985	-80.761953911
15,600.00	91.00	329.84	11,524.18	4,638.60	-1,313.02	14,417,942.572	1,707,321.604	39.700987777	-80.762131669
15,700.00	91.00	329.84	11,522.44	4,725.06	-1,363.25	14,418,029.025	1,707,271.376	39.701225570	-80.762309429
15,800.00	91.00	329.84	11,520.69	4,811.51	-1,413.48	14,418,115.478	1,707,221.148	39.701463362	-80.762487190
15,900.00	91.00	329.84	11,518.95	4,897.96	-1,463.70	14,418,201.931	1,707,170.920	39.701701153	-80.762664952
16,000.00	91.00	329.84	11,517.21	4,984.41	-1,513.93	14,418,288.384	1,707,120.693	39.701938944	-80.762842715
16,100.00	91.00	329.84	11,515.47	5,070.87	-1,564.16	14,418,374.836	1,707,070.465	39.702176735	-80.763020480
16,200.00	91.00	329.84	11,513.72	5,157.32	-1,614.39	14,418,461.289	1,707,020.237	39.702414526	-80.763198246
16,300.00	91.00	329.84	11,511.98	5,243.77	-1,664.62	14,418,547.742	1,706,970.009	39.702652317	-80.763376013
16,400.00	91.00	329.84	11,510.24	5,330.23	-1,714.84	14,418,634.195	1,706,919.782	39.702890107	-80.763553781
16,500.00	91.00	329.84	11,508.49	5,416.68	-1,765.07	14,418,720.648	1,706,869.554	39.703127897	-80.763731550
16,600.00	91.00	329.84	11,506.75	5,503.13	-1,815.30	14,418,807.101	1,706,819.326	39.703365687	-80.763909321
16,700.00	91.00	329.84	11,505.01	5,589.59	-1,865.53	14,418,893.554	1,706,769.098	39.703603476	-80.764087093
16,800.00	91.00	329.84	11,503.27	5,676.04	-1,915.76	14,418,980.006	1,706,718.871	39.703841265	-80.764264866
16,900.00	91.00	329.84	11,501.52	5,762.49	-1,965.98	14,419,066.459	1,706,668.643	39.704079054	-80.764442640
17,000.00	91.00	329.84	11,499.78	5,848.94	-2,016.21	14,419,152.912	1,706,618.415	39.704316842	-80.764620416
17,100.00	91.00	329.84	11,498.04	5,935.40	-2,066.44	14,419,239.365	1,706,568.187	39.704554631	-80.764798192
17,200.00	91.00	329.84	11,496.29	6,021.85	-2,116.67	14,419,325.818	1,706,517.960	39.704792419	-80.764975970
17,300.00	91.00	329.84	11,494.55	6,108.30	-2,166.89	14,419,412.271	1,706,467.732	39.705030206	-80.765153749
17,400.00	91.00	329.84	11,492.81	6,194.76	-2,217.12	14,419,498.723	1,706,417.504	39.705267994	-80.765331530
17,500.00	91.00	329.84	11,491.06	6,281.21	-2,267.35	14,419,585.176	1,706,367.276	39.705505781	-80.765509311
17,600.00	91.00	329.84	11,489.32	6,367.66	-2,317.58	14,419,671.629	1,706,317.049	39.705743568	-80.765687094
17,700.00	91.00	329.84	11,487.58	6,454.12	-2,367.81	14,419,758.082	1,706,266.821	39.705981354	-80.765864878
17,800.00	91.00	329.84	11,485.84	6,540.57	-2,418.03	14,419,844.535	1,706,216.593	39.706219141	-80.766042663
17,900.00	91.00	329.84	11,484.09	6,627.02	-2,468.26	14,419,930.988	1,706,166.365	39.706456927	-80.766220450
18,000.00	91.00	329.84	11,482.35	6,713.47	-2,518.49	14,420,017.441	1,706,116.138	39.706694712	-80.766398237
18,100.00	91.00	329.84	11,480.61	6,799.93	-2,568.72	14,420,103.893	1,706,065.910	39.706932498	-80.766576026
18,200.00	91.00	329.84	11,478.86	6,886.38	-2,618.94	14,420,190.346	1,706,015.682	39.707170283	-80.766753816
18,300.00	91.00	329.84	11,477.12	6,972.83	-2,669.17	14,420,276.799	1,705,965.454	39.707408068	-80.766931608
18,400.00	91.00	329.84	11,475.38	7,059.29	-2,719.40	14,420,363.252	1,705,915.227	39.707645853	-80.767109400
18,500.00	91.00	329.84	11,473.64	7,145.74	-2,769.63	14,420,449.705	1,705,864.999	39.707883637	-80.767287194
18,600.00	91.00	329.84	11,471.89	7,232.19	-2,819.86	14,420,536.158	1,705,814.771	39.708121421	-80.767464989
18,700.00	91.00	329.84	11,470.15	7,318.65	-2,870.08	14,420,622.610	1,705,764.543	39.708359205	-80.767642785
18,800.00	91.00	329.84	11,468.41	7,405.10	-2,920.31	14,420,709.063	1,705,714.316	39.708596989	-80.767820583
18,900.00	91.00	329.84	11,466.66	7,491.55	-2,970.54	14,420,795.516	1,705,664.088	39.708834772	-80.767998381
19,000.00	91.00	329.84	11,464.92	7,578.00	-3,020.77	14,420,881.969	1,705,613.860	39.709072555	-80.768176181
19,100.00	91.00	329.84	11,463.18	7,664.46	-3,071.00	14,420,968.422	1,705,563.632	39.709310337	-80.768353982



Planning Report - Geographic

4710303594

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-16 HU (slot B)
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-16 HU (slot B)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey										
Measured			Vertical			Map	Map			
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
19,200.00	91.00	329.84	11,461.43	7,750.91	-3,121.22	14,421,054.875	1,705,513.405	39.709548120	-80.768531784	
19,300.00	91.00	329.84	11,459.69	7,837.36	-3,171.45	14,421,141.328	1,705,463.177	39.709785902	-80.768709588	
19,400.00	91.00	329.84	11,457.95	7,923.82	-3,221.68	14,421,227.780	1,705,412.949	39.710023684	-80.768887393	
19,500.00	91.00	329.84	11,456.21	8,010.27	-3,271.91	14,421,314.233	1,705,362.721	39.710261465	-80.769065199	
19,600.00	91.00	329.84	11,454.46	8,096.72	-3,322.13	14,421,400.686	1,705,312.494	39.710499247	-80.769243006	
19,700.00	91.00	329.84	11,452.72	8,183.18	-3,372.36	14,421,487.139	1,705,262.266	39.710737028	-80.769420814	
19,800.00	91.00	329.84	11,450.98	8,269.63	-3,422.59	14,421,573.592	1,705,212.038	39.710974809	-80.769598624	
19,900.00	91.00	329.84	11,449.23	8,356.08	-3,472.82	14,421,660.045	1,705,161.811	39.711212589	-80.769776435	
20,000.00	91.00	329.84	11,447.49	8,442.54	-3,523.05	14,421,746.497	1,705,111.583	39.711450369	-80.769954247	
20,100.00	91.00	329.84	11,445.75	8,528.99	-3,573.27	14,421,832.950	1,705,061.355	39.711688149	-80.770132060	
20,200.00	91.00	329.84	11,444.01	8,615.44	-3,623.50	14,421,919.403	1,705,011.127	39.711925929	-80.770309874	
20,300.00	91.00	329.84	11,442.26	8,701.89	-3,673.73	14,422,005.856	1,704,960.900	39.712163708	-80.770487690	
20,400.00	91.00	329.84	11,440.52	8,788.35	-3,723.96	14,422,092.309	1,704,910.672	39.712401487	-80.770665507	
20,500.00	91.00	329.84	11,438.78	8,874.80	-3,774.19	14,422,178.762	1,704,860.444	39.712639266	-80.770843325	
20,600.00	91.00	329.84	11,437.03	8,961.25	-3,824.41	14,422,265.215	1,704,810.216	39.712877044	-80.771021144	
20,700.00	91.00	329.84	11,435.29	9,047.71	-3,874.64	14,422,351.667	1,704,759.989	39.713114823	-80.771198965	
20,800.00	91.00	329.84	11,433.55	9,134.16	-3,924.87	14,422,438.120	1,704,709.761	39.713352601	-80.771376787	
20,900.00	91.00	329.84	11,431.80	9,220.61	-3,975.10	14,422,524.573	1,704,659.533	39.713590378	-80.771554610	
21,000.00	91.00	329.84	11,430.06	9,307.07	-4,025.32	14,422,611.026	1,704,609.305	39.713828156	-80.771732434	
21,100.00	91.00	329.84	11,428.32	9,393.52	-4,075.55	14,422,697.479	1,704,559.078	39.714065933	-80.771910259	
21,200.00	91.00	329.84	11,426.58	9,479.97	-4,125.78	14,422,783.932	1,704,508.850	39.714303710	-80.772088086	
21,300.00	91.00	329.84	11,424.83	9,566.42	-4,176.01	14,422,870.384	1,704,458.622	39.714541486	-80.772265914	
21,400.00	91.00	329.84	11,423.09	9,652.88	-4,226.24	14,422,956.837	1,704,408.394	39.714779263	-80.772443743	
21,500.00	91.00	329.84	11,421.35	9,739.33	-4,276.46	14,423,043.290	1,704,358.167	39.715017039	-80.772621573	
21,600.00	91.00	329.84	11,419.60	9,825.78	-4,326.69	14,423,129.743	1,704,307.939	39.715254814	-80.772799405	
21,700.00	91.00	329.84	11,417.86	9,912.24	-4,376.92	14,423,216.196	1,704,257.711	39.715492590	-80.772977238	
21,800.00	91.00	329.84	11,416.12	9,998.69	-4,427.15	14,423,302.649	1,704,207.483	39.715730365	-80.773155072	
21,900.00	91.00	329.84	11,414.38	10,085.14	-4,477.38	14,423,389.102	1,704,157.256	39.715968140	-80.773332907	
22,000.00	91.00	329.84	11,412.63	10,171.60	-4,527.60	14,423,475.554	1,704,107.028	39.716205914	-80.773510743	
22,100.00	91.00	329.84	11,410.89	10,258.05	-4,577.83	14,423,562.007	1,704,056.800	39.716443689	-80.773688581	
22,200.00	91.00	329.84	11,409.15	10,344.50	-4,628.06	14,423,648.460	1,704,006.572	39.716681463	-80.773866420	
22,300.00	91.00	329.84	11,407.40	10,430.95	-4,678.29	14,423,734.913	1,703,956.345	39.716919237	-80.774044260	
22,400.00	91.00	329.84	11,405.66	10,517.41	-4,728.51	14,423,821.366	1,703,906.117	39.717157010	-80.774222101	
22,500.00	91.00	329.84	11,403.92	10,603.86	-4,778.74	14,423,907.819	1,703,855.889	39.717394783	-80.774399943	
22,600.00	91.00	329.84	11,402.18	10,690.31	-4,828.97	14,423,994.272	1,703,805.661	39.717632556	-80.774577787	
22,700.00	91.00	329.84	11,400.43	10,776.77	-4,879.20	14,424,080.724	1,703,755.434	39.717870329	-80.774755632	
22,800.00	91.00	329.84	11,398.69	10,863.22	-4,929.43	14,424,167.177	1,703,705.206	39.718108101	-80.774933478	
22,900.00	91.00	329.84	11,396.95	10,949.67	-4,979.65	14,424,253.630	1,703,654.978	39.718345873	-80.775111326	
23,000.00	91.00	329.84	11,395.20	11,036.13	-5,029.88	14,424,340.083	1,703,604.750	39.718583645	-80.775289174	
23,100.00	91.00	329.84	11,393.46	11,122.58	-5,080.11	14,424,426.536	1,703,554.523	39.718821417	-80.775467024	
23,200.00	91.00	329.84	11,391.72	11,209.03	-5,130.34	14,424,512.989	1,703,504.295	39.719059188	-80.775644875	
23,300.00	91.00	329.84	11,389.97	11,295.49	-5,180.57	14,424,599.441	1,703,454.067	39.719296959	-80.775822727	
23,400.00	91.00	329.84	11,388.23	11,381.94	-5,230.79	14,424,685.894	1,703,403.839	39.719534730	-80.776000580	
23,500.00	91.00	329.84	11,386.49	11,468.39	-5,281.02	14,424,772.347	1,703,353.612	39.719772500	-80.776178434	
23,600.00	91.00	329.84	11,384.75	11,554.84	-5,331.25	14,424,858.800	1,703,303.384	39.720010270	-80.776356290	
23,700.00	91.00	329.84	11,383.00	11,641.30	-5,381.48	14,424,945.253	1,703,253.156	39.720248040	-80.776534148	
23,800.00	91.00	329.84	11,381.26	11,727.75	-5,431.70	14,425,031.706	1,703,202.928	39.720485810	-80.776712006	
23,900.00	91.00	329.84	11,379.52	11,814.20	-5,481.93	14,425,118.159	1,703,152.701	39.720723579	-80.776889865	
24,000.00	91.00	329.84	11,377.77	11,900.66	-5,532.16	14,425,204.611	1,703,102.473	39.720961348	-80.777067726	
24,100.00	91.00	329.84	11,376.03	11,987.11	-5,582.39	14,425,291.064	1,703,052.245	39.721199117	-80.777245588	
24,200.00	91.00	329.84	11,374.29	12,073.56	-5,632.62	14,425,377.517	1,703,002.017	39.721436885	-80.777423451	
24,300.00	91.00	329.84	11,372.55	12,160.02	-5,682.84	14,425,463.970	1,702,951.790	39.721674654	-80.777601316	
24,400.00	91.00	329.84	11,370.80	12,246.47	-5,733.07	14,425,550.423	1,702,901.562	39.721912422	-80.777779182	
24,500.00	91.00	329.84	11,369.06	12,332.92	-5,783.30	14,425,636.876	1,702,851.334	39.722150189	-80.777957048	
24,600.00	91.00	329.84	11,367.32	12,419.37	-5,833.53	14,425,723.328	1,702,801.106	39.722387957	-80.778134916	

08/18/2023



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-16 HU (slot B)
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-16 HU (slot B)	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	
24,700.00	91.00	329.84	11,365.57	12,505.83	-5,883.76	14,425,809.781	1,702,750.879	39.722625724	-80.778312786	
24,800.00	91.00	329.84	11,363.83	12,592.28	-5,933.98	14,425,896.234	1,702,700.651	39.722863491	-80.778490656	
24,900.00	91.00	329.84	11,362.09	12,678.73	-5,984.21	14,425,982.687	1,702,650.423	39.723101257	-80.778668528	
25,000.00	91.00	329.84	11,360.34	12,765.19	-6,034.44	14,426,069.140	1,702,600.195	39.723339023	-80.778846401	
25,100.00	91.00	329.84	11,358.60	12,851.64	-6,084.67	14,426,155.593	1,702,549.968	39.723576789	-80.779024275	
25,200.00	91.00	329.84	11,356.86	12,938.09	-6,134.89	14,426,242.046	1,702,499.740	39.723814555	-80.779202151	
25,300.00	91.00	329.84	11,355.12	13,024.55	-6,185.12	14,426,328.498	1,702,449.512	39.724052320	-80.779380027	
25,400.00	91.00	329.84	11,353.37	13,111.00	-6,235.35	14,426,414.951	1,702,399.284	39.724290086	-80.779557905	
25,500.00	91.00	329.84	11,351.63	13,197.45	-6,285.58	14,426,501.404	1,702,349.057	39.724527850	-80.779735784	
25,600.00	91.00	329.84	11,349.89	13,283.90	-6,335.81	14,426,587.857	1,702,298.829	39.724765615	-80.779913664	
25,700.00	91.00	329.84	11,348.14	13,370.36	-6,386.03	14,426,674.310	1,702,248.601	39.725003379	-80.780091546	
25,800.00	91.00	329.84	11,346.40	13,456.81	-6,436.26	14,426,760.763	1,702,198.373	39.725241142	-80.780269429	
25,900.00	91.00	329.84	11,344.66	13,543.26	-6,486.49	14,426,847.215	1,702,148.146	39.725478906	-80.780447313	
26,000.00	91.00	329.84	11,342.92	13,629.72	-6,536.72	14,426,933.668	1,702,097.918	39.725716669	-80.780625198	
26,100.00	91.00	329.84	11,341.17	13,716.17	-6,586.95	14,427,020.121	1,702,047.690	39.725954433	-80.780803084	
26,200.00	91.00	329.84	11,339.43	13,802.62	-6,637.17	14,427,106.574	1,701,997.463	39.726192196	-80.780980972	
26,300.00	91.00	329.84	11,337.69	13,889.08	-6,687.40	14,427,193.027	1,701,947.235	39.726429958	-80.781158861	
26,400.00	91.00	329.84	11,335.94	13,975.53	-6,737.63	14,427,279.480	1,701,897.007	39.726667721	-80.781336751	
26,500.00	91.00	329.84	11,334.20	14,061.98	-6,787.86	14,427,365.933	1,701,846.779	39.726905483	-80.781514642	
26,600.00	91.00	329.84	11,332.46	14,148.43	-6,838.08	14,427,452.385	1,701,796.552	39.727143244	-80.781692534	
26,700.00	91.00	329.84	11,330.71	14,234.89	-6,888.31	14,427,538.838	1,701,746.324	39.727381006	-80.781870428	
26,800.00	91.00	329.84	11,328.97	14,321.34	-6,938.54	14,427,625.291	1,701,696.096	39.727618767	-80.782048323	
26,900.00	91.00	329.84	11,327.23	14,407.79	-6,988.77	14,427,711.744	1,701,645.868	39.727856528	-80.782226219	
27,000.00	91.00	329.84	11,325.49	14,494.25	-7,039.00	14,427,798.197	1,701,595.641	39.728094289	-80.782404117	
27,100.00	91.00	329.84	11,323.74	14,580.70	-7,089.22	14,427,884.650	1,701,545.413	39.728332049	-80.782582015	
27,200.00	91.00	329.84	11,322.00	14,667.15	-7,139.45	14,427,971.102	1,701,495.185	39.728569809	-80.782759915	
27,300.00	91.00	329.84	11,320.26	14,753.61	-7,189.68	14,428,057.555	1,701,444.957	39.728807569	-80.782937816	
27,400.00	91.00	329.84	11,318.51	14,840.06	-7,239.91	14,428,144.008	1,701,394.730	39.729045329	-80.783115718	
27,500.00	91.00	329.84	11,316.77	14,926.51	-7,290.14	14,428,230.461	1,701,344.502	39.729283088	-80.783293622	
27,600.00	91.00	329.84	11,315.03	15,012.97	-7,340.36	14,428,316.914	1,701,294.274	39.729520847	-80.783471526	
27,700.00	91.00	329.84	11,313.29	15,099.42	-7,390.59	14,428,403.367	1,701,244.046	39.729758606	-80.783649432	
27,800.00	91.00	329.84	11,311.54	15,185.87	-7,440.82	14,428,489.820	1,701,193.819	39.729996364	-80.783827339	
27,900.00	91.00	329.84	11,309.80	15,272.32	-7,491.05	14,428,576.272	1,701,143.591	39.730234122	-80.784005248	
28,000.00	91.00	329.84	11,308.06	15,358.78	-7,541.27	14,428,662.725	1,701,093.363	39.730471880	-80.784183157	
28,060.62	91.00	329.84	11,307.00	15,411.18	-7,571.72	14,428,715.130	1,701,062.917	39.730616000	-80.784291000	

PBHL/TD 28060.62 MD 11307.00 TVD

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Elijah N-16 HU BHL - hit/miss target - Shape - Point	0.00	0.00	11,307.00	15,411.18	-7,571.72	14,428,715.130	1,701,062.917	39.730616000	-80.784291000	
Elijah N-16 HU LP 50E - plan misses target center by 0.07ft at 12167.64ft MD (11584.00 TVD, 1671.22 N, 410.98 E) - Point	0.00	0.00	11,584.00	1,671.19	410.92	14,414,975.163	1,709,045.541	39.692825626	-80.756031268	
Elijah N-16 HU LP - plan misses target center by 43.30ft at 12192.75ft MD (11583.57 TVD, 1692.93 N, 398.37 E) - Point	0.00	0.00	11,584.00	1,671.19	360.92	14,414,975.163	1,708,995.544	39.692826000	-80.756209000	



Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-16 HU (slot B)
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-16 HU (slot B)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
3,502.00	3,502.00	0.00	0.00	KOP Begin 2"/100' build
3,652.00	3,651.93	3.15	2.34	Begin 3.00° tangent
7,006.67	7,002.00	144.23	106.84	Begin 2"/100' build/turn
7,575.99	7,563.85	213.26	157.98	Begin 14.39° tangent
10,922.10	10,805.04	881.31	652.85	Begin 6"/100' build/turn
11,637.87	11,410.36	1,229.35	617.58	Begin 8"/100' build/turn
12,167.66	11,584.00	1,671.24	410.97	Begin 91.00° lateral
28,060.62	11,307.00	15,411.18	-7,571.72	PBHL/TD 28060.62 MD 11307.00 TVD

4710303594

WW-9
(4/16)

API Number 47 - 103 - _____
Operator's Well No. Elijah N-16HU

**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 contain

Proposed Disposal Method For Treated Pit Wastes:

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

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

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

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

Additives to be used in drilling medium? Barite for weight

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

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

-Landfill or offsite name/permit number? Wetzel County Sanitary Landfill (SWF-1021 / WV0109185) and Westmoreland Sanitary Landfill, LLC (SAN1405 / PA DEP EG#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 Jim Pancake
Company Official (Typed Name) Jim Pancake
Company Official Title Vice President Geoscience

Subscribed and sworn before me this 22nd 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
5/18/23

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	Seed Type	lbs/acre
Annual Ryegrass	40	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: Smey

Comments:

Properly reclaim, seed, and mulch all areas.

Title: Oil and Gas Inspector

Date: 5/18/23

Field Reviewed?

Yes

No

PROPOSED ELIJAH PAD

12-7-22
CHARLES & F. DOTH ROSE - L.E.
CHARLES D. ROSE JR., ET AL.
DB 437-667
18 AC

DRAWING NOT TO SCALE

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

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

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.

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

15.31' @ -8.35%

248.18' @ -14.00%

106.76' @ -4.79%

76.87' @ -5.38%

92.82' @ -6.34%

335.89' @ -0.76%

48.48' @ -3.97%

58.19' @ 0.00%

111.44' @ 8.99%

52.74' @ 0.00%

51.25' @ -8.00%

8.58' @ 0.00%

259'
N-15HU
N-16HU
N-17HU
S-18HU
S-19HU
S-20HU
140'
130'
393'



LEGEND

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



Jackson Surveying Inc.
8113 E. Pike St. #111
Clarksburg, WV 26301
Phone: 304-629-6861

TOPO SECTION:

NEW MARTINSVILLE 7.5'

COUNTY	DISTRICT
WETZEL	PROCTOR
DRAWN BY	OPERATOR NO.
J.D.C.	494510851

OPERATOR:

PREPARED FOR:

TUG HILL OPERATING, LLC
380 SOUTHPOINTE BLVD
SUITE 200
CANONSBURG, PA 15317

DATE	SCALE
12-01-2021	NONE

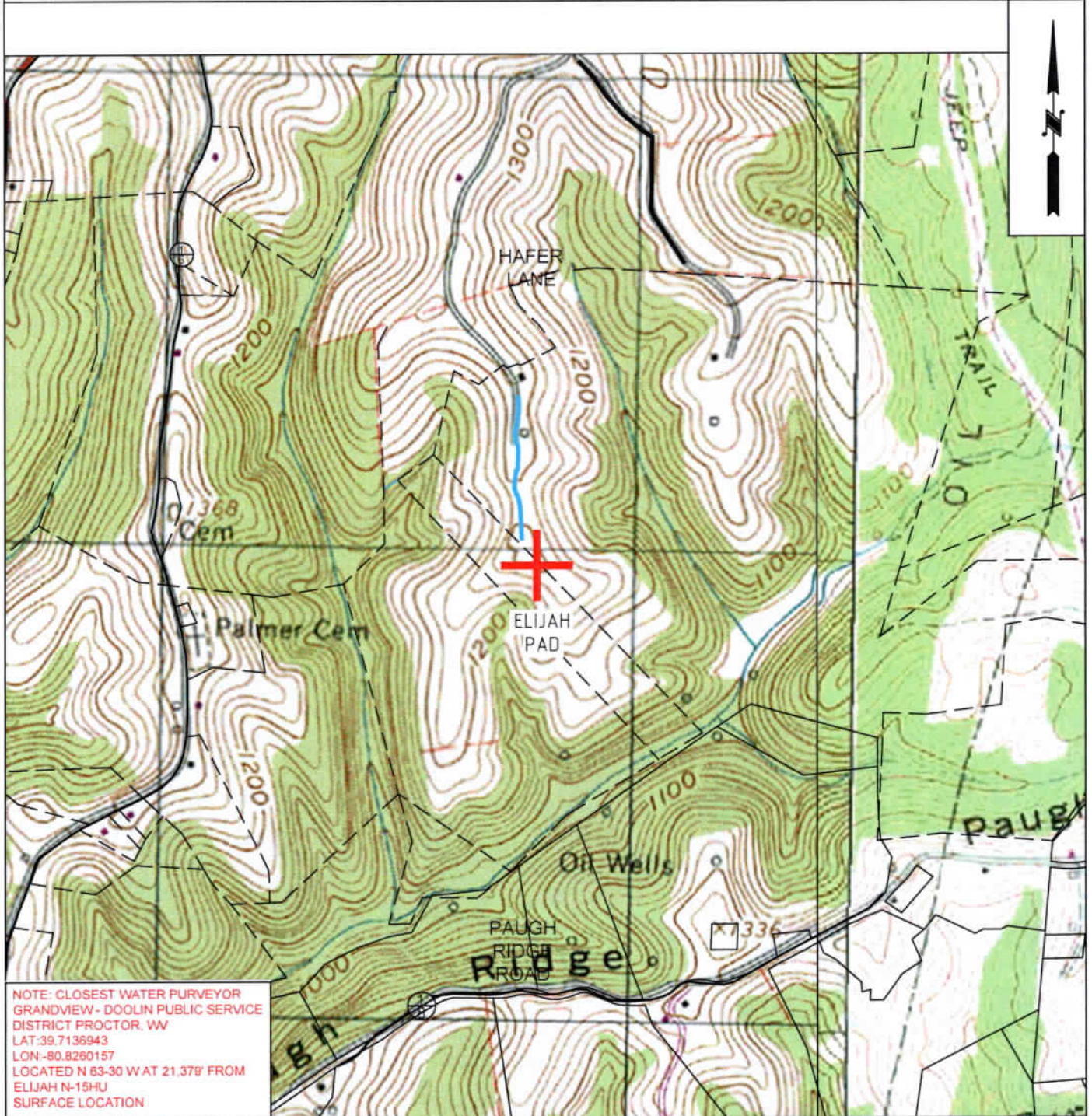


08/18/2023

WW-9

PROPOSED ELIJAH PAD

SUPPLEMENT PG 2



NOTE: CLOSEST WATER PURVEYOR
GRANDVIEW - DOOLIN PUBLIC SERVICE
DISTRICT PROCTOR, WV
LAT: 39.7136943
LON: -80.8260157
LOCATED N 63-30 W AT 21,378' FROM
ELIJAH N-15HU
SURFACE LOCATION



OPERATOR	494510851	TOPO SECTION	LEASE NAME
TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317		NEW MARTINSVILLE 7.5'	ELIJAH
		SCALE:	DATE:
		1" = 1000'	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-16HU

Pad Name: Elijah

County: Wetzel

UTM (meters), NAD83, Zone 17

Northing: 4,393,183.84

Easting: 520,792.88

**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

SMey
5/18/23
08/18/2023

CERTIFICATE OF CONSENT AND EASEMENT

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.

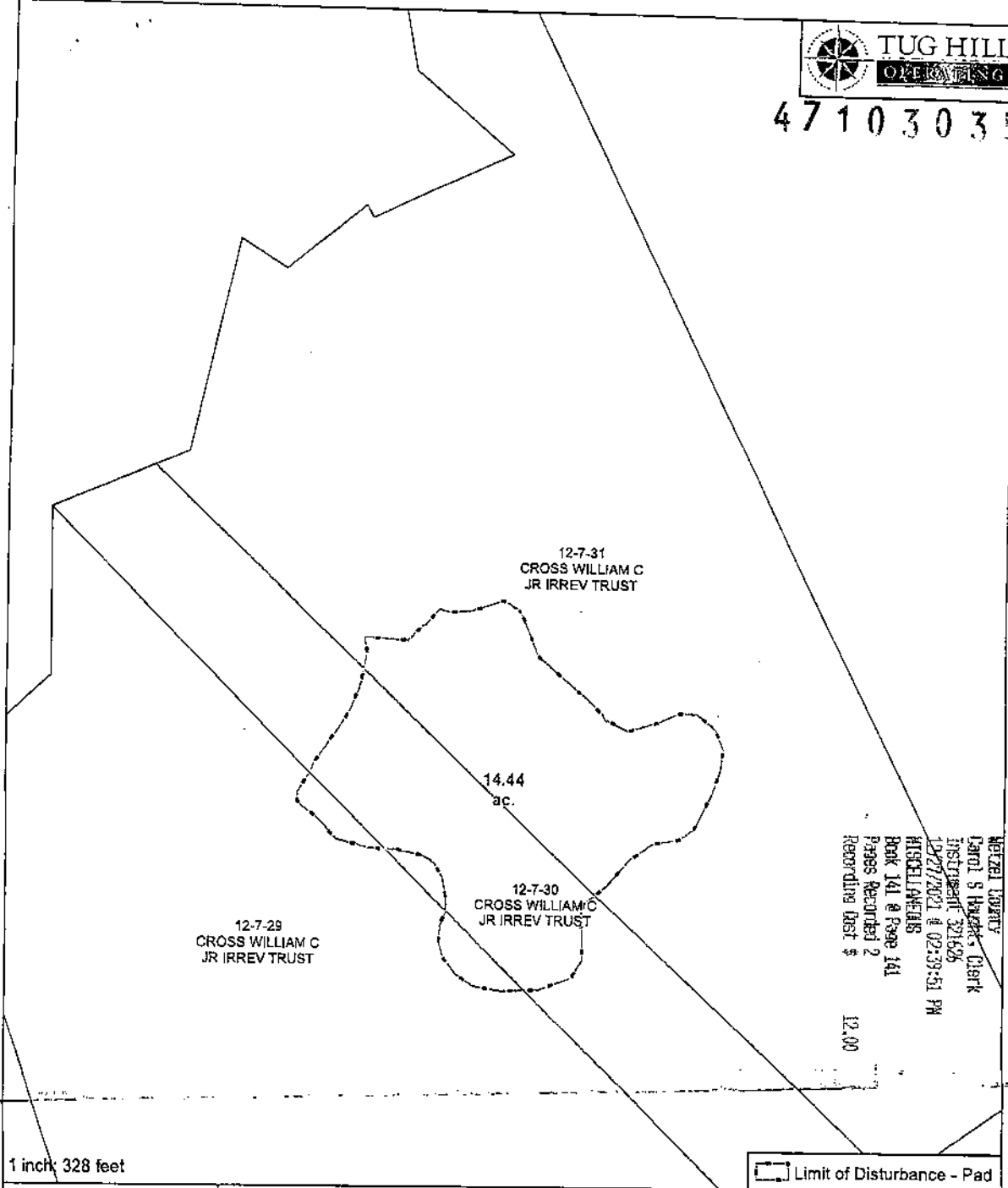
My Commission Expires: Sept. 3, 2024
Signature/Notary Public: Brenda J. Richmond
Name/Notary Public (print): Brenda J. Richmond

consideration is 0.



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

4710303594



Wetzel County
Carol S. Howard, Clerk
Instrument 321596
12/27/2021 @ 02:39:51 PM
MICHELL ANEAS
Book 141 @ Page 141
Pages Recorded 2
Recording Cost \$ 12.00

1 inch = 328 feet

Limit of Disturbance - Pad

0 95 190 380
Feet

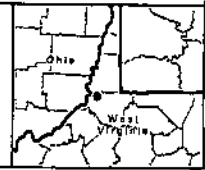
N

NOTE: THE APPROXIMATE LOCATIONS OF THE
WETZEL COUNTY RECORDS DEPARTMENT ARE
LOCATED AT THE INTERSECTION OF THE
COUNTY COURTHOUSE AND THE
COUNTY RECORDS DEPARTMENT BUILDING.
THE COUNTY RECORDS DEPARTMENT SHALL
BE RESPONSIBLE FOR THE RECORDS DEPARTMENT
LOCATIONS FOR THE RECORDS DEPARTMENT
BUILDING AT ANY FUTURE LOCATIONS.

Exhibit "A"

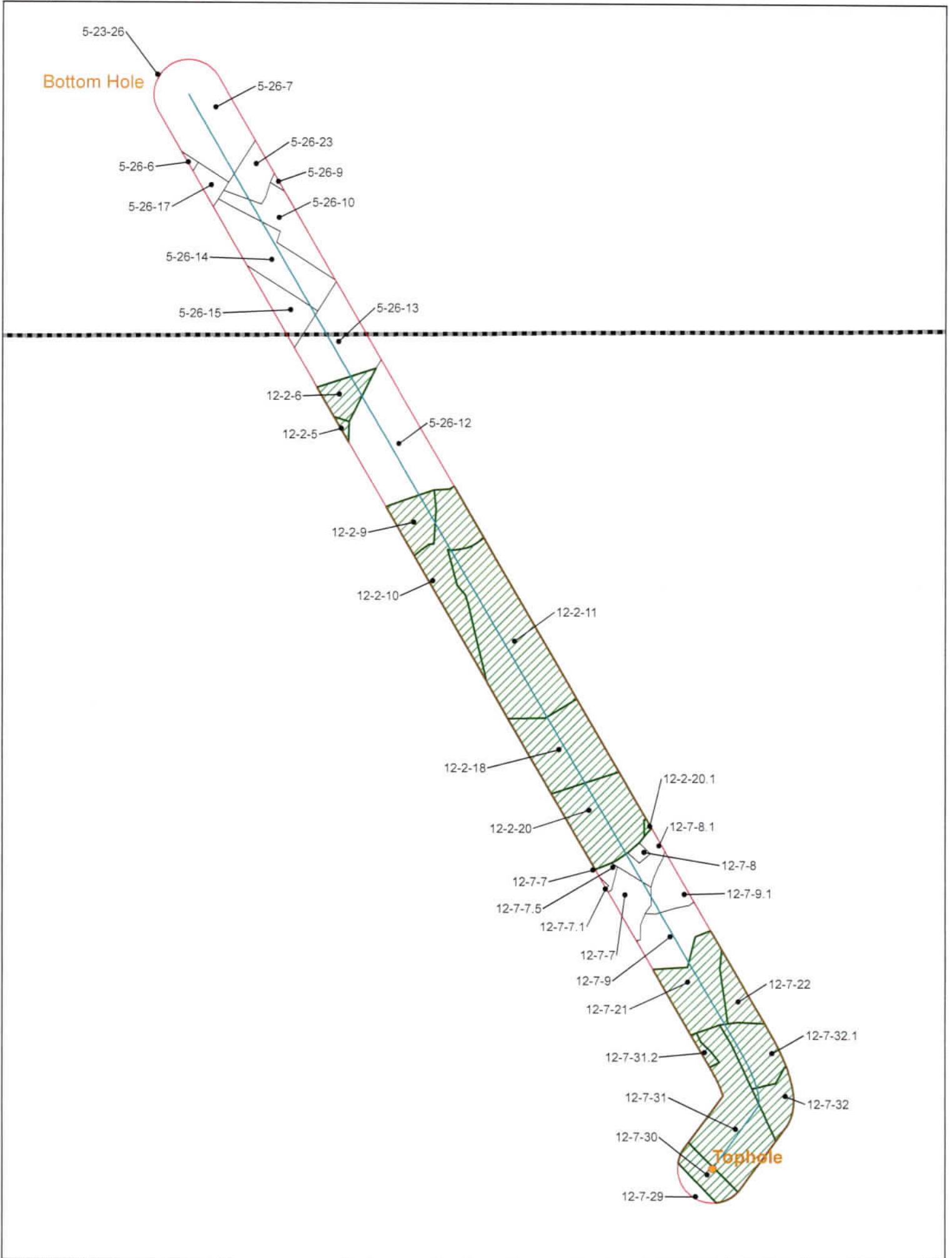
CROSS WILLIAM C JR IRREV TRUST
Wetzel County, WV

Date: _____
Name: _____
Name: _____



Date: 8/9/2021
PCS: NAD 1983 UTM Zone 17N Foot US

Elijah N-16HU



Database System: Arc 10.2.1 (7/2/2010)
 Projection: Transverse Mercator
 Datum: North American 1983
 False Easting: 1,843,418.8887
 False Northing: 0.0000
 Central Meridian: 81.0000
 Scale Factor: 0.9999
 Latitude Of Origin: 39.0000
 Units: Feet US

CONFIDENTIAL

0 16,000 32,000 64,000 Feet

TUG HILL OPERATING

- Utica_Well
- 500' Buffer
- Force Pool

Elijah N-16HU
Operators within 500 Feet of Well Borehole



4710303594

Operators with 500' of Well Boreholes
Elijah N - 16HU

COUNTY	DISTRICT	TMP	MINERAL OWNER OR LESSEE	ADDRESS
WETZEL	PROCTOR	12-2-5	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-5	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-5	THOMAS L ICEMAN	565 BALDWIN HEIGHTS CIRCLE HOWARD, OH 43028
WETZEL	PROCTOR	12-2-5	SUE M SCHAAD	455 CRESTVIEW DRIVE LEBANON, OH 45036
WETZEL	PROCTOR	12-2-5	VIRGINIA ANN HAHN	6536 GREENWICH ROAD WESTFIELD CENTER, OH 44251
WETZEL	PROCTOR	12-2-5	XTO ENERGY INC	22777 SPRINGWOODS VILLAGE PKWY SPRING, TX 77389
WETZEL	PROCTOR	12-2-6	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-6	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-6	THOMAS L ICEMAN	565 BALDWIN HEIGHTS CIRCLE HOWARD, OH 43028
WETZEL	PROCTOR	12-2-6	SUE M SCHAAD	455 CRESTVIEW DRIVE LEBANON, OH 45036
WETZEL	PROCTOR	12-2-6	VIRGINIA ANN HAHN	6536 GREENWICH ROAD WESTFIELD CENTER, OH 44251
WETZEL	PROCTOR	12-2-9	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-9	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-9	BILLY MASON SULLIVAN AKA BILLY J SULLIVAN	1410 SOUTH 24TH AVE, UNIT B PHOENIX, AZ 85009
WETZEL	PROCTOR	12-2-9	LIGHTNING CREEK HOLDINGS, LP	81 DUTILH RIDGE CRANBERRY TOWNSHIP, PA 16066
WETZEL	PROCTOR	12-2-9	STONE HILL MINERALS HOLDINGS LLC	P. O. BOX 470426 FORT WORTH, TX 76147
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

08/18/2023

Operators with 500' of Well Boreholes
Elijah N - 16HU

4710303594

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	12-2-18	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	12-2-20	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-20.1	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-21	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-21	APRIL D AMRHEIN	53 SALORI COURT WEBSTER, NY 14580
WETZEL	PROCTOR	12-7-21	CANDACE KIMBLE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-21	CINDY LOU UPDEGRAFF	2352 BLAIRS RIDGE ROAD MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-21	DEBRA KIMBLE	1405 1ST STREET MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-21	DONNA FOX	44 JADE COURT NOVATO, CA 94945
WETZEL	PROCTOR	12-7-21	ELSIE MULDREW	103 SHERWOOD AVENUE WHEELING, WV 26003
WETZEL	PROCTOR	12-7-21	FRANKLIN D KIMBLE	425 MAGNOLIA DRIVE MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-21	FREDERICK W WILKERSON	3121 MIDDLE GRAVE CREEK RD MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-21	HAROLD W HUGGINS	5146 EDISON STREET NE HARTVILLE, OH 44632
WETZEL	PROCTOR	12-7-21	JAMES D UPDEGRAFF	156 EDINGTON LANE WHEELING, WV 26003
WETZEL	PROCTOR	12-7-21	JESSICA L DIAZ	40 PLEASANT STREET LUBEC, ME 04652
WETZEL	PROCTOR	12-7-21	JOHN E KIMBLE	815 32ND STREET PARKERSBURG, WV 26104
WETZEL	PROCTOR	12-7-21	JOHN MATTHEW HUGGINS SR	729 N 4TH ST., APT 1 STEUBENVILLE, OH 43952
WETZEL	PROCTOR	12-7-21	JOSEPH F GOBLOWSKY	305 APACHE DRIVE EFFORT, PA 18330
WETZEL	PROCTOR	12-7-21	JOYCE A MOORE	1552 ROBERTS RIDGE ROAD MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-21	LAURA M PARSONS	2202 FORK RIDGE ROAD MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-21	LOIS J BOSO	1908 CENTER STREET MOUNDSVILLE, WV 26041

08/18/2023

Operators with 500' of Well Boreholes 4710303594
Elijah N - 16HU

WETZEL	PROCTOR	12-7-21	MARK W UPDEGRAFF	103 BLANEY AVENUE MOUNDSVILLE, PA 26041
WETZEL	PROCTOR	12-7-21	MICHAEL A UPDEGRAFF	3045 MIDDLE GRAVE CREEK ROAD MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-21	MICKEY FOX	344 ROCKYDALE ROAD CAVE JUNCTION, OR 97523
WETZEL	PROCTOR	12-7-21	REVOCABLE INTER VIVOS TRUST ARGMT, TRUSTEE ALLEN LLOYD PARSONS	3300 NE 36TH ST., APT 406 FORT LAUDERDALE, FL 33308
WETZEL	PROCTOR	12-7-21	RICHARD I UPDEGRAFF	501 TENTH ST., APT 707 MOUNDSVILLE, WV 26041
WETZEL	PROCTOR	12-7-21	ROBIN KIMBLE	3 WILLOW LANE GLEN DALE, WV 26038
WETZEL	PROCTOR	12-7-21	SHANE MURAVSKY	289 MILLWOOD SQUARE STERLING, VA 20165
WETZEL	PROCTOR	12-7-21	UNKNOWN & UNLOCATABLE HEIRS OF WILFORD W PARSONS	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-21	UNKNOWN DAUGHTER TINA OF LARRY ALLEN CROSS	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-21	UNKNOWN TWIN DAUGHTER OF LARRY ALLEN CROSS	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-21	VICTORIA J. CARVER FNA VICKIE BROWN	12 VILLAGE DRIVE WHEELING, WV 26003
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
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 08/18/2023
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

Operators with 500' of Well Boreholes

Elijah N - 16HU

47 10303594

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	MICKEY 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	12-7-29	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	DELORES DRAKE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-29	DOROTHY HAWKINS	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-29	DOROTHY HAWKINS (IN TRUST)	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-29	JAMES B HAWKINS	18 MARLPIT PLACE MIDDLETOWN, NJ 07748
WETZEL	PROCTOR	12-7-29	JOHN HAFER THAXTON	50 N PINCH ROAD ELKVIEW, WV 25071
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 HAFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-29	MARJORIE ALTMAN	2870 SAN PAEIL STREET JACKSONVILLE, FL 32246

**Operators with 500' of Well Boreholes
Elijah N - 16HU**

WETZEL	PROCTOR	12-7-29	MARY L THAXTON	47 HAFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-29	GERALDINE HAWKINS	534 CASCADE COURT MAHWAH, NJ 07430
WETZEL	PROCTOR	12-7-29	SANDRA EKELS	5361 FOREST PARK DRIVE NORTH FORT MYERS, FL 33917
WETZEL	PROCTOR	12-7-29	SARAH THAXTON	48 HAFER 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 HAFER LITTLE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-29	UNKNOWN & UNLOCATABLE HEIRS OF EVA HAFER	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
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	DELORES DRAKE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-30	DOROTHY HAWKINS	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-30	DOROTHY HAWKINS (IN TRUST)	UNKNOWN & UNLOCATABLE
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	5361 FOREST PARK DRIVE NORTH FORT MYERS, FL 33917
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

Operators with 500' of Well Boreholes

Elijah N - 16HU

4710303594

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	DELORES DRAKE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31	DOROTHY HAWKINS	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31	DOROTHY HAWKINS (IN TRUST)	UNKNOWN & UNLOCATABLE
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
WETZEL	PROCTOR	12-7-31	LINDA RYBOSKI	53710 QUIMBY AVENUE BRIDGEPORT, OH 43912
WETZEL	PROCTOR	12-7-31	LISA THAXTON DICKENS	48 HAFER 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 HAFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31	GERALDINE HAWKINS	534 CASCADE COURT MAHWAH, NJ 07430
WETZEL	PROCTOR	12-7-31	SANDRA EKELS	5361 FOREST PARK DRIVE NORTH FORT MYERS, FL 33917
WETZEL	PROCTOR	12-7-31	SARAH THAXTON	48 HAFER 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 HAFER LITTLE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31	UNKNOWN & UNLOCATABLE HEIRS OF EVA HAFER	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31	TRUSTEES OF ST ANDREW PRESBYTERIAN	246 S. PINCH ROAD 08/18/2023 ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31.2	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107

Operators with 500' of Well Boreholes 4710303594
Elijah N - 16HU

WETZEL	PROCTOR	12-7-31.2	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-7-31.2	BILL ANTILL	3276 WARREN ROAD, APT 2 CLEVELAND, OH 44111
WETZEL	PROCTOR	12-7-31.2	CHARLOTTE S BURGAN	7613 WHEAT FALL CT. DERWOOD, MD 20855-1168
WETZEL	PROCTOR	12-7-31.2	DAVIS FAMILY REVOCABLE TRUST DATED 2/22/95	9547 W COUNTRY CLUB DR SUN CITY, AZ 85373
WETZEL	PROCTOR	12-7-31.2	DELORES DRAKE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31.2	DOROTHY HAWKINS	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31.2	DOROTHY HAWKINS (IN TRUST)	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31.2	JAMES B HAWKINS	18 MARLPIT PLACE MIDDLETOWN, NJ 07748
WETZEL	PROCTOR	12-7-31.2	JOHN HAFER THAXTON	50 N PINCH ROAD ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31.2	JOYCE RHODES	8714 SW 60TH CIR OCALA, FL 34476
WETZEL	PROCTOR	12-7-31.2	UNKNOWN & UNLOCATABLE HEIRS OF LARRY ANTILL	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31.2	LINDA RIVERIA	11051 NAOMI DRIVE, PARMA, OH 4413
WETZEL	PROCTOR	12-7-31.2	LINDA RYBOSKI	53710 QUIMBY AVENUE BRIDGEPORT, OH 43912
WETZEL	PROCTOR	12-7-31.2	LISA THAXTON DICKENS	48 HAFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31.2	MARJORIE ALTMAN	2870 SAN PAEIL STREET JACKSONVILLE, FL 32246
WETZEL	PROCTOR	12-7-31.2	MARY L THAXTON	47 HAFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31.2	GERALDINE HAWKINS	534 CASCADE COURT MAHWAH, NJ 07430
WETZEL	PROCTOR	12-7-31.2	SANDRA EKELS	5361 FOREST PARK DRIVE NORTH FORT MYERS, FL 33917
WETZEL	PROCTOR	12-7-31.2	SARAH THAXTON	48 HAFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31.2	SHAWN POULAIN	97 GLENWOOD HTS MANSFIELD, OH 44903
WETZEL	PROCTOR	12-7-31.2	UNKNOWN & UNLOCATABLE HEIRS OF CARRIE HAFER LITTLE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31.2	UNKNOWN & UNLOCATABLE HEIRS OF EVA HAFER	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31.2	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
WETZEL	PROCTOR	12-7-7	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107 08/18/2023
WETZEL	PROCTOR	12-7-7.1	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107

**Operators with 500' of Well Boreholes 4710303594
Elijah N - 16HU**

WETZEL	PROCTOR	12-7-7.5	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-8	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
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
MARSHALL	FRANKLIN	5-23-26	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-23-26	TH EXPLORATION 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 LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-12	TH EXPLORATION 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	5-26-14	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-14	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-15	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-17	TH EXPLORATION 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 LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-6	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	5-26-9	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107

08/18/2023

Operators with 500' of Well Boreholes
Elijah N - 16HU

4710303594

MARSHALL	FRANKLIN	5-26-9	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
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08/18/2023

(BH) 9,700'

(TH) 2,169'

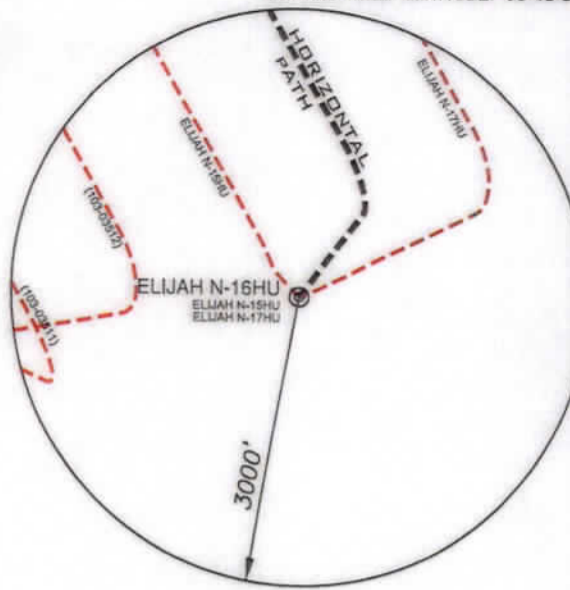
ELIJAH N-16HU UTICA UNIT - 469.1698± ACRES TUG HILL OPERATING, LLC

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

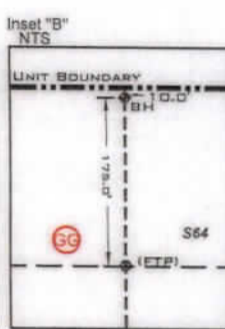
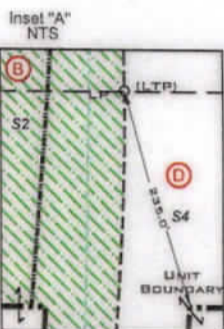
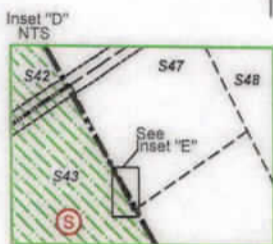
(BH) BOTTOM HOLE LONGITUDE: 80°45'00"
(TH) TOP HOLE LONGITUDE: 80°45'00"

NOTES

1. BORE PATH BASED ON GRID NORTH.
2. NO WATER WELLS WITHIN 250' OF WELL WERE FOUND, NO DWELLINGS WITHIN 625' OF PAD CENTER WERE FOUND.
3. 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.
4. WELL LOCATION REFERENCES ARE BASED UPON THE MAGNETIC MERIDIAN.
5. ALL DEEP WELLS WITHIN 1,000' ARE SHOWN ON THIS PLAT.
6. BOUNDARIES ALONG ROADWAYS ARE BASED UPON MEMORANDUM BY DICKIE, MCGAMEY & CHILCOTE, P.C. FILE 0058304.0401147
7. LP & LTP ARE THE SAME POINT.



(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS



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

DETAIL SKETCH "A" N.T.S.

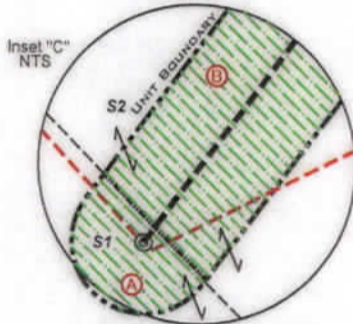
ELIJAH N-15HU
ELIJAH N-16HU
ELIJAH N-17HU

SURFACE HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,393,183.84
E) 520,792.87

LANDING POINT
UTM. NAD83, ZONE 17
IN METERS
N) 4,393,693.23
E) 520,918.14

BOTTOM HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,397,881.17
E) 518,485.01

REFERENCES N.T.S.



LINE	BEARING	DISTANCE
L1	N 81°17' W	1078.97'
L2	S 31°41' W	1853.74'
L3	N 37°29' E	1094.40'

CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH
C1	N 30°20' E	23.48'	79.02'	23.57'
C2	N 11°51' E	50.83'	171.28'	51.02'
C3	N 05°54' W	154.35'	566.89'	154.83'
C4	N 19°32' W	404.72'	1685.08'	405.70'
C5	N 27°10' W	215.05'	2993.21'	215.09'

FILE NUMBER _____
DRAWING NUMBER: ELIJAH_N-16HU_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 1480
Clarkburg, 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-16HU

API WELL NO. 47-103-03594

STATE WV COUNTY WETZEL PERMIT 03594

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

TARGET FORMATION POINT PLEASANT ESTIMATED DEPTH TVD: 11,803' TMD: 28,061'

WELL OPERATOR TUG HILL OPERATING, LLC
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107

DESIGNATED AGENT DARREN BROWN, CT CORP
ADDRESS 5098 WASHINGTON STREET WEST, SUITE 407 CHARLESTON, WV 25313-1561

08/18/2023

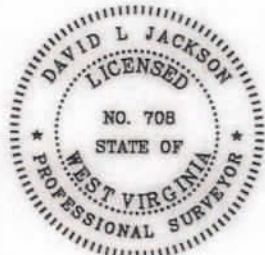
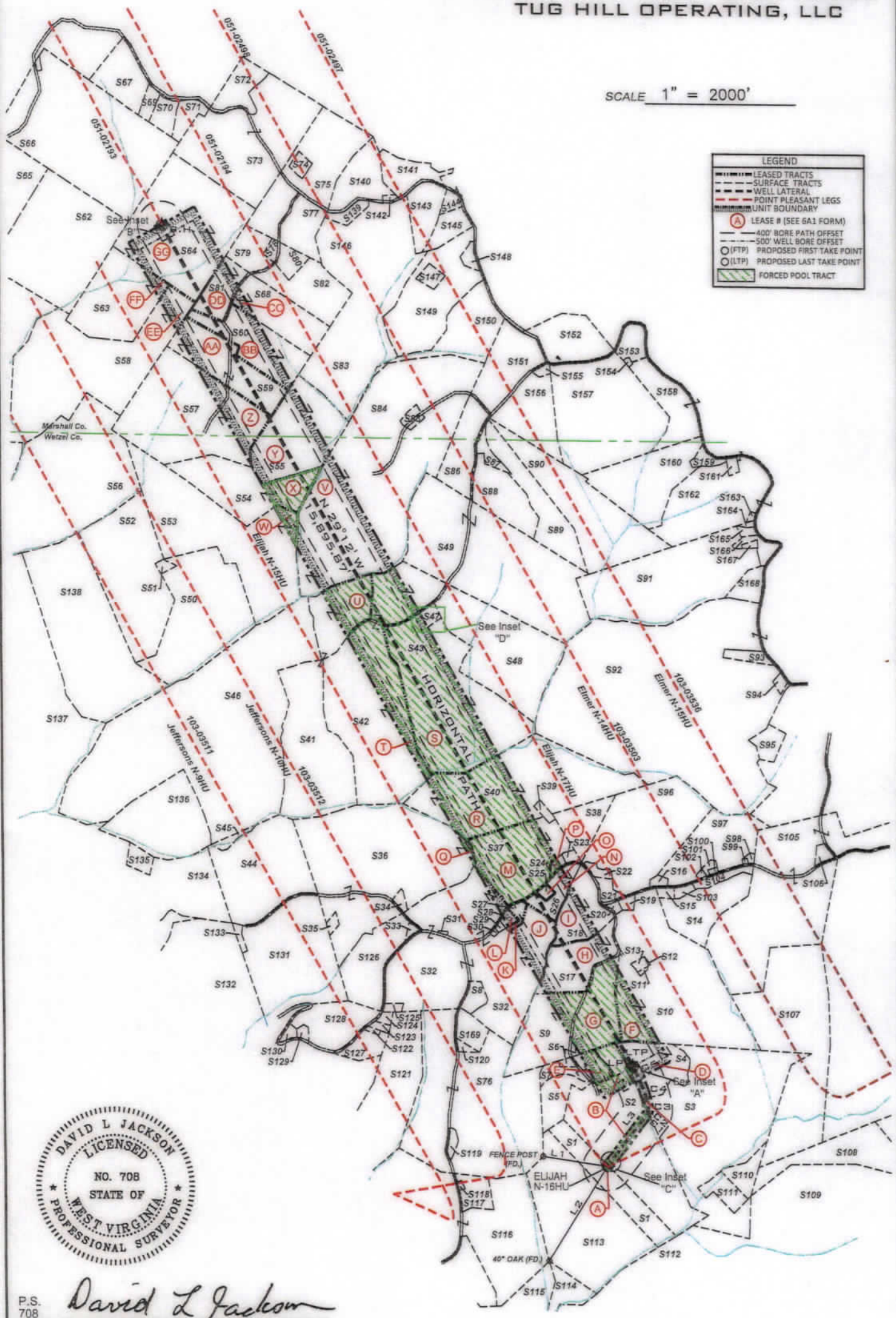
COUNTY NAME
PERMIT

ELIJAH N-16HU UTICA UNIT - 469.1698± ACRES TUG HILL OPERATING, LLC

SCALE 1" = 2000'

LEGEND

- LEASE TRACTS
- SURFACE TRACTS
- WELL LATERAL
- POINT PLEASANT LEGS
- UNIT BOUNDARY
- LEASE # (SEE GA1 FORM)
- 400' BORE PATH OFFSET
- 500' WELL BORE OFFSET
- PROPOSED FIRST TAKE POINT
- PROPOSED LAST TAKE POINT
- FORCED POOL TRACT



P.S. 708

David L Jackson

08/18/2023



TUG HILL

OPERATING

OPERATOR'S
 WELL #: ELIJAH N-16HU
 DISTRICT: Proctor
 COUNTY: Wetzel
 STATE: WV
 API #: 47-103-

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

form ww6

**ELIJAH N-16HU
UTICA UNIT - 469.1698± ACRES
TUG HILL OPERATING, LLC**

Parcels within Unit Boundary			
Tract	Number	Tax Map - Parcel	Surface Owner
A	51	12-7-30	TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHRISTA 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 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	57	a/o 12-7-31.2	TH EXPLORATION LLC
F	510	12-7-22	WAYNE PAUL GODDARD
G	59	12-7-21	ALENA & MICHAEL J. FAYAD III
H	517	12-7-9	MICHAEL & ALENA R. FAYAD
I	518	12-7-9.1	JAMES T EDDY
J	520	12-7-7	TH EXPLORATION LLC
K	527	12-7-7.5	MARK F ELLER
L	528	12-7-7.1	MARK F ELLER
M	537	12-2-20	MICHAEL K & ROSETTA A COZART
N	526	12-7-8.1	BRIAN & CHRISTINE L NICE
O	525	12-7-8	MARK F ELLER
P	524	12-3-20.1	SHIRLEY L & KENNETH L HAUGHT
Q	536	12-2-17	RANDY F ELLER
R	540	12-2-18	MICHAEL K. & ROSETTA A. COZART
S	548	12-7-11	BERYL E MASON
T	542	12-2-10	LAURA RICHARDS COOK
U	541	12-2-9	LAURA RICHARDS COOK
V	584	5-26-12	MARJORIE ANN STONEKING - LIFE
W	533	12-2-5	CLIFFORD W. & ALBERTA B. JOHNSON
X	554	12-2-6	CLIFFORD W. & ALBERTA B. JOHNSON
Y	535	5-26-13	MARJORIE ANN STONEKING - LIFE
Z	557	5-26-15	THERESA H WALTON AS TRUSTEE OF THE ROBERT D & BONNIE L OLIVER TRUST
AA	559	5-26-14	THERESA H WALTON AS TRUSTEE OF THE ROBERT D & BONNIE L OLIVER TRUST
BB	560	5-26-10	THERESA H WALTON AS TRUSTEE OF THE ROBERT D & BONNIE L OLIVER TRUST
CC	568	5-26-09	THERESA H. WALTON AS TRUSTEE OF THE ROBERT D. & BONNIE L. OLIVER TRUST
DD	581	5-26-23	RICHARD JOSEPH OTTE
EE	538	5-26-17	HEARTLAND FORESTLAND FUND VII LP
FF	563	5-26-6	HEARTLAND FORESTLAND FUND VII LP
GG	564	5-26-7	DOMINION TRANSMISSION, INC

Adjoining Parcels Ownership Table			
Number	Tax Map - Parcel	Surface Owner	Acres
55	a/o 12-7-31.2	MARK J DAVIS	9.192
56	12-7-31.1	TH EXPLORATION LLC	0.81
58	12-7-7.4	CHARLES LEE & BETTY J HUGGINS	4
511	12-7-22.3	TIMOTHY ROGER FERGUSON	0.289
512	12-7-22.4	WAYNE PAUL GODDARD	0.084
513	12-7-22.2	TIMOTHY ROGER FERGUSON	0.908
514	12-7-13.1	WAYNE PAUL GODDARD	18
515	12-7-11	JOE R VILLER	1.5
516	12-2-22.2	DAVID A & MANDYL TRUAX	1.186
519	12-7-10	WAYNE PAUL GODDARD	1.5
520	12-7-22.1	NANCY C MURPHY - LIFE; KARI KIM CLARK	0.82
521	12-2-22	MARY JOSEPHINE NICE	2.95
522	12-2-22.3	DAVID A & KIMBERLY L NICE	1.65
523	12-2-20.2	MICHAEL K COZART	1.025
529	12-7-7.2	ROBERT N EDWARDS	0.412
530	12-7-7.3	ROBERT N EDWARDS	0.237
531	12-7-7.7	ROBERT C FRANCIS JR	0.17
533	12-7-6	STACY E BRINER	0.25
534	12-7-51	IFAN J ELLER	1.25
535	12-7-52	BRENT J & SARA L ELLER	1.025
538	12-2-21	MICHAEL KENNETH & ROSETTA ANNETTE COZART	11.4375
539	12-2-25	MICHAEL K. & ROSETTA A. COZART	1.265
544	12-7-4	RODNEY G ELLER	46.7
545	12-2-8.1	FRIEND W PARSONS	0.5
546	12-2-8	LAURA LEE RICHARDS COOK	185.125
547	12-2-11.1	BERYL E MASON	1.7
548	12-2-12	BERYL E MASON	59.9
549	12-2-13	JAY S. BOOTH; DANIEL T. BOOTH & DIANE BETH OVEFRODRFF	100
530	12-2-4	EDITH SALEM & LISA G LARSON	56.25
531	12-2-4.1	TYRONE SULTZBACH & RICHARD WOLF	1
532	12-2-3	ROY YOHO	51.75
536	5-26-16	HEARTLAND FORESTLAND FUND VII LP	84.5
561	5-26-4.4	OTIS F & GLENDA M RUSH	39.436
562	5-26-5	MICHAEL J WILEY ET AL	85
565	5-26-2	EDWIN BOOTH ANDERSON & MARK W ANDERSON	67.5

* FORCED POOLED TRACTS ARE HIGHLIGHTED



P.S. 708 *David L Jackson*

Adjoining Parcels Ownership Table			
Number	Tax Map - Parcel	Surface Owner	Acres
566	5-23-26	MICHAEL J WILEY ET AL	101.57
567	5-23-17.2	DICK ROWAN JR	14.92
569	5-23-17.4	TAMMY D MEADOWS	65
570	5-23-17	TAMMY & THOMAS F BROWN	4.62
571	5-23-17.3	WILLIAM & KATHERINE F WELWELL	5.018
572	5-23-15	VIRGINIA ETHE: HENRY EST	15.5
573	5-23-14	DOMINION TRANSMISSION, INC	59.5
574	5-23-8.4	JACKSON R DAVIS JR	7.087
575	5-23-8.2	LINDA D GREATHOUSE	25.58
576	12-7-20	JEFFERY A. & PAULA J GORBY	104.72
577	5-23-9.1	JOHN W VAN ORDEN ET LIX	23.376
578	5-26-21	RICHARD JOSEPH OTTE	1.26
579	5-26-22	RICHARD JOSEPH OTTE	8.3
580	5-26-20	RICHARD JOSEPH OTTE	4.2
587	5-26-08	RICHARD JOSEPH OTTE	18.27
583	5-26-11	MARK A YOHO	89.25
585	5-26-12.1	ALVIN F JR & KRISTEN R STONEKING	2.011
586	5-25-15	ROBERT S KELLER ET AL	15.07
587	12-2-14.3	GLENNA BENNETT	3.093
588	12-2-14.1	SAMMY J GREATHOUSE SR - LIFE	18.67
589	12-2-14.2	JOHN G JR & GERALDINE W ROGERS	22.0007
590	12-7-14	DAVID L CUNNINGHAM	56.23
591	12-3-4.7	JOSEPH P & BARBARA A CAIN	87.3
592	12-2-19	NICHOLAS M & ASHLEY GODDARD	243.68
593	12-3-12	RODNEY DEAN JACKSON	3.625
594	12-3-8	ROYALD W. & JULIE A. NICE	1
595	12-3-13.1	ZACHARY J. KIRKLAND	5
596	12-2-22.1	DAVID A. NICE	54.66
597	12-2-23	DAVID A. NICE	21.7
598	12-3-46	CATHY A PURPURA	3.242
599	12-3-27	CATHY A PURPURA	0.227
5100	12-2-23.1	KENNETH W. GODDARD	0.36
5101	12-2-23.3	KENNETH W. GODDARD	0.766
5102	12-2-23.4	SHARON HOWELL, ET AL; GLORIA A. NICE - LIFE	0.422
5103	12-7-12	JOSEPH R. VILLERS	1.6
5104	12-3-26.1	JOSEPH MARK KLUG	3.242
5105	12-8-1.1	R SHANE & KATHRYN GODDARD	80.89
5106	12-8-1.2	JOSH GODDARD	1.81
5107	12-8-1	R. SHANE & KATHRYN GODDARD	77
5108	12-8-20.5	JOE MILLER, GERALD & SUF YEATER	44.85
5109	12-8-26	GERALD & SUF YEATER, & JOE B MILLER	54.5
5110	12-8-18	CHARLES D ROSE JR ET AL; CHARLES & JUDITH ROSE - LIFE	6.4
5111	12-7-33	CHARLES D. ROSE JR, ET AL; CHARLES & JUDITH ROSE - LIFE	5.75
5112	12-7-30	CHARLES D. ROSE JR, ET AL; CHARLES & JUDITH ROSE - LIFE	7.125
5113	12-7-29	TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHRISTA 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	171
5114	12-12-46	TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHRISTA 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	9.53
5115	12-7-45	TRUSTEES OF THE WILLIAM CROSS SUB TRUST, FBO CHRISTA 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	17.24
5116	12-7-27	EDWARD H & JOAN E ESTEP	92.302
5117	12-7-27.1	EDWARD H & JOAN E ESTEP	6.718
5118	12-7-43	FURBER CEMETERY	1.11
5119	12-7-28	PALMER CEMETERY	0.98
5120	12-7-20.2	PETER R TAMBORELLI & ANNIS E PONIKVAR	0.9
5121	12-7-19	JEFFREY S UNDERWOOD & VELVET K PARKS	41.4
5122	12-7-15.5	JIMMY L & SHARON SUE COLVIN	0.46
5123	12-7-15.4	JIMMY L & SHARON SUE COLVIN	0.97
5124	12-7-18	ANTHONY M & ELIZABETH G PARKS	1
5125	12-7-7.8	WILLIAM F & GLENDA E KAUFMAN	1.55
5126	12-7-5	MATTHEW D ARRICK	20.37
5127	12-7-15.6	JEFFREY S UNDERWOOD & VELVET K PARKS	5.923
5128	12-7-15.1	BILLY SWENFENY	10.72
5129	12-7-15.2	BILLY SWENFENY	1.8
5130	12-7-15.3	BILLY SWENFENY	1.26
5131	12-7-4.1	ROBERT JOSEPH COLEMAN	55.81
5132	12-7-3	MATTHEW ROHR & WAYNE RABER	56.828
5133	12-7-99	TANNER KELLEY	5
5134	12-7-3.2	LISA M NAEFFLE	28.47
5135	12-7-15.1	VIVIAN A PARSON, ET AL	5
5136	12-2-16	LAURA LEE COOK	1.33
5137	12-1-20	CHARLES E FROHNAPFEL, TRUSTEE OF THE CHARLES E. FROHNAPFEL LIVING TRUST DATED OCTOBER 3, 2012	126
5138	12-7-2	RUBY WOOD, ET AL	82
5139	5-23-12	MARK A YOHO	3.05
5140	5-23-13	LINDA D GREATHOUSE	14.24
5141	5-23-11.4	RYEYLN L HUDSON	10.679
5142	5-23-13.1	JAMES F & PAMLA J FERRELL	0.7405
5143	5-23-11.3	COJUN R YOHO	11.29
5144	5-23-11.8	ROY F YOHO	2.25
5145	5-23-11.5	ZACHARY R STEVEY	7
5147	5-25-18.1	PAMELA JOAN FERRELL ET V/R	2.401
5148	5-25-19	JOSEPH JOHNSON ET LIX	1.973
5149	5-25-18	JOSEPH JOHNSON ET LIX, LIFE	37.746
5150	5-25-17	CRAIG & ASHLEY FERRELL	22.79
5151	5-25-16	CRAIG & ASHLEY FERRELL	23.5
5152	5-25-14	ROY F YOHO	23
5153	5-25-13.2	DAVID A FLUG	5.89
5154	5-25-13.4	PARSONS CEMETERY	0.382
5155	5-25-16.2	RODNEY J LOY	1.087
5156	5-25-16.1	DAVID L CUNNINGHAM	6.34
5157	5-25-14.1	JUDITH L WEIGAND	65
5158	5-25-12	MARION PARSONS JR, ET AL	85.16
5159	5-25-11.1	EDWARD W & DIANA KLUG	2.343
5160	5-25-11.4	EDWARD W KLUG, ET LIX	32.787
5161	12-3-44	JAMES A & JOCELYN ESTEP	1.1
5162	5-25-11.2	JAMES W KLUG	110.491
5163	12-3-1	JAMES W KLUG	0.375
5164	12-3-4.5	HAZEL M BLAIR	0.451
5165	12-3-4.6	STEVEN P WAYMAN	1.009
5166	12-3-4.3	JOSEPH P & BARBARA A CAIN	3.619
5167	12-3-4.8	ERIN HURBS	0.623
5168	12-3-4.7	DEREK L BAKER	2.5
5169	12-7-20.1	PETER R TAMBORELLI & ANNIS E PONIKVAR	5.18

08/18/2023



TUG HILL OPERATING

OPERATOR'S WELL #: ELIJAH N-16HU
DISTRICT: Proctor
COUNTY: Wetzel
STATE: WV
API #: _____

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

form: ww6

**ELIJAH N-16HU
UTICA UNIT - 469.1698± 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 103A	505 320
B	**FORCE POOL**	12-7-31	TRUSTEES OF ST ANDREW PRESBYTERIAN, ET AL	NA	NA
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**	12-7-31.2	BRC APPALACHIA MINERAL I LLC, ET AL	102A	505
F	**FORCE POOL**	12-7-22	APRIL D AMRHEIN, ET AL	NA	NA
G	**FORCE POOL**	12-7-21	APRIL D AMRHEIN, ET AL	NA	NA
H	10*41336	12-7-9	LARRY D GARNER, ET AL	313A	616
I	10*41336	12-7-9.1	LARRY D GARNER, ET AL	313A	616
J	10*21510	12-7-7	BARBARA A SPRAGUE	197A	894
K	10*18160	12-7-7.5	MARK E ELLER	187A	950
L	10*18160	12-7-7.1	MARK E ELLER	187A	950
M	**FORCE POOL**	12-2-20	RICHMOND, ET AL	173A	198
N	10*22570	12-7-8.1	BRIAN M NICE AND CHRISTINE NICE	209A	279
O	10*18160	12-7-8	MARK E ELLER	187A	950
P	**FORCE POOL**	12-2-20.1	RICHMOND, ET AL	173A	198
Q	**FORCE POOL**	12-2-17	ALLEN STEWART, ET AL	215A	315
R	**FORCE POOL**	12-2-18	RICHMOND, ET AL	173A	198
S	**FORCE POOL**	12-2-11	CARL GILBERT AND LANA R GILBERT, ET AL	144A	331
T	**FORCE POOL**	12-2-10	DANNY DAVIS JR AND JENNIFER DAVIS, ET AL	143A	527
U	**FORCE POOL**	12-2-9	DANNY DAVIS JR AND JENNIFER DAVIS, ET AL	143A	527
V	10*31441	5-26-12	JASON AND S M PARSONS	59	3
W	**FORCE POOL**	12-2-5	BETTY J FLANAGAN FKA BETTY J ECKLES, ET AL	176A	429
X	**FORCE POOL**	12-2-6	BRC APPALACHIA MINERAL I LLC, ET AL	103A	320
Y	10*29670	5-26-13	ALVIN F STONEKING JR	1100	97
Z	10*22341	5-26-15	ROBERT D & BONNIE L OLIVER FAMILY TRUST	965	488
AA	10*14725	5-26-14	HERBERT D MINOR, ET AL	724	198
BB	10*14724	5-26-10	HERBERT D MINOR, ET AL	724	204
CC	10*14723	5-26-9	HERBERT D MINOR, ET AL	724	202
DD	10*14723	5-26-23	HERBERT D MINOR, ET AL	724	202
EE	10*41164	5-26-17	VENABLE ROYALTY LTD AND V14 L.P.		
FF	10*22286	5-26-6	VENABLE ROYALTY LTD AND VENRO LTD	926	133
GG	10*18343	5-26-7	DOMINION ENERGY TRANSMISSION INC	936	79

* FORCED POOLED TRACTS ARE HIGHLIGHTED



P.S.
708

David L Jackson

08/18/2023



TUG HILL
OPERATING

OPERATOR'S
WELL #: ELIJAH N-16HU
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
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*See attached pages

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

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

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

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

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

LEASE ID	TWP	TAG	GRANTOR, LESSOR, ETC.	GRANTEE, LESSEE, ETC.	ROYALTY	DEED BOOK/PAGE	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	
10*18145	12-7-30	A	CAROLYN RISK	TH EXPLORATION LLC	1/8*	188A 437	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*18224	12-7-30	A	JOHN J PAVLIK AND DOREEN V PAVLIK	TH EXPLORATION LLC	1/8*	188A 14	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*18842	12-7-30	A	DANIEL H DAVEY AND CONNIE S DAVEY	TH EXPLORATION LLC	1/8*	188A 495	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*21313	12-7-30	A	SUSAN MASON AND LEE MAN MASON	TH EXPLORATION LLC	1/8*	196A 734	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*21314	12-7-30	A	CATHY J NEEHOUSE	TH EXPLORATION LLC	1/8*	196A 732	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*22080	12-7-30	A	DAVID E HAFER	TH EXPLORATION LLC	1/8*	202A 818	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*22082	12-7-30	A	ROLAND L DAY JR	TH EXPLORATION LLC	1/8*	202A 814	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*22083	12-7-30	A	ERVIN H DAY	TH EXPLORATION LLC	1/8*	202A 812	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*22205	12-7-30	A	KRISTINE M CHERVENAK	TH EXPLORATION LLC	1/8*	202A 802	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*22210	12-7-30	A	ROBERT E L HAFER	TH EXPLORATION LLC	1/8*	202A 800	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*22226	12-7-30	A	MARTIN HAFER	TH EXPLORATION LLC	1/8*	204A 156	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*22227	12-7-30	A	RONNIE M AND HEINZ J JEANNERO	TH EXPLORATION LLC	1/8*	204A 154	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*22228	12-7-30	A	JOHN C HAFER AND LISA A DORNEY	TH EXPLORATION LLC	1/8*	204A 152	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*22347	12-7-30	A	WILLIAM C CROSS IRR TST DTD MARCH 22, 2010	TH EXPLORATION LLC	1/8*	204A 172	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*22574	12-7-30	A	SYDNEY V BENDER	TH EXPLORATION LLC	1/8*	209A 277	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*22708	12-7-30	A	LARRY ROBERTS	TH EXPLORATION LLC	1/8*	229A 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*27427	12-7-30	A	ROBIN AND CHARLES STILLWAGONER	TH EXPLORATION LLC	1/8*	229A 802	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*27428	12-7-30	A	ROBERT STILLWAGONER	TH EXPLORATION LLC	1/8*	229A 800	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*27429	12-7-30	A	CHARLES STILLWAGONER III	TH EXPLORATION LLC	1/8*	229A 804	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*28040	12-7-30	A	ROBERTA M BICE AND JEFFREY A BICE	TH EXPLORATION LLC	1/8*	233A 925	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*29462	12-7-30	A	DEREK AND STEPHANIE SUMMERS	TH EXPLORATION LLC	1/8*	249A 899	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*39777	12-7-30	A	CARL D HAFER AND MARY G HAFER	TH EXPLORATION LLC	1/8*	273A 495	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*39832	12-7-30	A	SANDRA S AND JAMES R CHANDLER	TH EXPLORATION LLC	1/8*	272A 923	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*39836	12-7-30	A	DONALD S ARCHER AND TINA M ARCHER	TH EXPLORATION LLC	1/8*	273A 487	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*39844	12-7-30	A	GLORIA L MILLER AND WILLIAM F MILLER	TH EXPLORATION LLC	1/8*	273A 489	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*39845	12-7-30	A	PAMELA MCGREGOR	TH EXPLORATION LLC	1/8*	272A 921	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*39904	12-7-30	A	DEBORAH POULAIN STAATS	TH EXPLORATION LLC	1/8*	276A 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
10*39905	12-7-30	A	JUDY KAY LEGG	TH EXPLORATION LLC	1/8*	276A 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
10*40225	12-7-30	A	FRANK LEE MARTIN AND LINDA L MARTIN	TH EXPLORATION LLC	1/8*	276A 818	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*40243	12-7-30	A	TED W ANTILL AND CONSTANCE ANTILL	TH EXPLORATION LLC	1/8*	279A 48	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*40253	12-7-30	A	MITCHELL S MARON AND GINA MARON	TH EXPLORATION LLC	1/8*	280A 880	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*40832	12-7-30	A	BARBARA AND JERRY BONDURANT	TH EXPLORATION LLC	1/8*	300A 760	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*41021	12-7-30	A	REBECCA ANN TOLER	TH EXPLORATION LLC	1/8*	304A 25	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*41131	12-7-30	A	GARY S STROMBERG	TH EXPLORATION LLC	1/8*	307A 274	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*41132	12-7-30	A	ANTHONY R AND LORRAINE HAWKINS	TH EXPLORATION LLC	1/8*	307A 272	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*41207	12-7-30	A	WILLIAM C LAYER AND RENE H LAYER	TH EXPLORATION LLC	1/8*	308A 874	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*41517	12-7-30	A	ROSS HAFER TRUST AGREEMENT DATED 6/5/95	TH EXPLORATION LLC	1/8*	276A 506	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	12-7-30	A	BRC APPALACHIA MINERAL I LLC	BRC WORKING INTEREST COMPANY LLC	1/8*	102A 305 103A 520	BAC Working Interest Company LLC to Chesapeake Appalachia LLC. 303A/870	Chesapeake Appalachia LLC to Statoil Onshore Properties Inc 120A/109	Chesapeake Appalachia LLC to SWN Production Company LLC. 157A/540	Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC 158A/801	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC. CB 13/296	SWN Production Company LLC to Antero Exchange Properties. 177A/533	Statoil Onshore Properties Inc to Antero Exchange Properties LLC. 177A/738	Merger - Antero Exchange Properties LLC merged with and into Antero Resources Corporation CB 13/311	Antero Resources Corporation to EQT Production Company. 231A/22	**FORCE POOL**			
FORCE POOL	12-7-30	A	ETHEL D BROWN	EQT PRODUCTION COMPANY	1/8*	206A 502										**FORCE POOL**			
FORCE POOL	12-7-30	A	SARAH LEE LONGWELL	EQT PRODUCTION COMPANY	1/8*	206A 498										**FORCE POOL**			
FORCE POOL	12-7-30	A	SUSAN LYNEE LONGWELL	EQT PRODUCTION COMPANY	1/8*	206A 500										**FORCE POOL**			
FORCE POOL	12-7-30	A	BILL ANTILL	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	CHARLOTTE S BURGAN	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	DAVIS FAMILY REVOCABLE TRUST DATED 2/22/95	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	DELORES DRAKE	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	DOROTHY HAWKINS	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	DOROTHY HAWKINS (IN TRUST)	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	GERALDINE HAWKINS	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	JAMES B HAWKINS	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	JOHN HAFER THAYTON	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	KOYCE RHODES	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	LARRY ANTILL	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	LINDA RIVERA	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	LINDA RYBOSKI	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	LISA THAXTON DICKENS	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	MARGORIE ALTHAM	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	MARY L THAXTON	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	SANDRA EKELS	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	SARAH THAXTON	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	SHAWN POULAIN	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	THE UNKNOWN HEIRS OF CARRIE HAFER LITTLE (MISSING)	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	THE UNKNOWN HEIRS OF EVA HAFER (MISSING)	UNLEASED	NA	NA										**FORCE POOL**			
FORCE POOL	12-7-30	A	TRUSTEES OF ST ANDREW PRESBYTERIAN	UNLEASED	NA	NA										**FORCE POOL**			
10*18145	12-7-31	B	CAROLYN RISK	TH EXPLORATION LLC	1/8*	188A 437	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*18224	12-7-31	B	JOHN J PAVLIK AND DOREEN V PAVLIK	TH EXPLORATION LLC	1/8*	188A 14	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*18842	12-7-31	B	DANIEL H DAVEY AND CONNIE S DAVEY	TH EXPLORATION LLC	1/8*	188A 495	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*21313	12-7-31	B	SUSAN MASON AND LEE MAN MASON	TH EXPLORATION LLC	1/8*	196A 734	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*21314	12-7-31	B	CATHY J NEEHOUSE	TH EXPLORATION LLC	1/8*	196A 732	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*22080	12-7-31	B	DAVID E HAFER	TH EXPLORATION LLC	1/8*	202A 818	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*22082	12-7-31	B	ROLAND L DAY JR	TH EXPLORATION LLC	1/8*	202A 814	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*22083	12-7-31	B	ERVIN H DAY	TH EXPLORATION LLC	1/8*	202A 812	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*22191	12-7-31	B	WILLIAM C CROSS IRR TST DTD MARCH 22, 2010	TH EXPLORATION LLC	1/8*	204A 172	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

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Well No.	Acres	Owner	Operator	Section	Township	Range	County	State	Notes										
10*22205	12-7-31	B ERISTINE M CHERVENAK	TH EXPLORATION LLC	1/8+	202A	802	N/A	N/A	N/A										
10*22210	12-7-31	B ROBERT E L HAFFER	TH EXPLORATION LLC	1/8+	202A	800	N/A	N/A	N/A										
10*22216	12-7-31	B MARTIN A HAFFER	TH EXPLORATION LLC	1/8+	204A	256	N/A	N/A	N/A										
10*22227	12-7-31	B RONNIE M AND HEINZ J JEANNERO	TH EXPLORATION LLC	1/8+	204A	258	N/A	N/A	N/A										
10*22228	12-7-31	B JOHN C HAFFER AND LISA A DORNEY	TH EXPLORATION LLC	1/8+	204A	252	N/A	N/A	N/A										
10*222574	12-7-31	B SYDNEY V BENDER	TH EXPLORATION LLC	1/8+	209A	277	N/A	N/A	N/A										
10*22308	12-7-31	B LARRY ROBERTS	TH EXPLORATION LLC	1/8+	229A	581	N/A	N/A	N/A										
10*27423	12-7-31	B ROBIN AND CHARLES STILLWAGONER	TH EXPLORATION LLC	1/8+	229A	802	N/A	N/A	N/A										
10*27428	12-7-31	B ROBERT STILLWAGONER	TH EXPLORATION LLC	1/8+	229A	800	N/A	N/A	N/A										
10*27429	12-7-31	B CHARLES STILLWAGONER III	TH EXPLORATION LLC	1/8+	229A	804	N/A	N/A	N/A										
10*28040	12-7-31	B ROBERTA M BICE AND JEFFREY A BICE	TH EXPLORATION LLC	1/8+	233A	925	N/A	N/A	N/A										
10*29462	12-7-31	B DEREK AND STEPHANIE SUMMERS	TH EXPLORATION LLC	1/8+	249A	899	N/A	N/A	N/A										
10*39727	12-7-31	B CARL D HAFFER AND MARY G HAFFER	TH EXPLORATION LLC	1/8+	271A	485	N/A	N/A	N/A										
10*39832	12-7-31	B SANDRA S AND JAMES R CHANDLER	TH EXPLORATION LLC	1/8+	272A	923	N/A	N/A	N/A										
10*39836	12-7-31	B DONALD S ARCHER AND TINA M ARCHER	TH EXPLORATION LLC	1/8+	271A	487	N/A	N/A	N/A										
10*39844	12-7-31	B GLORIA L MILLER AND WILLIAM F MILLER	TH EXPLORATION LLC	1/8+	271A	489	N/A	N/A	N/A										
10*39845	12-7-31	B PAMELA MCGREGOR	TH EXPLORATION LLC	1/8+	272A	921	N/A	N/A	N/A										
10*39904	12-7-31	B DEBORAH POULAIN STAATS	TH EXPLORATION LLC	1/8+	276A	502	N/A	N/A	N/A										
10*39905	12-7-31	B NUJOY EAT LEGG	TH EXPLORATION LLC	1/8+	276A	504	N/A	N/A	N/A										
10*40075	12-7-31	B FRANK LEE MARTIN AND LINDA L MARTIN	TH EXPLORATION LLC	1/8+	278A	818	N/A	N/A	N/A										
10*40243	12-7-31	B TED W ANTILL AND CONSTANCE ANTILL	TH EXPLORATION LLC	1/8+	279A	48	N/A	N/A	N/A										
10*40333	12-7-31	B MITCHELL S MARON AND GINA MARON	TH EXPLORATION LLC	1/8+	280A	880	N/A	N/A	N/A										
10*40993	12-7-31	B BARBARA AND JERRY BONDURANT	TH EXPLORATION LLC	1/8+	300A	790	N/A	N/A	N/A										
10*41023	12-7-31	B REBECCA ANN TOLER	TH EXPLORATION LLC	1/8+	304A	25	N/A	N/A	N/A										
10*41133	12-7-31	B GARY S STROMBERG	TH EXPLORATION LLC	1/8+	307A	274	N/A	N/A	N/A										
10*41137	12-7-31	B ANTHONY R AND LORRAINE HAWKINS	TH EXPLORATION LLC	1/8+	307A	272	N/A	N/A	N/A										
10*41207	12-7-31	B WILLIAM C LAYER AND RENE H LAYER	TH EXPLORATION LLC	1/8+	308A	874	N/A	N/A	N/A										
10*41517	12-7-31	B ROSS C HAFFER TRUST AGREEMENT DATED 6/9/95	TH EXPLORATION LLC	1/8+	276A	506	N/A	N/A	N/A										
FORCE POOL	12-7-31	B BRC APPALACHIA MINERAL LLC	BRC WORKING INTEREST COMPANY	NA	102A	505			**FORCE POOL**										
FORCE POOL	12-7-31	B ETHEL D BROWN	EQT PRODUCTION COMPANY	NA	206A	502			**FORCE POOL**										
FORCE POOL	12-7-31	B SARAH LEE LONGWELL	EQT PRODUCTION COMPANY	NA	206A	498			**FORCE POOL**										
FORCE POOL	12-7-31	B SUSAN LYNEE LONGWELL	COMPANY	NA	206A	500			**FORCE POOL**										
FORCE POOL	12-7-31	B BILL ANTILL	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B CHARLOTTE S BURGAN	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B DAVIS FAMILY REVOCABLE TRUST DATED 2/22/95	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B DELORES DRAKE	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B DOROTHY HAWKINS	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B DOROTHY HAWKINS (IN TRUST)	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-30	A GERALDINE HAWKINS	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B JAMES B HAWKINS	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B JOHN HAFFER THAXTON	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B JOYCE RHODES	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B LARRY ANTILL	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B LINDA RIVERIA	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B LINDA RYBOSKI	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B LISA THAXTON DICRENS	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B MARJORIE ALTMAN	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B MARY L THAXTON	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B SANDRA ERELS	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B SARAH THAXTON	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B SHAWN POULAIN	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B THE UNKNOWN HEIRS OF CARRIE HAFFER LITTLE (MISSING)	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B THE UNKNOWN HEIRS OF EVA HAFFER (MISSING)	UNLEASED	NA	NA	NA			**FORCE POOL**										
FORCE POOL	12-7-31	B TRUSTEES OF ST ANDREW PRESBYTERIAN	UNLEASED	NA	NA	NA			**FORCE POOL**										
10*31496	12-7-32	C J R HUGGINS	J C TREES	1/8+	56	465	J. C. Trees to Alvin C Spindler & Charles Gibbs Carter; 5/9/21	J C Trees to D C Harlan; 6/7/62	ML Benedum, DC Harkins, Alvin C Spindler, Charles Gibbs Carter & J C Trees to David Iseman; 6/7/62	John W Donnan to John H Donnan, Sydney B Donnan, Alvan E Donnan & Smith H Whitworth as Trustees of John W Donnan Trust; 3/34/42/5	Sara Mays Spindler, Wm B & Carol Spindler, Sydney B Donnan, Smith Whitworth & John D Donnan, Trustees of John W Donnan Trust, Citizens Natl Bnk of Washington, successor trustee under James Kuntz Jr will, David A & Dorothy Iseman, Warren S & Sarah G Burchinal, Eleanor & Hugh L Burchinal, David A Burchinal to Ambrose Bradley;	Ralph M White, guardian of Jean Burchinal to Ambrose Bradley; 3/24/35	H E Miliken, John R Conklin & Harry S Cummins as personal rep. of the estate of JA Cummins, decd. to John H Robinson & George F Elgon; 4/14/24/0	John H Robinson, Blanche Eagon, Exec. of the Est of George F Eagon, decd, Blanche Eagon, Mildred M Larboux & Carl L Eagon by Paul J Shiben & Joseph V DeBrosco Jr, Alf. Elva Robinson, Exec of John H Robinson Est., Elva Davis to Elva Robinson & Mary Ellen Davis; 4/31/44/0	Elva Robinson & Mary Ellen Davis to Andrew L Henry, Charles E Reed & Harry R Cronin Jr; 444/9/2	Katherine A Henry & Harry R Cronin Jr to Charles E Reed & Kathryn R Reed; 5/14/24/1	Kathryn C Reed to Carl Perkins; 5/54/54	Carl D Perkins & Dorothy Louise Perkins to Perkins Oil & Gas Inc; 844/9	Perkins Oil & Gas Inc to TH Exploration LLC; 279A/865

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10*26900	12-2-20	M	NINA K ALTHOFF AND RONALD D ALTHOFF	TH EXPLORATION LLC	1/8*	225A	778	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*29362	12-2-20	M	STARIA K RICHMOND	TH EXPLORATION LLC	1/8*	247A	282	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*30216	12-2-20	M	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8*	254A	335	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*39263	12-2-20	M	JANE ELLEN MARCUM	TH EXPLORATION LLC	1/8*	261A	124	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*39276	12-2-20	M	THE PYETT TRUST VICK M FERRIS TRUSTEE	TH EXPLORATION LLC	1/8*	261A	880	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*39431	12-2-20	M	TODD J COZART AND HEATHER R COZART	TH EXPLORATION LLC	1/8*	269A	616	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*39458	12-2-20	M	KENNA S SMOTER	TH EXPLORATION LLC	1/8*	269A	618	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*39668	12-2-20	M	MICHAEL K AND ROSETTA A COZART	TH EXPLORATION LLC	1/8*	212A	919	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	12-2-20	M	CHERYL ANN COCHRAN FKA CHERYL ANN RICHMOND	ANTERO RESOURCES CORPORATION	1/8*	173A	198	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											
FORCE POOL	12-2-20	M	CHRISTA JO DAVIES FKA CHRISTA JO YOHO	ANTERO RESOURCES CORPORATION	1/8*	172A	603	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											
FORCE POOL	12-2-20	M	GARY YOHO	ANTERO RESOURCES CORPORATION	1/8*	171A	500	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											
FORCE POOL	12-2-20	M	GLENNALEE COZART	ANTERO RESOURCES CORPORATION	1/8*	171A	834	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											
FORCE POOL	12-2-20	M	IMA LEE YOHO	ANTERO RESOURCES CORPORATION	1/8*	172A	153	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											
FORCE POOL	12-2-20	M	LAWRENCE E YOHO	ANTERO RESOURCES CORPORATION	1/8*	172A	503	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											
FORCE POOL	12-2-20	M	NOEL S YOHO	ANTERO RESOURCES CORPORATION	1/8*	172A	608	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											
FORCE POOL	12-2-20	M	RICHARD YOHO	ANTERO RESOURCES CORPORATION	1/8*	171A	840	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											
FORCE POOL	12-2-20	M	SHARON POTTS	ANTERO RESOURCES CORPORATION	1/8*	171A	496	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											
FORCE POOL	12-2-20	M	TAMMY JO EGGELL	EQT PRODUCTION COMPANY	1/8*	250A	884	**FORCE POOL**												
FORCE POOL	12-2-20	M	THOMAS S YOHO	ANTERO RESOURCES CORPORATION	1/8*	172A	505	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											
10*22570	12-2-18	R	BRIAN M NICE AND CHRISTINE NICE	TH EXPLORATION LLC	1/8*	209A	279	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*22571	12-2-18	R	LINDA M YOHO	TH EXPLORATION LLC	1/8*	209A	281	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*23019	12-2-18	R	KODI LYNN PAULEY	TH EXPLORATION LLC	1/8*	209A	233	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*23186	12-2-18	R	ROONEY C AND MARY SUE BAXTER	TH EXPLORATION LLC	1/8*	210A	401	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*23191	12-2-18	R	MARY JO KIBBEE AND VINCENT KIBBEE II	TH EXPLORATION LLC	1/8*	210A	613	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*23297	12-2-18	R	JUDITH A WILLIAMS	TH EXPLORATION LLC	1/8*	211A	228	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*23745	12-2-18	R	JENNIFER ANN YOHO	TH EXPLORATION LLC	1/8*	213A	699	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*26900	12-2-18	R	NINA K ALTHOFF AND RONALD D ALTHOFF	TH EXPLORATION LLC	1/8*	225A	778	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*29362	12-2-18	R	STARIA K RICHMOND	TH EXPLORATION LLC	1/8*	247A	282	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*30216	12-2-18	R	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8*	254A	335	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*39263	12-2-18	R	JANE ELLEN MARCUM	TH EXPLORATION LLC	1/8*	261A	124	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*39276	12-2-18	R	THE PYETT TRUST VICK M FERRIS TRUSTEE	TH EXPLORATION LLC	1/8*	261A	880	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*39431	12-2-18	R	TODD J COZART AND HEATHER R COZART	TH EXPLORATION LLC	1/8*	269A	616	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*39458	12-2-18	R	KENNA S SMOTER	TH EXPLORATION LLC	1/8*	269A	618	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*39668	12-2-18	R	MICHAEL K AND ROSETTA A COZART	TH EXPLORATION LLC	1/8*	212A	919	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	12-2-18	R	CHERYL ANN COCHRAN FKA CHERYL ANN RICHMOND	ANTERO RESOURCES CORPORATION	1/8*	173A	198	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											
FORCE POOL	12-2-18	R	CHRISTA JO DAVIES FKA CHRISTA JO YOHO	ANTERO RESOURCES CORPORATION	1/8*	172A	603	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											
FORCE POOL	12-2-18	R	GARY YOHO	ANTERO RESOURCES CORPORATION	1/8*	171A	500	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											
FORCE POOL	12-2-18	R	GLENNALEE COZART	ANTERO RESOURCES CORPORATION	1/8*	171A	834	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**											

Well ID	Date	Type	Owner	Status	Acres	Section	Township	Range	County	Operator	Notes
FORCE POOL	12-2-11	S	KENNETH JAMES PARSONS	UNLEASED	NA	NA	NA			Antero Resources Corporation to EQT Production Company. 231A/22	**FORCE POOL**
FORCE POOL	12-2-11	S	LENORA SHELTON	ANTERO RESOURCES CORPORATION	1/8+	175A	527			Antero Resources Corporation to EQT Production Company. 231A/22	**FORCE POOL**
FORCE POOL	12-2-11	S	MONA LOU MOORE	ANTERO RESOURCES CORPORATION	1/8+	175A	519			Antero Resources Corporation to EQT Production Company. 231A/22	**FORCE POOL**
FORCE POOL	12-2-11	S	PAMI ISOM	UNLEASED	NA	NA	NA				**FORCE POOL**
FORCE POOL	12-2-11	S	PATRICIA MAE SHRIVER	ANTERO RESOURCES CORPORATION	1/8+	175A	806			Antero Resources Corporation to EQT Production Company. 231A/22	**FORCE POOL**
FORCE POOL	12-2-11	S	REBECCA J HARRELL AKA REBECCA J ANTIBUS	UNLEASED	NA	NA	NA				**FORCE POOL**
FORCE POOL	12-2-11	S	ROSE MARIE BARKER	ANTERO RESOURCES CORPORATION	1/8+	175A	509			Antero Resources Corporation to EQT Production Company. 231A/22	**FORCE POOL**
FORCE POOL	12-2-11	S	SHANNON HEMINGWAY	UNLEASED	NA	NA	NA				**FORCE POOL**
FORCE POOL	12-2-11	S	TERRY W GILBERT	STONE ENERGY CORPORATION	1/8+	144A	325			Stone Energy Corp to EQT Production Company. 183A/305	**FORCE POOL**
FORCE POOL	12-2-11	S	VICTORIA MCCUNTOCK	STONE ENERGY CORPORATION	1/8+	143A	531			Stone Energy Corp to EQT Production Company. 183A/305	**FORCE POOL**
FORCE POOL	12-2-11	S	DOUG PATTERSON	UNLEASED	NA	NA	NA				**FORCE POOL**
10*18336	12-2-10	T	ED BROOME INC	TH EXPLORATION LLC	1/8+	198A	218			N/A	N/A
10*18556	12-2-10	T	VANITA AND CORDOVA HOLDING COMPANY	TH EXPLORATION LLC	1/8+	188A	497			N/A	N/A
10*22219	12-2-10	T	PAUL D MASON	TH EXPLORATION LLC	1/8+	202A	834			N/A	N/A
10*22229	12-2-10	T	MURIEL A MILLER	TH EXPLORATION LLC	1/8+	204A	150			N/A	N/A
10*22230	12-2-10	T	JOHN P SWYDER	TH EXPLORATION LLC	1/8+	204A	146			N/A	N/A
10*23007	12-2-10	T	JOHN M PARSONS & ANTOINETTE L COSTANTINO	TH EXPLORATION LLC	1/8+	209A	287			N/A	N/A
10*23266	12-2-10	T	KEVIN P MASON	TH EXPLORATION LLC	1/8+	209A	225			N/A	N/A
10*23512	12-2-10	T	VIVIAN A PARSONS	TH EXPLORATION LLC	1/8+	212A	59			N/A	N/A
10*23824	12-2-10	T	JAMES H PARSONS JR	TH EXPLORATION LLC	1/8+	213A	262			N/A	N/A
10*24148	12-2-10	T	ROY C PARSONS	TH EXPLORATION LLC	1/8+	213A	517			N/A	N/A
10*24376	12-2-10	T	WD LEMON	TH EXPLORATION LLC	1/8+	218A	504			N/A	N/A
10*24472	12-2-10	T	ROY FRIEDR YOHM	TH EXPLORATION LLC	1/8+	219A	3			N/A	N/A
10*24670	12-2-10	T	KORI Q MASON	TH EXPLORATION LLC	1/8+	211A	854			N/A	N/A
10*24683	12-2-10	T	OLEY W DAVIS, JR	TH EXPLORATION LLC	3/8+	219A	520			N/A	N/A
10*24732	12-2-10	T	JEFFREY SMITH AND LESLIE SMITH	TH EXPLORATION LLC	1/8+	220A	23			N/A	N/A
10*24754	12-2-10	T	WILLIAM M GREENE	TH EXPLORATION LLC	1/8+	220A	44			N/A	N/A
10*24755	12-2-10	T	JOHNNY F GREENE	TH EXPLORATION LLC	1/8+	471	222A			N/A	N/A
10*25018	12-2-10	T	KENNETH WAYNE & LANA PRETZ MASON	TH EXPLORATION LLC	3/8+	221A	311			N/A	N/A
10*25014	12-2-10	T	RICHARD JOSEPH & VICKY ANN MASON	TH EXPLORATION LLC	3/8+	221A	307			N/A	N/A
10*25314	12-2-10	T	LISA SUTPHIN	TH EXPLORATION LLC	3/8+	222A	123			N/A	N/A
10*29243	12-2-10	T	HARRYL AND ROBERTA L WILLIAMS	TH EXPLORATION LLC	1/8+	246A	693			N/A	N/A
10*29273	12-2-10	T	LILLIAN GALLAGHER	TH EXPLORATION LLC	1/8+	246A	917			N/A	N/A
10*39899	12-2-10	T	EDWARD A BROOME	TH EXPLORATION LLC	1/8+	<null>	N/A			N/A	N/A
10*40351	12-2-10	T	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	282A	435			N/A	N/A
10*40367	12-2-10	T	LAURA LEE RICHARDS COOK	TH EXPLORATION LLC	1/8+	289A	725			N/A	N/A
10*40391	12-2-10	T	MASON ENERGY LLC	TH EXPLORATION LLC	1/8+	290A	160			N/A	N/A
10*40785	12-2-10	T	ALICE PRATKO	TH EXPLORATION LLC	1/8+	298A	391			N/A	N/A
10*41089	12-2-10	T	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	305A	239			N/A	N/A
10*41250	12-2-10	T	HAMMETT LAND & MINERALS LLC	TH EXPLORATION LLC	1/8+	204A	184			N/A	N/A
10*41497	12-2-10	T	ALF T AND CHERYL ANN MOORE	TH EXPLORATION LLC	1/8+	325A	233			N/A	N/A
10*41505	12-2-10	T	VICKIE NOLAN	TH EXPLORATION LLC	1/8+	325A	464			N/A	N/A
10*41613	12-2-10	T	AARON DAVIS	TH EXPLORATION LLC	1/8+	323A	317			N/A	N/A
FORCE POOL	12-2-10	T	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	T	GORDYTH JOANNE HARS	EQT PRODUCTION COMPANY	1/8+	212A	861				**FORCE POOL**
FORCE POOL	12-2-10	T	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	T	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	T	BILLY MASON SULLIVAN AKA BILLY J SULLIVAN	UNLEASED	NA	NA	NA				**FORCE POOL**
FORCE POOL	12-2-10	T	LIGHTNING CREEK HOLDINGS, LP	UNLEASED	NA	NA	NA				**FORCE POOL**

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Well ID	Section	Subsection	Owner	Company	Interest	102A	505	BRC Working Interest Company LLC to Chesapeake Appalachia LLC: 103A/470	Chesapeake Appalachia LLC to Statoil Onshore Properties Inc.: 120A/109	Chesapeake Appalachia LLC to SWN Production Company LLC: 157A/540	Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC: 158A/803	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 13/296	SWN Production Company LLC to Antero Exchange Properties: 177A/533	Statoil Onshore Properties Inc to Antero Exchange Properties LLC: 177A/738	MERGER - Antero Exchange Properties LLC merged with and into Antero Resources Corporation: CB 13/311	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**				
FORCE POOL	12-2-6	X	BRC APPALACHIA MINERAL LLC	BRC WORKING INTEREST COMPANY LLC	1/8+	102A	505	103A/470										**FORCE POOL**			
FORCE POOL	12-2-6	X	B&R CONSTRUCTION INC	STONE ENERGY CORPORATION	1/8+	112A	459	183A/305										**FORCE POOL**			
FORCE POOL	12-2-6	X	BETTY J FLANAGAN FKA BETTY J ECKLES	ANTERO RESOURCES CORPORATION	1/8+	176A	429	231A/22										**FORCE POOL**			
FORCE POOL	12-2-6	X	CHARLES R MYERS	ANTERO RESOURCES CORPORATION	1/8+	175A	491	231A/22										**FORCE POOL**			
FORCE POOL	12-2-6	X	CLAUDIA R SCHEENLE	ANTERO RESOURCES CORPORATION	1/8+	175A	497	232A/22										**FORCE POOL**			
FORCE POOL	12-2-6	X	CLIFFORD W JOHNSON AND ALBERTA B JOHNSON	STONE ENERGY CORPORATION	1/8+	156A	501	183A/305										**FORCE POOL**			
FORCE POOL	12-2-6	X	HERBERT D MINOR	ANTERO RESOURCES CORPORATION	1/8+	170A	422	231A/22										**FORCE POOL**			
FORCE POOL	12-2-6	X	PATRICIA E ECKLES	ANTERO RESOURCES CORPORATION	1/8+	286A	100	231A/22										**FORCE POOL**			
FORCE POOL	12-2-6	X	RICHARD S WHITE II	ANTERO RESOURCES CORPORATION	1/8+	175A	501	231A/22										**FORCE POOL**			
FORCE POOL	12-2-6	X	RUTH ANN SHINGLETON FKA RUTH ANN ECKLES	ANTERO RESOURCES CORPORATION	1/8+	176A	465	231A/22										**FORCE POOL**			
FORCE POOL	12-2-6	X	SHARON E YOHO	ANTERO RESOURCES CORPORATION	1/8+	175A	505	231A/22										**FORCE POOL**			
FORCE POOL	12-2-6	X	SHIRLEY DORSEY	ANTERO RESOURCES CORPORATION	1/8+	175A	487	231A/22										**FORCE POOL**			
FORCE POOL	12-2-6	X	SHIRLEY K WHITE	ANTERO RESOURCES CORPORATION	1/8+	175A	503	231A/22										**FORCE POOL**			
FORCE POOL	12-2-6	X	KATHY ICEMAN	UNLEASED	NA	NA	NA											**FORCE POOL**			
FORCE POOL	12-2-6	X	SUE M SCHAAD	UNLEASED	NA	NA	NA											**FORCE POOL**			
FORCE POOL	12-2-6	X	VIRGINIA ANN MAHN	UNLEASED	NA	NA	NA											**FORCE POOL**			
10*29670	5-26-13	Y	ALVIN F STONERIG JR	TH EXPLORATION LLC	1/8+	1100	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
10*22341	5-26-15	ZZ	ROBERT D & BONNIE L OLIVER FAMILY TRUST	TH EXPLORATION LLC	1/8+	965	488	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
10*14225	5-26-14	AA	HEARBERT D MINOR	TRIENERGY HOLDINGS, LLC	1/8+	724	138	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.: 256/307	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	5-26-14	AA	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: 31/313	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	
10*18947	5-26-14	AA	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	N/A	
10*18758	5-26-14	AA	SHIRLEY M 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	5-26-14	AA	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*14797	5-26-14	AA	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: MB 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	5-26-14	AA	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	5-26-14	AA	CLAUDIA R SCHEENLE	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*19719	5-26-14	AA	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*22430	5-26-14	AA	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*23632	5-26-14	AA	CHESTNUT HOLDINGS INC	TH EXPLORATION LLC	1/8+	1034	554	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	

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WELL BORE PARCELS

10*14724	5-26-10	BB	HERBERT D MINOR	TRIENERGY HOLDINGS, LLC	1/8+	724	204	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: 756/307	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*14797	5-26-10	BB	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	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Merger - Gastar Exploration USA Inc merged with and into Gastar Exploration Inc: MB 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	
10*14816	5-26-10	BB	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*18681	5-26-10	BB	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	5-26-10	BB	CLAUDIA R SCHEENLE	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	5-26-10	BB	SHIRLEY M 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	5-26-10	BB	SHARON E YOHIO	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	5-26-10	BB	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	N/A	
10*19719	5-26-10	BB	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	5-26-10	BB	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*25626	5-26-10	BB	CHESTNUT HOLDINGS INC	TH EXPLORATION LLC	1/8+	1034	552	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*14723	5-26-23	DD	HERBERT D MINOR	TRIENERGY HOLDINGS, LLC	1/8+	724	202	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: 756/307	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	5-26-23	DD	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*14724	5-26-23	DD	HERBERT D MINOR	TRIENERGY HOLDINGS, LLC	1/8+	724	204	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: 756/307	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*18947	5-26-23	DD	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	N/A	
10*18759	5-26-23	DD	SHARON E YOHIO	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*14797	5-26-23	DD	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: MB 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	5-26-23	DD	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	5-26-23	DD	CLAUDIA R SCHEENLE	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	5-26-23	DD	SHIRLEY M 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*22410	5-26-23	DD	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*25626	5-26-23	DD	CHESTNUT HOLDINGS INC	TH EXPLORATION LLC	1/8+	1034	552	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	GG	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	

4710303594

**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, Pennington, 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.

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



TUG HILL

4710303594

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-16HU

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-16HU 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

4710303594

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-16HU
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>520,792.87</u>
County:	<u>Wetzel</u>		Northing:	<u>4,393,183.84</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: *PLEASE CHECK ALL THAT APPLY		OOG OFFICE USE ONLY
<input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED		<input type="checkbox"/> RECEIVED/ NOT REQUIRED
<input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED		<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)		<input checked="" type="checkbox"/> RECEIVED/ NOT REQUIRED
<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.

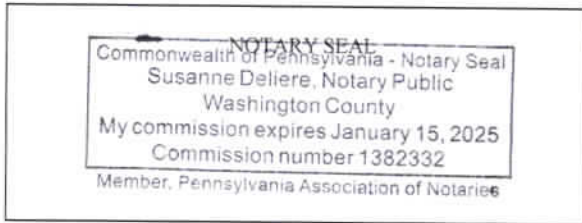
08/18/2023

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: Tug Hill Operating, LLC
By: Amy L. Morris *[Signature]*
Its: Permitting Specialist - Appalachia Region
Telephone: 724-749-8388

Address: 380 Southpointe Boulevard, Plaza II, Suite 200
Canonsburg, PA 15317
Facsimile: _____
Email: amorris@tug-hillop.com



Subscribed and sworn before me this 25th day of June, 2023.
Susanne Deliere Notary Public
My Commission Expires 1/15/2025

Oil and Gas Privacy Notice:

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

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

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

Date of Notice: 6/28/2023 **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

4710303594

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

Well Location Restrictions

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

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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.**

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Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

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API NO. 47- 103 -
OPERATOR WELL NO. Elijah N-16HU
Well Pad Name: Elijah

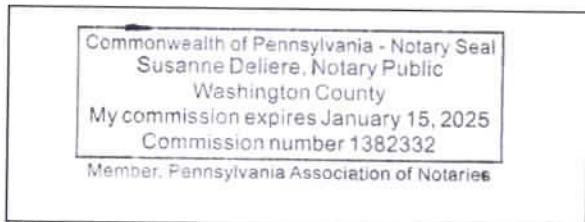
Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 28th day of June, 2023.

Susanne Deliere Notary Public

My Commission Expires 1/15/2025

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

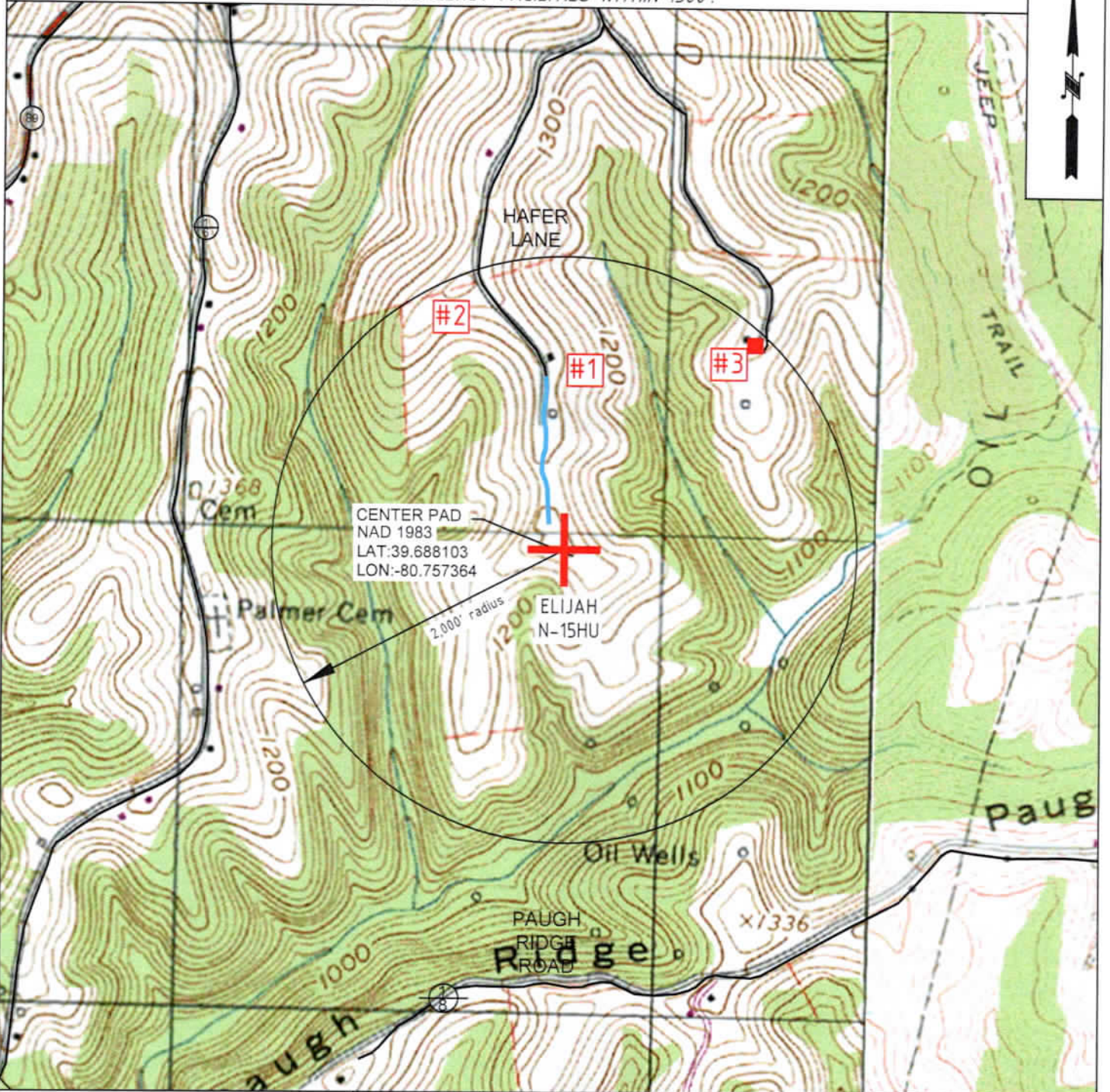
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SUPPLEMENT PG 1

Elijah Well Pad

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



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

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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:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>520,792.87</u>
County:	<u>Wetzel</u>		Northing:	<u>4,393,183.84</u>
District:	<u>Proctor</u>	Public Road Access:	<u>Hafer Road (CR 89/2)</u>	
Quadrangle:	<u>New Martinsville 7.5'</u>	Generally used farm name:	<u>William C. Cross Jr. Irrev. Trust</u>	
Watershed:	<u>Proctor Creek of French Creek - Ohio River (HUC 10)</u>			

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@wolterskluwser.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.

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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>520,792.87</u>
County:	<u>Wetzel</u>		Northing:	<u>4,393,183.84</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: _____

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WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

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-16HU 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

4710303594

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-16HU 4710303594

PAD NAME: Elijah

REVIEWED BY: Amy L. Morris

SIGNATURE: Amy L. 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

