



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-15HU
47-103-03593-00-00

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-15HU
Farm Name: TRUSTEES OF THE WILLIAM 
U.S. WELL NUMBER: 47-103-03593-00-00
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.

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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 #47-103-03593

COMPANY: Tug Hill Operating, LLC

FARM: William Cross Jr. Irrevocable Trust Elijah N-15HU

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". The signature is written in a cursive style with a large, flowing "S" and "R".

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-16HU 47-103-03594; Elijah N-17HU 47-103-03595

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4710303593

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-15HU 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 11,511' - 11,630', thickness of 119' and anticipated pressure of approx. 7,500 psi.

8) Proposed Total Vertical Depth: 11,780'

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 27,706'

11) Proposed Horizontal Leg Length: 15,672.55'

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: _____

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18)

CASING AND TUBING PROGRAM

<u>TYPE</u>	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	30"	NEW	BW	BW	120'	120'	259ft ³ (CTS)
Fresh Water/Coal	20"	NEW	J55	106.5#	1,100'	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#	10,435'	10,435'	3,409ft ³ (CTS)
Production	5 1/2"	NEW	HCP110	23#	27,706'	27,706'	6,524ft ³ (CTS)
Tubing	2 7/8"	NEW	P110	6.5#		11,273'	
Liners							

<u>TYPE</u>	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	30"	36"	1.0	2,333	1,866	CLASS A	1.2
Fresh Water	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							

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PACKERS

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

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WW-6B
(10/14)

4710303593
API NO. 47-103 -
OPERATOR WELL NO. Elijah N-15HU
Well Pad Name: Elijah

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 (10,773'). 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 39,200,000 lb. proppant and 710,000 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

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*Note: Attach additional sheets as needed.

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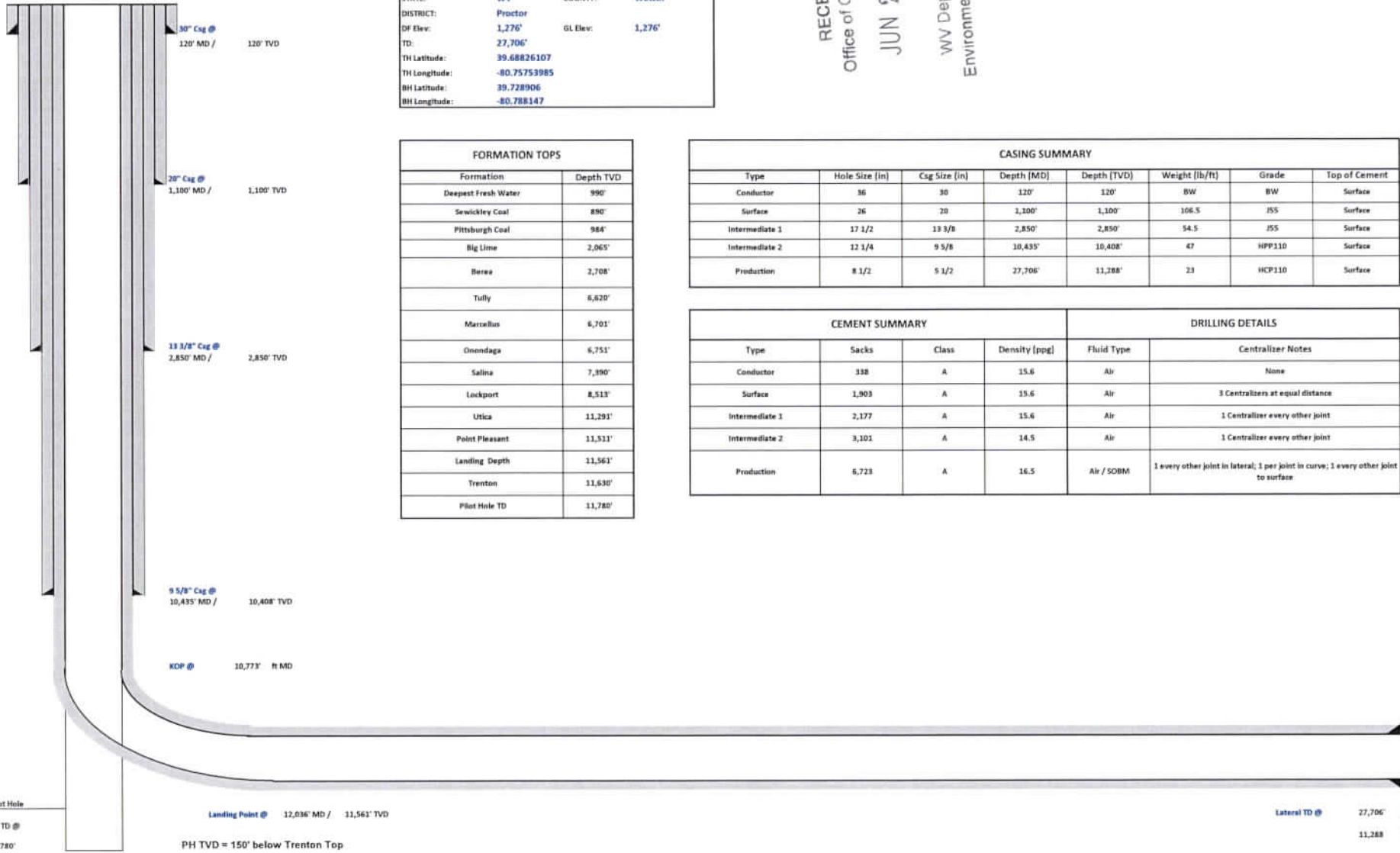


WELL NAME:	Elijah N-15HU		
STATE:	WV	COUNTY:	Wetzel
DISTRICT:	Proctor		
DF Elev:	1,276'	GL Elev:	1,276'
TD:	27,706'		
TH Latitude:	39.68826107		
TH Longitude:	-80.75753985		
BH Latitude:	39.728906		
BH Longitude:	-80.788147		

FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	990'
Sewickley Coal	890'
Pittsburgh Coal	984'
Big Lime	2,065'
Berea	2,708'
Tully	6,620'
Marcellus	6,701'
Onondaga	6,751'
Salina	7,390'
Lockport	8,513'
Utica	11,291'
Point Pleasant	11,513'
Landing Depth	11,561'
Trenton	11,630'
Pilot Hole TD	11,780'

CASING SUMMARY							
Type	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cement
Conductor	36	30	120'	120'	8W	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 1/4	9 5/8	10,435'	10,408'	47	HPP110	Surface
Production	8 1/2	5 1/2	27,706'	11,288'	23	HCP110	Surface

CEMENT SUMMARY				DRILLING DETAILS	
Type	Sacks	Class	Density (ppg)	Fluid Type	Centralizer Notes
Conductor	338	A	15.6	Air	None
Surface	1,903	A	15.6	Air	3 Centralizers at equal distance
Intermediate 1	2,177	A	15.6	Air	1 Centralizer every other joint
Intermediate 2	3,101	A	14.5	Air	1 Centralizer every other joint
Production	6,723	A	16.5	Air / SOBIM	1 every other joint in lateral; 1 per joint in curve; 1 every other joint to surface



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Pilot Hole PH TD @ 11,780'
Landing Point @ 12,036' MD / 11,561' TVD
PH TVD = 150' below Trenton Top
Lateral TD @ 27,706' ft MD / 11,288' ft TVD

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Environmental Protection**Tug Hill Operating, LLC Casing and Cement Program****Elijah N-15HU****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"	10,435'	CTS
Production	5 1/2"	HCP110	8 1/2"	27,706'	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

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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
4705100683	PPG Industries, Inc.	3661' TVD	Riley	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation.	
4705170217	Tri-State Oil & Gas	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.

WV Geological & Economic Survey:

Well: County = 51 Permit = 00683

Report Time: Wednesday, October 20, 2021 10:21:45 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705100683	Marshall	683	Franklin	New Martinsville	New Martinsville	39.725136	-80.78662	518286.9	4397272.5

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.
4705100683	12/1/1981	Original Loc	Completed	Stephen & Charlene Rapchak		PPG-102	Larimore	8	Edna Wilson & Opal Kelly	PPG Industries, Inc.		

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_A
4705100683	12/1/1981	11/23/1981	1282 Ground Level	Proctor	Riley	Riley	New-pool	Wildcat	Unsuccessful	Dry	Rotary	Nat/Open H	3661		3661		0

There is no Pay data for this well

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100683	PPG Industries, Inc.	1984	0	0	0	0	0	0	0	0	0	0	0	0	0

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100683	PPG Industries, Inc.	1984	0	0	0	0	0	0	0	0	0	0	0	0	0

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
4705100683	Original Loc	unidentified coal	Well Record	335	Reasonable	2	Reasonable	1282 Ground Level
4705100683	Original Loc	Allegheny coal (udf)	CBM: Drillers Pick	1555	Reasonable	2	Reasonable	1282 Ground Level
4705100683	Original Loc	Allegheny coal (udf)	CBM: Drillers Pick	1605	Reasonable	5	Reasonable	1282 Ground Level
4705100683	Original Loc	1st Salt Sand	Well Record	1725	Reasonable	65	Reasonable	1282 Ground Level
4705100683	Original Loc	2nd Salt Sand	Well Record	1835	Reasonable	30	Reasonable	1282 Ground Level
4705100683	Original Loc	Big Lime	Well Record	1945	Reasonable	55	Reasonable	1282 Ground Level
4705100683	Original Loc	Greenbrier Group	Well Record	1945	Reasonable	55	Reasonable	1282 Ground Level
4705100683	Original Loc	Big Injun (Price&eq)	Well Record	2000	Reasonable	240	Reasonable	1282 Ground Level
4705100683	Original Loc	Weir	Well Record	2400	Reasonable	65	Reasonable	1282 Ground Level
4705100683	Original Loc	Gordon	Well Record	2880	Reasonable	145	Reasonable	1282 Ground Level
4705100683	Original Loc	Riley	Well Record	3245	Reasonable	0	Qstnble Pick	1282 Ground Level

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

There is no Plugging data for this well

There is no Sample data for this well

WV Geological & Economic Survey

Well: County = 51 Permit = 70217

Report Time: Wednesday, October 20, 2021 11:20:02 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170217	Marshall	70217	Franklin	New Martinsville	New Martinsville	39.721511	-80.780421	518819.1	4396871.5

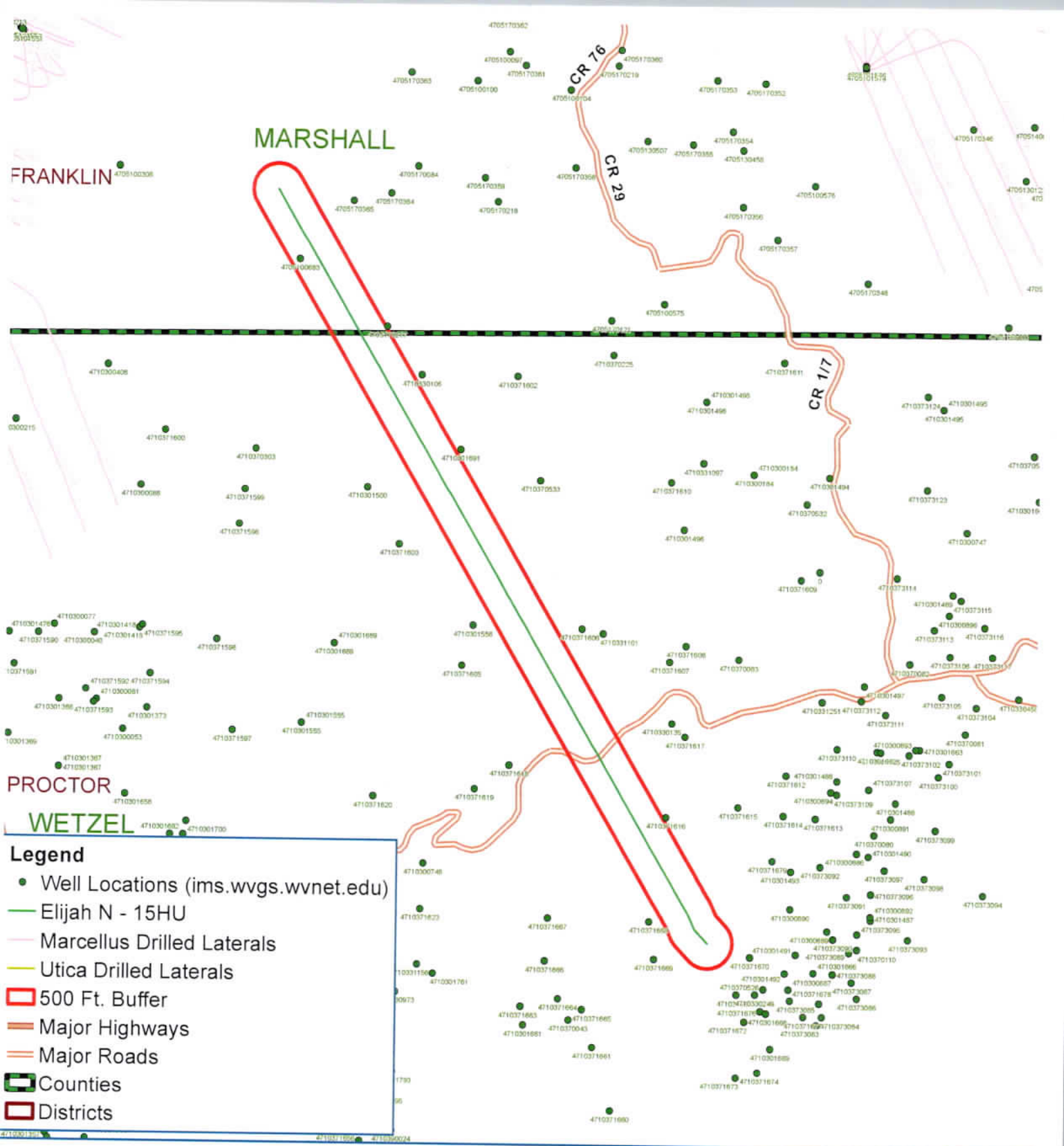
There is no Bottom Hole Location data for this well

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
4705170217	-/-	Original Loc	Completed	J Yoho		1				Tri-State Oil & Gas			

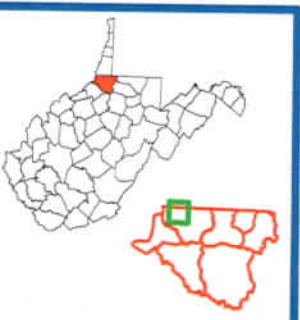
Completion Information:

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
4705170217	-/-	-/-						unclassified	unclassified	not available	unknown	unknown						

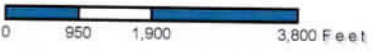


Legend

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



Elijah N - 15HU Proctor District Wetzel County, WV



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

Map Prepared by:

08/18/2023



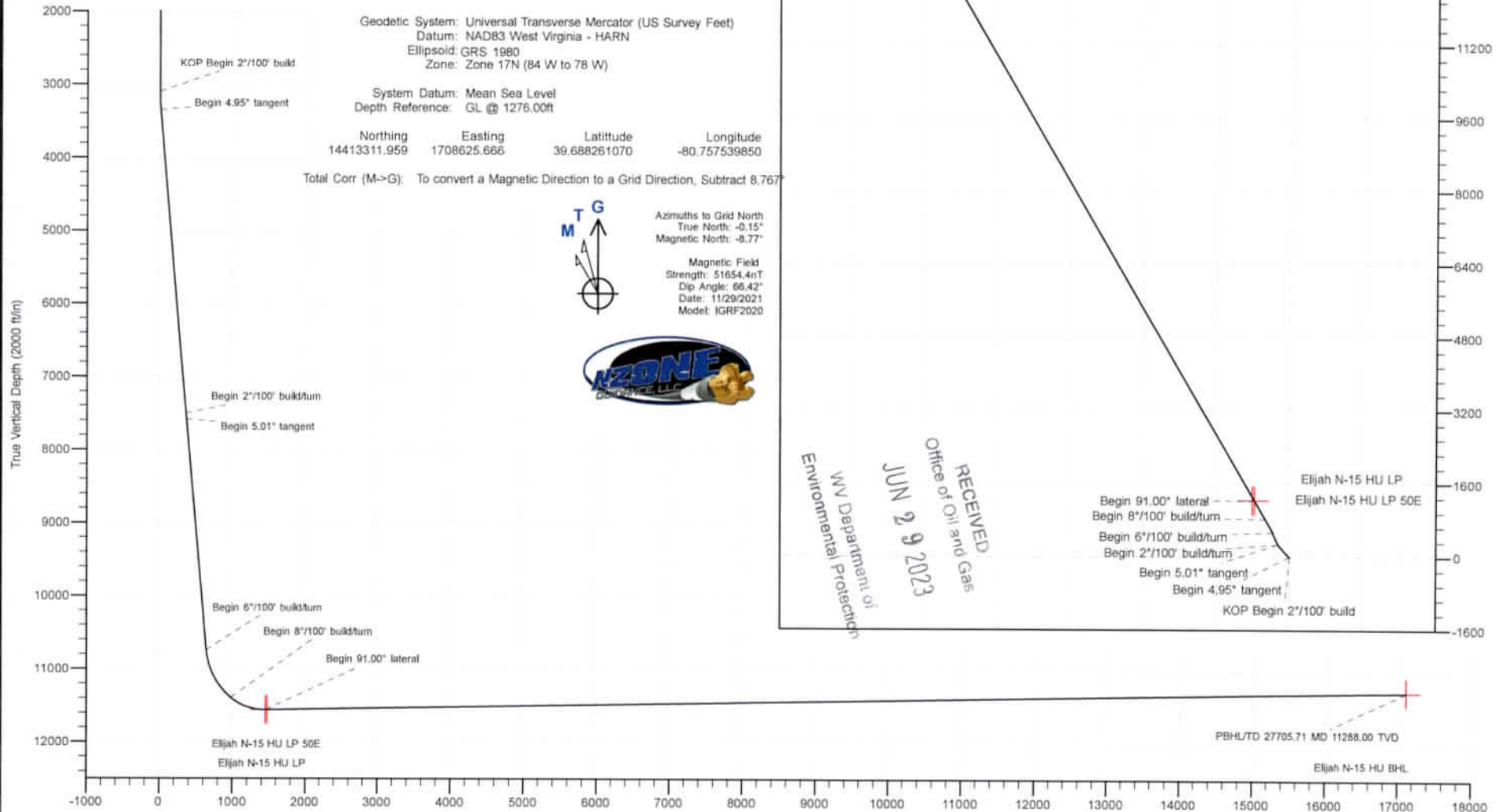
Well: **Elijah N-15 HU (slot A)**
 Site: **Elijah**
 Project: **Wetzel County, West Virginia (UTM17 NAD83)**
 Design: **rev1**
 Rig:

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Elijah N-15 HU BHL	11288.00	14777.96	-8645.40	14428089.893	1699980.279	39.728906000	-80.788147000
- plan hits target center							
Elijah N-15 HU LP	11561.00	1231.42	-824.23	14414543.372	1707801.436	39.691649000	-80.760458000
- plan misses target center by 43.22ft at 12061.15ft MD (11560.57 TVD, 1253.12 N, -786.86 E)							
Elijah N-15 HU LP 50E	11561.00	1231.42	-774.23	14414543.372	1707851.437	39.691648633	-80.760280254
- plan misses target center by 0.01ft at 12036.03ft MD (11561.00 TVD, 1231.41 N, -774.24 E)							

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	3102.00	0.00	0.00	3102.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 2"/100' build
3	3349.50	4.95	317.00	3349.19	7.81	-7.29	2.00	317.000	10.42	Begin 4.95° tangent
4	7517.85	4.95	317.00	7502.00	270.86	-252.58	0.00	0.000	361.34	Begin 2"/100' build/turn
5	7500.91	5.01	336.22	7584.75	276.80	-256.49	2.00	97.660	368.43	Begin 5.01° tangent
6	10773.04	5.01	336.22	10744.78	530.12	-368.10	0.00	0.000	643.44	Begin 6"/100' build/turn
7	11523.55	50.00	329.54	11393.55	823.11	-535.75	6.00	-7.237	980.99	Begin 8"/100' build/turn
8	12036.04	91.00	329.84	11561.00	1231.41	-774.24	8.00	0.459	1453.84	Begin 91.00° lateral
9	27705.71	91.00	329.84	11288.00	14777.96	-8645.40	0.00	0.00017121.08		PBHL/TD 27705.71 MD 11288.00 TVD

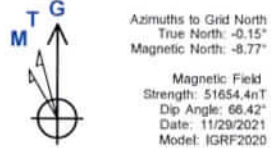


Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD83 West Virginia - HARN
 Ellipsoid: GRS 1980
 Zone: Zone 17N (84 W to 78 W)

System Datum: Mean Sea Level
 Depth Reference: GL @ 1276.00ft

Northing: 14413311.959 Easting: 1708625.666 Latitude: 39.688261070 Longitude: -80.757539850

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.767°



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 Environmental Protection

4710303593
 South(-)/North(+) (3200 ft/in)



Planning Report - Geographic

4710303593

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JUN 29 2023

WV Department of
Environmental Protection

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-15 HU (slot A)
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-15 HU (slot A)	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-15 HU (slot A)					
Well Position	+N/-S	0.00 ft	Northing:	14,413,311.959 usft	Latitude:	39.688261070
	+E/-W	0.00 ft	Easting:	1,708,625.665 usft	Longitude:	-80.757539850
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	51,654.37829129

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	329.67

Plan Survey Tool Program		Date			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	27,705.72 rev1 (Original Hole)			



Planning Report - Geographic

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JUN 29 2023
WV Department of
Environmental Protection

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-15 HU (slot A)
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-15 HU (slot A)	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	
3,102.00	0.00	0.00	3,102.00	0.00	0.00	0.00	0.00	0.00	0.000	
3,349.50	4.95	317.00	3,349.19	7.81	-7.29	2.00	2.00	0.00	317.000	
7,517.85	4.95	317.00	7,502.00	270.86	-252.58	0.00	0.00	0.00	0.000	
7,600.91	5.01	336.22	7,584.75	276.80	-256.49	2.00	0.07	23.14	97.660	
10,773.04	5.01	336.22	10,744.78	530.12	-368.10	0.00	0.00	0.00	0.000	
11,523.55	50.00	329.54	11,393.55	823.11	-535.75	6.00	6.00	-0.89	-7.237	
12,036.04	91.00	329.84	11,561.00	1,231.41	-774.24	8.00	8.00	0.06	0.459	
27,705.72	91.00	329.84	11,288.00	14,777.96	-8,645.40	0.00	0.00	0.00	0.000	Elijah N-15 HU BHL



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WV Department of Environmental Protection

Database: DB_Dec2220_v16
 Company: Tug Hill Operating LLC
 Project: Wetzel County, West Virginia (UTM17 NAD83)
 Site: Elijah
 Well: Elijah N-15 HU (slot A)
 Wellbore: Original Hole
 Design: rev1

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

Well Elijah N-15 HU (slot A) Office of Oil and Gas
 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
0.00	0.00	0.00	0.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
100.00	0.00	0.00	100.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
200.00	0.00	0.00	200.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
300.00	0.00	0.00	300.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
400.00	0.00	0.00	400.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
500.00	0.00	0.00	500.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
600.00	0.00	0.00	600.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
700.00	0.00	0.00	700.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
800.00	0.00	0.00	800.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
900.00	0.00	0.00	900.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
3,102.00	0.00	0.00	3,102.00	0.00	0.00	14,413,311.959	1,708,625.665	39.688261070	-80.757539850
KOP Begin 2°/100' build									
3,200.00	1.96	317.00	3,199.98	1.23	-1.14	14,413,313.185	1,708,624.522	39.688264445	-80.757543901
3,300.00	3.96	317.00	3,299.84	5.00	-4.66	14,413,316.961	1,708,621.001	39.688274843	-80.757556383
3,349.50	4.95	317.00	3,349.19	7.81	-7.29	14,413,319.773	1,708,618.379	39.688282585	-80.757565677
Begin 4.95° tangent									
3,400.00	4.95	317.00	3,399.50	11.00	-10.26	14,413,322.960	1,708,615.407	39.688291359	-80.757576210
3,500.00	4.95	317.00	3,499.13	17.31	-16.14	14,413,329.271	1,708,609.522	39.688308733	-80.757597067
3,600.00	4.95	317.00	3,598.76	23.62	-22.03	14,413,335.581	1,708,603.637	39.688326108	-80.757617925
3,700.00	4.95	317.00	3,698.39	29.93	-27.91	14,413,341.892	1,708,597.753	39.688343482	-80.757638782
3,800.00	4.95	317.00	3,798.01	36.24	-33.80	14,413,348.202	1,708,591.868	39.688360857	-80.757659640
3,900.00	4.95	317.00	3,897.64	42.55	-39.68	14,413,354.513	1,708,585.983	39.688378231	-80.757680497
4,000.00	4.95	317.00	3,997.27	48.86	-45.57	14,413,360.823	1,708,580.099	39.688395606	-80.757701354
4,100.00	4.95	317.00	4,096.89	55.18	-51.45	14,413,367.134	1,708,574.214	39.688412980	-80.757722212
4,200.00	4.95	317.00	4,196.52	61.49	-57.34	14,413,373.445	1,708,568.329	39.688430355	-80.757743069
4,300.00	4.95	317.00	4,296.15	67.80	-63.22	14,413,379.755	1,708,562.444	39.688447729	-80.757763927
4,400.00	4.95	317.00	4,395.77	74.11	-69.11	14,413,386.066	1,708,556.560	39.688465104	-80.757784784
4,500.00	4.95	317.00	4,495.40	80.42	-74.99	14,413,392.376	1,708,550.675	39.688482478	-80.757805642
4,600.00	4.95	317.00	4,595.03	86.73	-80.88	14,413,398.687	1,708,544.790	39.688499853	-80.757826499
4,700.00	4.95	317.00	4,694.66	93.04	-86.76	14,413,404.998	1,708,538.906	39.688517227	-80.757847357
4,800.00	4.95	317.00	4,794.28	99.35	-92.64	14,413,411.308	1,708,533.021	39.688534602	-80.757868214
4,900.00	4.95	317.00	4,893.91	105.66	-98.53	14,413,417.619	1,708,527.136	39.688551976	-80.757889072
5,000.00	4.95	317.00	4,993.54	111.97	-104.41	14,413,423.929	1,708,521.251	39.688569350	-80.757909929

08/18/2023

Database: DB_Dec2220_v16
Company: Tug Hill Operating LLC
Project: Wetzel County, West Virginia (UTM17 NAD83)
Site: Elijah
Well: Elijah N-15 HU (slot A)
Wellbore: Original Hole
Design: rev1

Local Co-ordinate Reference: Well Elijah N-15 HU (slot A)
TVD Reference: GL @ 1276.00ft
MD Reference: GL @ 1276.00ft
North Reference: Grid
Survey Calculation Method: 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
5,100.00	4.95	317.00	5,093.16	118.28	-110.30	14,413,430.240	1,708,515.367	39.688586725	-80.757930787
5,200.00	4.95	317.00	5,192.79	124.59	-116.18	14,413,436.550	1,708,509.482	39.688604099	-80.757951644
5,300.00	4.95	317.00	5,292.42	130.90	-122.07	14,413,442.861	1,708,503.597	39.688621474	-80.757972502
5,400.00	4.95	317.00	5,392.04	137.21	-127.95	14,413,449.172	1,708,497.713	39.688638848	-80.757993360
5,500.00	4.95	317.00	5,491.67	143.52	-133.84	14,413,455.482	1,708,491.828	39.688656223	-80.758014217
5,600.00	4.95	317.00	5,591.30	149.83	-139.72	14,413,461.793	1,708,485.943	39.688673597	-80.758035075
5,700.00	4.95	317.00	5,690.93	156.14	-145.61	14,413,468.103	1,708,480.059	39.688690971	-80.758055932
5,800.00	4.95	317.00	5,790.55	162.46	-151.49	14,413,474.414	1,708,474.174	39.688708346	-80.758076790
5,900.00	4.95	317.00	5,890.18	168.77	-157.38	14,413,480.724	1,708,468.289	39.688725720	-80.758097648
6,000.00	4.95	317.00	5,989.81	175.08	-163.26	14,413,487.035	1,708,462.404	39.688743095	-80.758118505
6,100.00	4.95	317.00	6,089.43	181.39	-169.15	14,413,493.346	1,708,456.520	39.688760469	-80.758139363
6,200.00	4.95	317.00	6,189.06	187.70	-175.03	14,413,499.656	1,708,450.635	39.688777843	-80.758160221
6,300.00	4.95	317.00	6,288.69	194.01	-180.92	14,413,505.967	1,708,444.750	39.688795218	-80.758181078
6,400.00	4.95	317.00	6,388.32	200.32	-186.80	14,413,512.277	1,708,438.866	39.688812592	-80.758201936
6,500.00	4.95	317.00	6,487.94	206.63	-192.68	14,413,518.588	1,708,432.981	39.688829967	-80.758222794
6,600.00	4.95	317.00	6,587.57	212.94	-198.57	14,413,524.898	1,708,427.096	39.688847341	-80.758243651
6,700.00	4.95	317.00	6,687.20	219.25	-204.45	14,413,531.209	1,708,421.212	39.688864715	-80.758264509
6,800.00	4.95	317.00	6,786.82	225.56	-210.34	14,413,537.520	1,708,415.327	39.688882090	-80.758285367
6,900.00	4.95	317.00	6,886.45	231.87	-216.22	14,413,543.830	1,708,409.442	39.688899464	-80.758306225
7,000.00	4.95	317.00	6,986.08	238.18	-222.11	14,413,550.141	1,708,403.557	39.688916838	-80.758327082
7,100.00	4.95	317.00	7,085.70	244.49	-227.99	14,413,556.451	1,708,397.673	39.688934213	-80.758347940
7,200.00	4.95	317.00	7,185.33	250.80	-233.88	14,413,562.762	1,708,391.788	39.688951587	-80.758368798
7,300.00	4.95	317.00	7,284.96	257.11	-239.76	14,413,569.072	1,708,385.903	39.688968962	-80.758389656
7,400.00	4.95	317.00	7,384.59	263.42	-245.65	14,413,575.383	1,708,380.019	39.688986336	-80.758410513
7,500.00	4.95	317.00	7,484.21	269.74	-251.53	14,413,581.694	1,708,374.134	39.689003710	-80.758431371
7,517.85	4.95	317.00	7,502.00	270.86	-252.58	14,413,582.820	1,708,373.083	39.689006812	-80.758435095
Begin 2°/100' build/turn									
7,600.91	5.01	336.22	7,584.75	276.80	-256.49	14,413,588.758	1,708,369.178	39.689023147	-80.758448920
Begin 5.01° tangent									
7,700.00	5.01	336.22	7,683.46	284.71	-259.97	14,413,596.671	1,708,365.691	39.689044905	-80.758461238
7,800.00	5.01	336.22	7,783.08	292.70	-263.49	14,413,604.656	1,708,362.173	39.689066862	-80.758473669
7,900.00	5.01	336.22	7,882.70	300.68	-267.01	14,413,612.642	1,708,358.654	39.689088819	-80.758486100
8,000.00	5.01	336.22	7,982.32	308.67	-270.53	14,413,620.628	1,708,355.136	39.689110777	-80.758498531
8,100.00	5.01	336.22	8,081.93	316.66	-274.05	14,413,628.614	1,708,351.617	39.689132734	-80.758510962
8,200.00	5.01	336.22	8,181.55	324.64	-277.57	14,413,636.599	1,708,348.098	39.689154692	-80.758523393
8,300.00	5.01	336.22	8,281.17	332.63	-281.09	14,413,644.585	1,708,344.580	39.689176649	-80.758535824
8,400.00	5.01	336.22	8,380.79	340.61	-284.60	14,413,652.571	1,708,341.061	39.689198606	-80.758548255
8,500.00	5.01	336.22	8,480.41	348.60	-288.12	14,413,660.557	1,708,337.543	39.689220564	-80.758560686
8,600.00	5.01	336.22	8,580.03	356.58	-291.64	14,413,668.542	1,708,334.024	39.689242521	-80.758573117
8,700.00	5.01	336.22	8,679.65	364.57	-295.16	14,413,676.528	1,708,330.506	39.689264478	-80.758585548
8,800.00	5.01	336.22	8,779.26	372.56	-298.68	14,413,684.514	1,708,326.987	39.689286436	-80.758597980
8,900.00	5.01	336.22	8,878.88	380.54	-302.20	14,413,692.499	1,708,323.468	39.689308393	-80.758610411
9,000.00	5.01	336.22	8,978.50	388.53	-305.72	14,413,700.485	1,708,319.950	39.689330350	-80.758622842
9,100.00	5.01	336.22	9,078.12	396.51	-309.23	14,413,708.471	1,708,316.431	39.689352308	-80.758635273
9,200.00	5.01	336.22	9,177.74	404.50	-312.75	14,413,716.457	1,708,312.913	39.689374265	-80.758647704
9,300.00	5.01	336.22	9,277.36	412.48	-316.27	14,413,724.442	1,708,309.394	39.689396222	-80.758660135
9,400.00	5.01	336.22	9,376.98	420.47	-319.79	14,413,732.428	1,708,305.875	39.689418180	-80.758672566
9,500.00	5.01	336.22	9,476.59	428.46	-323.31	14,413,740.414	1,708,302.357	39.689440137	-80.758684997
9,600.00	5.01	336.22	9,576.21	436.44	-326.83	14,413,748.400	1,708,298.838	39.689462095	-80.758697428
9,700.00	5.01	336.22	9,675.83	444.43	-330.35	14,413,756.385	1,708,295.320	39.689484052	-80.758709860
9,800.00	5.01	336.22	9,775.45	452.41	-333.86	14,413,764.371	1,708,291.801	39.689506009	-80.758722291
9,900.00	5.01	336.22	9,875.07	460.40	-337.38	14,413,772.357	1,708,288.283	39.689527967	-80.758734722
10,000.00	5.01	336.22	9,974.69	468.38	-340.90	14,413,780.343	1,708,284.764	39.689549924	-80.758747153
10,100.00	5.01	336.22	10,074.30	476.37	-344.42	14,413,788.328	1,708,281.245	39.689571881	-80.758759584



Planning Report - Geographic

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Office of Oil and Gas
JUN 29 2023
WV Department of
Environmental Protection

Database: DB_Dec2220_v16
Company: Tug Hill Operating LLC
Project: Wetzel County, West Virginia (UTM17 NAD83)
Site: Elijah
Well: Elijah N-15 HU (slot A)
Wellbore: Original Hole
Design: rev1

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

Well Elijah N-15 HU (slot A)
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
10,200.00	5.01	336.22	10,173.92	484.36	-347.94	14,413,796.314	1,708,277.727	39.689593839	-80.758772015
10,300.00	5.01	336.22	10,273.54	492.34	-351.46	14,413,804.300	1,708,274.208	39.689615796	-80.758784447
10,400.00	5.01	336.22	10,373.16	500.33	-354.98	14,413,812.286	1,708,270.690	39.689637753	-80.758796878
10,500.00	5.01	336.22	10,472.78	508.31	-358.50	14,413,820.271	1,708,267.171	39.689659710	-80.758809309
10,600.00	5.01	336.22	10,572.40	516.30	-362.01	14,413,828.257	1,708,263.653	39.689681667	-80.758821740
10,700.00	5.01	336.22	10,672.02	524.28	-365.53	14,413,836.243	1,708,260.134	39.689703624	-80.758834172
10,773.04	5.01	336.22	10,744.78	530.12	-368.10	14,413,842.075	1,708,257.564	39.689719662	-80.758843251
Begin 6°/100' build/tum									
10,800.00	6.61	334.45	10,771.60	532.60	-369.25	14,413,844.553	1,708,256.420	39.689726474	-80.758847294
10,850.00	9.60	332.74	10,821.09	538.90	-372.40	14,413,850.860	1,708,253.267	39.689743820	-80.758858443
10,900.00	12.60	331.83	10,870.15	547.42	-376.89	14,413,859.378	1,708,248.780	39.689767244	-80.758874310
10,950.00	15.60	331.27	10,918.64	558.12	-382.69	14,413,870.082	1,708,242.973	39.689796684	-80.758894849
11,000.00	18.59	330.88	10,966.42	570.99	-389.80	14,413,882.943	1,708,235.862	39.689832058	-80.758920006
11,050.00	21.59	330.60	11,013.38	585.97	-398.20	14,413,897.927	1,708,227.465	39.689873269	-80.758949711
11,100.00	24.59	330.39	11,059.36	603.03	-407.86	14,413,914.991	1,708,217.806	39.689920205	-80.758983883
11,150.00	27.59	330.22	11,104.26	622.13	-418.75	14,413,934.090	1,708,206.911	39.689972737	-80.759022428
11,200.00	30.59	330.08	11,147.95	643.21	-430.86	14,413,955.171	1,708,194.811	39.690030720	-80.759065241
11,250.00	33.59	329.96	11,190.31	666.22	-444.13	14,413,978.176	1,708,181.537	39.690093997	-80.759112204
11,300.00	36.59	329.86	11,231.22	691.08	-458.54	14,414,003.041	1,708,167.128	39.690162392	-80.759163189
11,350.00	39.59	329.77	11,270.56	717.74	-474.04	14,414,029.700	1,708,151.622	39.690235720	-80.759218056
11,400.00	42.59	329.70	11,308.24	746.12	-490.61	14,414,058.079	1,708,135.061	39.690313779	-80.759276654
11,450.00	45.59	329.63	11,344.15	776.14	-508.17	14,414,088.099	1,708,117.491	39.690396354	-80.759338823
11,500.00	48.59	329.57	11,378.19	807.72	-526.71	14,414,119.680	1,708,098.961	39.690483220	-80.759404392
11,523.55	50.00	329.54	11,393.55	823.11	-535.75	14,414,135.067	1,708,089.916	39.690525546	-80.759436397
Begin 8°/100' build/tum									
11,550.00	52.12	329.56	11,410.18	840.85	-546.18	14,414,152.804	1,708,079.490	39.690574333	-80.759473291
11,600.00	56.12	329.60	11,439.48	875.77	-566.68	14,414,187.731	1,708,058.983	39.690670404	-80.759545856
11,650.00	60.12	329.63	11,465.88	912.39	-588.15	14,414,224.348	1,708,037.514	39.690771125	-80.759621826
11,700.00	64.12	329.66	11,489.26	950.52	-610.48	14,414,262.478	1,708,015.187	39.690876006	-80.759700829
11,750.00	68.12	329.69	11,509.50	989.98	-633.56	14,414,301.935	1,707,992.111	39.690984536	-80.759782482
11,800.00	72.12	329.72	11,526.50	1,030.57	-657.27	14,414,342.526	1,707,968.399	39.691096187	-80.759866386
11,850.00	76.12	329.75	11,540.19	1,072.10	-681.50	14,414,384.054	1,707,944.167	39.691210413	-80.759952133
11,900.00	80.12	329.77	11,550.48	1,114.36	-706.14	14,414,426.316	1,707,919.531	39.691326659	-80.760039305
11,950.00	84.12	329.80	11,557.34	1,157.15	-731.05	14,414,469.106	1,707,894.613	39.691444359	-80.760127477
12,000.00	88.12	329.82	11,560.73	1,200.26	-756.13	14,414,512.217	1,707,869.534	39.691562938	-80.760216220
12,036.04	91.00	329.84	11,561.00	1,231.41	-774.24	14,414,543.368	1,707,851.427	39.691648623	-80.760280290
Begin 91.00° lateral									
12,100.00	91.00	329.84	11,559.89	1,286.71	-806.37	14,414,598.665	1,707,819.297	39.691800721	-80.760393981
12,200.00	91.00	329.84	11,558.15	1,373.16	-856.60	14,414,685.116	1,707,769.065	39.692038510	-80.760571726
12,300.00	91.00	329.84	11,556.41	1,459.61	-906.83	14,414,771.566	1,707,718.833	39.692276299	-80.760749471
12,400.00	91.00	329.84	11,554.66	1,546.06	-957.07	14,414,858.017	1,707,668.602	39.692514087	-80.760927218
12,500.00	91.00	329.84	11,552.92	1,632.51	-1,007.30	14,414,944.467	1,707,618.370	39.692751875	-80.761104966
12,600.00	91.00	329.84	11,551.18	1,718.96	-1,057.53	14,415,030.918	1,707,568.138	39.692989663	-80.761282716
12,700.00	91.00	329.84	11,549.44	1,805.41	-1,107.76	14,415,117.369	1,707,517.907	39.693227450	-80.761460466
12,800.00	91.00	329.84	11,547.69	1,891.86	-1,157.99	14,415,203.819	1,707,467.675	39.693465237	-80.761638218
12,900.00	91.00	329.84	11,545.95	1,978.31	-1,208.22	14,415,290.270	1,707,417.443	39.693703024	-80.761815971
13,000.00	91.00	329.84	11,544.21	2,064.77	-1,258.46	14,415,376.720	1,707,367.211	39.693940811	-80.761993725
13,100.00	91.00	329.84	11,542.47	2,151.22	-1,308.69	14,415,463.171	1,707,316.980	39.694178597	-80.762171480
13,200.00	91.00	329.84	11,540.72	2,237.67	-1,358.92	14,415,549.621	1,707,266.748	39.694416383	-80.762349237
13,300.00	91.00	329.84	11,538.98	2,324.12	-1,409.15	14,415,636.072	1,707,216.516	39.694654169	-80.762526995
13,400.00	91.00	329.84	11,537.24	2,410.57	-1,459.38	14,415,722.522	1,707,166.285	39.694891955	-80.762704754
13,500.00	91.00	329.84	11,535.50	2,497.02	-1,509.62	14,415,808.973	1,707,116.053	39.695129740	-80.762882514
13,600.00	91.00	329.84	11,533.76	2,583.47	-1,559.85	14,415,895.424	1,707,065.821	39.695367525	-80.763060275
13,700.00	91.00	329.84	11,532.01	2,669.92	-1,610.08	14,415,981.874	1,707,015.589	39.695605310	-80.763238038



Planning Report - Geographic

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JUN 29 2023

WV Department of
Environmental Protection

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-15 HU (slot A)
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-15 HU (slot A)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,800.00	91.00	329.84	11,530.27	2,756.37	-1,660.31	14,416,068.325	1,706,965.358	39.695843094	-80.763415802
13,900.00	91.00	329.84	11,528.53	2,842.82	-1,710.54	14,416,154.775	1,706,915.126	39.696080878	-80.763593567
14,000.00	91.00	329.84	11,526.79	2,929.27	-1,760.77	14,416,241.226	1,706,864.894	39.696318662	-80.763771333
14,100.00	91.00	329.84	11,525.04	3,015.72	-1,811.01	14,416,327.676	1,706,814.663	39.696556445	-80.763949101
14,200.00	91.00	329.84	11,523.30	3,102.17	-1,861.24	14,416,414.127	1,706,764.431	39.696794229	-80.764126869
14,300.00	91.00	329.84	11,521.56	3,188.62	-1,911.47	14,416,500.577	1,706,714.199	39.697032012	-80.764304639
14,400.00	91.00	329.84	11,519.82	3,275.08	-1,961.70	14,416,587.028	1,706,663.967	39.697269794	-80.764482411
14,500.00	91.00	329.84	11,518.08	3,361.53	-2,011.93	14,416,673.479	1,706,613.736	39.697507577	-80.764660183
14,600.00	91.00	329.84	11,516.33	3,447.98	-2,062.17	14,416,759.929	1,706,563.504	39.697745359	-80.764837957
14,700.00	91.00	329.84	11,514.59	3,534.43	-2,112.40	14,416,846.380	1,706,513.272	39.697983141	-80.765015731
14,800.00	91.00	329.84	11,512.85	3,620.88	-2,162.63	14,416,932.830	1,706,463.041	39.698220923	-80.765193507
14,900.00	91.00	329.84	11,511.11	3,707.33	-2,212.86	14,417,019.281	1,706,412.809	39.698458704	-80.765371285
15,000.00	91.00	329.84	11,509.36	3,793.78	-2,263.09	14,417,105.731	1,706,362.577	39.698696485	-80.765549063
15,100.00	91.00	329.84	11,507.62	3,880.23	-2,313.32	14,417,192.182	1,706,312.345	39.698934266	-80.765726843
15,200.00	91.00	329.84	11,505.88	3,966.68	-2,363.56	14,417,278.632	1,706,262.114	39.699172046	-80.765904624
15,300.00	91.00	329.84	11,504.14	4,053.13	-2,413.79	14,417,365.083	1,706,211.882	39.699409826	-80.766082406
15,400.00	91.00	329.84	11,502.40	4,139.58	-2,464.02	14,417,451.534	1,706,161.650	39.699647606	-80.766260189
15,500.00	91.00	329.84	11,500.65	4,226.03	-2,514.25	14,417,537.984	1,706,111.419	39.699885386	-80.766437974
15,600.00	91.00	329.84	11,498.91	4,312.48	-2,564.48	14,417,624.435	1,706,061.187	39.700123165	-80.766615760
15,700.00	91.00	329.84	11,497.17	4,398.94	-2,614.72	14,417,710.885	1,706,010.955	39.700360945	-80.766793547
15,800.00	91.00	329.84	11,495.43	4,485.39	-2,664.95	14,417,797.336	1,705,960.723	39.700598723	-80.766971335
15,900.00	91.00	329.84	11,493.68	4,571.84	-2,715.18	14,417,883.786	1,705,910.492	39.700836502	-80.767149121
16,000.00	91.00	329.84	11,491.94	4,658.29	-2,765.41	14,417,970.237	1,705,860.260	39.701074280	-80.767326915
16,100.00	91.00	329.84	11,490.20	4,744.74	-2,815.64	14,418,056.687	1,705,810.028	39.701312058	-80.767504707
16,200.00	91.00	329.84	11,488.46	4,831.19	-2,865.87	14,418,143.138	1,705,759.797	39.701549836	-80.767682500
16,300.00	91.00	329.84	11,486.72	4,917.64	-2,916.11	14,418,229.589	1,705,709.565	39.701787613	-80.767860294
16,400.00	91.00	329.84	11,484.97	5,004.09	-2,966.34	14,418,316.039	1,705,659.333	39.702025391	-80.768038090
16,500.00	91.00	329.84	11,483.23	5,090.54	-3,016.57	14,418,402.490	1,705,609.101	39.702263167	-80.768215887
16,600.00	91.00	329.84	11,481.49	5,176.99	-3,066.80	14,418,488.940	1,705,558.870	39.702500944	-80.768393684
16,700.00	91.00	329.84	11,479.75	5,263.44	-3,117.03	14,418,575.391	1,705,508.638	39.702738720	-80.768571484
16,800.00	91.00	329.84	11,478.00	5,349.89	-3,167.27	14,418,661.841	1,705,458.406	39.702976496	-80.768749284
16,900.00	91.00	329.84	11,476.26	5,436.34	-3,217.50	14,418,748.292	1,705,408.175	39.703214272	-80.768927086
17,000.00	91.00	329.84	11,474.52	5,522.79	-3,267.73	14,418,834.742	1,705,357.943	39.703452048	-80.769104889
17,100.00	91.00	329.84	11,472.78	5,609.25	-3,317.96	14,418,921.193	1,705,307.711	39.703689823	-80.769282693
17,200.00	91.00	329.84	11,471.04	5,695.70	-3,368.19	14,419,007.644	1,705,257.480	39.703927598	-80.769460498
17,300.00	91.00	329.84	11,469.29	5,782.15	-3,418.42	14,419,094.094	1,705,207.248	39.704165372	-80.769638304
17,400.00	91.00	329.84	11,467.55	5,868.60	-3,468.66	14,419,180.545	1,705,157.016	39.704403147	-80.769816112
17,500.00	91.00	329.84	11,465.81	5,955.05	-3,518.89	14,419,266.995	1,705,106.784	39.704640921	-80.769993921
17,600.00	91.00	329.84	11,464.07	6,041.50	-3,569.12	14,419,353.446	1,705,056.553	39.704878695	-80.770171731
17,700.00	91.00	329.84	11,462.32	6,127.95	-3,619.35	14,419,439.896	1,705,006.321	39.705116468	-80.770349542
17,800.00	91.00	329.84	11,460.58	6,214.40	-3,669.58	14,419,526.347	1,704,956.089	39.705354242	-80.770527355
17,900.00	91.00	329.84	11,458.84	6,300.85	-3,719.82	14,419,612.797	1,704,905.858	39.705592015	-80.770705169
18,000.00	91.00	329.84	11,457.10	6,387.30	-3,770.05	14,419,699.248	1,704,855.626	39.705829787	-80.770882984
18,100.00	91.00	329.84	11,455.36	6,473.75	-3,820.28	14,419,785.699	1,704,805.394	39.706067560	-80.771060800
18,200.00	91.00	329.84	11,453.61	6,560.20	-3,870.51	14,419,872.149	1,704,755.162	39.706305332	-80.771238618
18,300.00	91.00	329.84	11,451.87	6,646.65	-3,920.74	14,419,958.600	1,704,704.931	39.706543104	-80.771416436
18,400.00	91.00	329.84	11,450.13	6,733.11	-3,970.97	14,420,045.050	1,704,654.699	39.706780875	-80.771594256
18,500.00	91.00	329.84	11,448.39	6,819.56	-4,021.21	14,420,131.501	1,704,604.467	39.707018647	-80.771772077
18,600.00	91.00	329.84	11,446.64	6,906.01	-4,071.44	14,420,217.951	1,704,554.236	39.707256418	-80.771949900
18,700.00	91.00	329.84	11,444.90	6,992.46	-4,121.67	14,420,304.402	1,704,504.004	39.707494188	-80.772127723
18,800.00	91.00	329.84	11,443.16	7,078.91	-4,171.90	14,420,390.852	1,704,453.772	39.707731959	-80.772305548
18,900.00	91.00	329.84	11,441.42	7,165.36	-4,222.13	14,420,477.303	1,704,403.540	39.707969729	-80.772483374
19,000.00	91.00	329.84	11,439.67	7,251.81	-4,272.37	14,420,563.754	1,704,353.309	39.708207499	-80.772661201
19,100.00	91.00	329.84	11,437.93	7,338.26	-4,322.60	14,420,650.204	1,704,303.077	39.708445269	-80.772839029
19,200.00	91.00	329.84	11,436.19	7,424.71	-4,372.83	14,420,736.655	1,704,252.845	39.708683038	-80.773016859



Planning Report - Geographic

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JUN 29 2023

WV Department of
Environmental Protection

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-15 HU (slot A)
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-15 HU (slot A)	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	
19,300.00	91.00	329.84	11,434.45	7,511.16	-4,423.06	14,420,823.105	1,704,202.614	39.708920807	-80.773194690	
19,400.00	91.00	329.84	11,432.71	7,597.61	-4,473.29	14,420,909.556	1,704,152.382	39.709158576	-80.773372522	
19,500.00	91.00	329.84	11,430.96	7,684.06	-4,523.52	14,420,996.006	1,704,102.150	39.709396344	-80.773550355	
19,600.00	91.00	329.84	11,429.22	7,770.51	-4,573.76	14,421,082.457	1,704,051.918	39.709634113	-80.773728190	
19,700.00	91.00	329.84	11,427.48	7,856.96	-4,623.99	14,421,168.907	1,704,001.687	39.709871881	-80.773906025	
19,800.00	91.00	329.84	11,425.74	7,943.42	-4,674.22	14,421,255.358	1,703,951.455	39.710109648	-80.774083862	
19,900.00	91.00	329.84	11,423.99	8,029.87	-4,724.45	14,421,341.809	1,703,901.223	39.710347476	-80.774261701	
20,000.00	91.00	329.84	11,422.25	8,116.32	-4,774.68	14,421,428.259	1,703,850.992	39.710585183	-80.774439540	
20,100.00	91.00	329.84	11,420.51	8,202.77	-4,824.92	14,421,514.710	1,703,800.760	39.710822950	-80.774617381	
20,200.00	91.00	329.84	11,418.77	8,289.22	-4,875.15	14,421,601.160	1,703,750.528	39.711060716	-80.774795222	
20,300.00	91.00	329.84	11,417.03	8,375.67	-4,925.38	14,421,687.611	1,703,700.296	39.711298482	-80.774973065	
20,400.00	91.00	329.84	11,415.28	8,462.12	-4,975.61	14,421,774.061	1,703,650.065	39.711536248	-80.775150910	
20,500.00	91.00	329.84	11,413.54	8,548.57	-5,025.84	14,421,860.512	1,703,599.833	39.711774014	-80.775328755	
20,600.00	91.00	329.84	11,411.80	8,635.02	-5,076.07	14,421,946.962	1,703,549.601	39.712011780	-80.775506602	
20,700.00	91.00	329.84	11,410.06	8,721.47	-5,126.31	14,422,033.413	1,703,499.370	39.712249545	-80.775684450	
20,800.00	91.00	329.84	11,408.31	8,807.92	-5,176.54	14,422,119.864	1,703,449.138	39.712487310	-80.775862299	
20,900.00	91.00	329.84	11,406.57	8,894.37	-5,226.77	14,422,206.314	1,703,398.906	39.712725074	-80.776040148	
21,000.00	91.00	329.84	11,404.83	8,980.82	-5,277.00	14,422,292.765	1,703,348.674	39.712962839	-80.776218000	
21,100.00	91.00	329.84	11,403.09	9,067.28	-5,327.23	14,422,379.215	1,703,298.443	39.713200603	-80.776395853	
21,200.00	91.00	329.84	11,401.35	9,153.73	-5,377.47	14,422,465.666	1,703,248.211	39.713438367	-80.776573707	
21,300.00	91.00	329.84	11,399.60	9,240.18	-5,427.70	14,422,552.116	1,703,197.979	39.713676130	-80.776751562	
21,400.00	91.00	329.84	11,397.86	9,326.63	-5,477.93	14,422,638.567	1,703,147.748	39.713913893	-80.776929418	
21,500.00	91.00	329.84	11,396.12	9,413.08	-5,528.16	14,422,725.018	1,703,097.516	39.714151656	-80.777107276	
21,600.00	91.00	329.84	11,394.38	9,499.53	-5,578.39	14,422,811.468	1,703,047.284	39.714389419	-80.777285135	
21,700.00	91.00	329.84	11,392.63	9,585.98	-5,628.62	14,422,897.919	1,702,997.052	39.714627181	-80.777462995	
21,800.00	91.00	329.84	11,390.89	9,672.43	-5,678.86	14,422,984.369	1,702,946.821	39.714864943	-80.777640856	
21,900.00	91.00	329.84	11,389.15	9,758.88	-5,729.09	14,423,070.820	1,702,896.589	39.715102705	-80.777818719	
22,000.00	91.00	329.84	11,387.41	9,845.33	-5,779.32	14,423,157.270	1,702,846.357	39.715340467	-80.777996582	
22,100.00	91.00	329.84	11,385.67	9,931.78	-5,829.55	14,423,243.721	1,702,796.126	39.715578228	-80.778174447	
22,200.00	91.00	329.84	11,383.92	10,018.23	-5,879.78	14,423,330.171	1,702,745.894	39.715815989	-80.778352314	
22,300.00	91.00	329.84	11,382.18	10,104.68	-5,930.02	14,423,416.622	1,702,695.662	39.716053750	-80.778530181	
22,400.00	91.00	329.84	11,380.44	10,191.13	-5,980.25	14,423,503.073	1,702,645.431	39.716291510	-80.778708050	
22,500.00	91.00	329.84	11,378.70	10,277.59	-6,030.48	14,423,589.523	1,702,595.199	39.716529270	-80.778885919	
22,600.00	91.00	329.84	11,376.95	10,364.04	-6,080.71	14,423,675.974	1,702,544.967	39.716767030	-80.779063791	
22,700.00	91.00	329.84	11,375.21	10,450.49	-6,130.94	14,423,762.424	1,702,494.735	39.717004790	-80.779241663	
22,800.00	91.00	329.84	11,373.47	10,536.94	-6,181.17	14,423,848.875	1,702,444.504	39.717242549	-80.779419536	
22,900.00	91.00	329.84	11,371.73	10,623.39	-6,231.41	14,423,935.325	1,702,394.272	39.717480308	-80.779597411	
23,000.00	91.00	329.84	11,369.99	10,709.84	-6,281.64	14,424,021.776	1,702,344.040	39.717718067	-80.779775287	
23,100.00	91.00	329.84	11,368.24	10,796.29	-6,331.87	14,424,108.226	1,702,293.809	39.717955826	-80.779953164	
23,200.00	91.00	329.84	11,366.50	10,882.74	-6,382.10	14,424,194.677	1,702,243.577	39.718193584	-80.780131043	
23,300.00	91.00	329.84	11,364.76	10,969.19	-6,432.33	14,424,281.128	1,702,193.345	39.718431342	-80.780308922	
23,400.00	91.00	329.84	11,363.02	11,055.64	-6,482.57	14,424,367.578	1,702,143.113	39.718669099	-80.780486803	
23,500.00	91.00	329.84	11,361.27	11,142.09	-6,532.80	14,424,454.029	1,702,092.882	39.718906857	-80.780664685	
23,600.00	91.00	329.84	11,359.53	11,228.54	-6,583.03	14,424,540.479	1,702,042.650	39.719144614	-80.780842568	
23,700.00	91.00	329.84	11,357.79	11,314.99	-6,633.26	14,424,626.930	1,701,992.418	39.719382371	-80.781020453	
23,800.00	91.00	329.84	11,356.05	11,401.44	-6,683.49	14,424,713.380	1,701,942.187	39.719620127	-80.781198338	
23,900.00	91.00	329.84	11,354.31	11,487.90	-6,733.72	14,424,799.831	1,701,891.955	39.719857883	-80.781376225	
24,000.00	91.00	329.84	11,352.56	11,574.35	-6,783.96	14,424,886.281	1,701,841.723	39.720095639	-80.781554113	
24,100.00	91.00	329.84	11,350.82	11,660.80	-6,834.19	14,424,972.732	1,701,791.491	39.720333395	-80.781732003	
24,200.00	91.00	329.84	11,349.08	11,747.25	-6,884.42	14,425,059.183	1,701,741.260	39.720571150	-80.781909893	
24,300.00	91.00	329.84	11,347.34	11,833.70	-6,934.65	14,425,145.633	1,701,691.028	39.720808906	-80.782087785	
24,400.00	91.00	329.84	11,345.59	11,920.15	-6,984.88	14,425,232.084	1,701,640.796	39.721046660	-80.782265678	
24,500.00	91.00	329.84	11,343.85	12,006.60	-7,035.12	14,425,318.534	1,701,590.565	39.721284415	-80.782443572	
24,600.00	91.00	329.84	11,342.11	12,093.05	-7,085.35	14,425,404.985	1,701,540.333	39.721522169	-80.782621468	
24,700.00	91.00	329.84	11,340.37	12,179.50	-7,135.58	14,425,491.435	1,701,490.101	39.721759923	-80.782799365	



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Elijah N-15 HU (slot A)
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-15 HU (slot A)	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	
24,800.00	91.00	329.84	11,338.62	12,265.95	-7,185.81	14,425,577.886	1,701,439.869	39.721997677	-80.782977262	
24,900.00	91.00	329.84	11,336.88	12,352.40	-7,236.04	14,425,664.336	1,701,389.638	39.722235431	-80.783155162	
25,000.00	91.00	329.84	11,335.14	12,438.85	-7,286.27	14,425,750.787	1,701,339.406	39.722473184	-80.783333062	
25,100.00	91.00	329.84	11,333.40	12,525.30	-7,336.51	14,425,837.238	1,701,289.174	39.722710937	-80.783510963	
25,200.00	91.00	329.84	11,331.66	12,611.78	-7,386.74	14,425,923.688	1,701,238.943	39.722948689	-80.783688866	
25,300.00	91.00	329.84	11,329.91	12,698.21	-7,436.97	14,426,010.139	1,701,188.711	39.723186442	-80.783866770	
25,400.00	91.00	329.84	11,328.17	12,784.66	-7,487.20	14,426,096.589	1,701,138.479	39.723424194	-80.784044675	
25,500.00	91.00	329.84	11,326.43	12,871.11	-7,537.43	14,426,183.040	1,701,088.247	39.723661946	-80.784222582	
25,600.00	91.00	329.84	11,324.69	12,957.56	-7,587.67	14,426,269.490	1,701,038.016	39.723899697	-80.784400489	
25,700.00	91.00	329.84	11,322.94	13,044.01	-7,637.90	14,426,355.941	1,700,987.784	39.724137448	-80.784578398	
25,800.00	91.00	329.84	11,321.20	13,130.46	-7,688.13	14,426,442.391	1,700,937.552	39.724375199	-80.784756308	
25,900.00	91.00	329.84	11,319.46	13,216.91	-7,738.36	14,426,528.842	1,700,887.321	39.724612950	-80.784934220	
26,000.00	91.00	329.84	11,317.72	13,303.36	-7,788.59	14,426,615.293	1,700,837.089	39.724850700	-80.785112132	
26,100.00	91.00	329.84	11,315.98	13,389.81	-7,838.82	14,426,701.743	1,700,786.857	39.725088449	-80.785290046	
26,200.00	91.00	329.84	11,314.23	13,476.26	-7,889.06	14,426,788.194	1,700,736.625	39.725326199	-80.785467961	
26,300.00	91.00	329.84	11,312.49	13,562.71	-7,939.29	14,426,874.644	1,700,686.394	39.725563949	-80.785645877	
26,400.00	91.00	329.84	11,310.75	13,649.16	-7,989.52	14,426,961.095	1,700,636.162	39.725801698	-80.785823794	
26,500.00	91.00	329.84	11,309.01	13,735.61	-8,039.75	14,427,047.545	1,700,585.930	39.726039447	-80.786001713	
26,600.00	91.00	329.84	11,307.26	13,822.07	-8,089.98	14,427,133.996	1,700,535.699	39.726277196	-80.786179633	
26,700.00	91.00	329.84	11,305.52	13,908.52	-8,140.22	14,427,220.446	1,700,485.467	39.726514944	-80.786357554	
26,800.00	91.00	329.84	11,303.78	13,994.97	-8,190.45	14,427,306.897	1,700,435.235	39.726752692	-80.786535476	
26,900.00	91.00	329.84	11,302.04	14,081.42	-8,240.68	14,427,393.348	1,700,385.003	39.726990440	-80.786713400	
27,000.00	91.00	329.84	11,300.30	14,167.87	-8,290.91	14,427,479.798	1,700,334.772	39.727228188	-80.786891324	
27,100.00	91.00	329.84	11,298.55	14,254.32	-8,341.14	14,427,566.249	1,700,284.540	39.727465935	-80.787069250	
27,200.00	91.00	329.84	11,296.81	14,340.77	-8,391.37	14,427,652.699	1,700,234.308	39.727703682	-80.787247178	
27,300.00	91.00	329.84	11,295.07	14,427.22	-8,441.61	14,427,739.150	1,700,184.077	39.727941429	-80.787425106	
27,400.00	91.00	329.84	11,293.33	14,513.67	-8,491.84	14,427,825.600	1,700,133.845	39.728179176	-80.787603035	
27,500.00	91.00	329.84	11,291.58	14,600.12	-8,542.07	14,427,912.051	1,700,083.613	39.728416922	-80.787780966	
27,600.00	91.00	329.84	11,289.84	14,686.57	-8,592.30	14,427,998.501	1,700,033.381	39.728654668	-80.787958898	
27,705.72	91.00	329.84	11,288.00	14,777.96	-8,645.40	14,428,089.892	1,699,980.279	39.728906000	-80.788147000	

PBHL/TD 27705.71 MD 11288.00 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-15 HU BHL - plan hits target center - Point	0.00	0.00	11,288.00	14,777.96	-8,645.40	14,428,089.892	1,699,980.279	39.728906000	-80.788147000	
Elijah N-15 HU LP - plan misses target center by 43.22ft at 12061.15ft MD (11560.57 TVD, 1253.12 N, -786.86 E) - Point	0.00	0.00	11,561.00	1,231.42	-824.23	14,414,543.372	1,707,801.435	39.691649000	-80.760458000	
Elijah N-15 HU LP 50E - plan misses target center by 0.01ft at 12036.03ft MD (11561.00 TVD, 1231.41 N, -774.24 E) - Point	0.00	0.00	11,561.00	1,231.42	-774.23	14,414,543.372	1,707,851.437	39.691648633	-80.760280254	

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Planning Report - Geographic

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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-15 HU (slot A)	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)	
3,102.00	3,102.00	0.00	0.00	KOP Begin 2°/100' build
3,349.50	3,349.19	7.81	-7.29	Begin 4.95° tangent
7,517.85	7,502.00	270.86	-252.58	Begin 2°/100' build/turn
7,600.91	7,584.75	276.80	-256.49	Begin 5.01° tangent
10,773.04	10,744.78	530.12	-368.10	Begin 6°/100' build/turn
11,523.55	11,393.55	823.11	-535.75	Begin 8°/100' build/turn
12,036.04	11,561.00	1,231.41	-774.24	Begin 91.00° lateral
27,705.72	11,288.00	14,777.96	-8,645.40	PBHL/TD 27705.71 MD 11288.00 TVD

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JUN 29 2023

WV Department of
Environmental Protection

4710303593

WW-9
(4/16)

API Number 47 - 103 - _____
Operator's Well No. Elijah N-15HU

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Tug Hill Operating, LLC OP Code 494510851
Watershed (HUC 10) 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 EC#1386426)

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

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

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

Company Official Signature Jim Pancake
Company Official (Typed Name) Jim Pancake
Company Official Title Vice President Geoscience

RECEIVED
Office of Oil and Gas
JUN 29 2023
WV Department of
Environmental Protection

Subscribed and sworn before me this 22nd day of May, 2023
Susanne Deliere Notary Public

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

My commission expires 1/15/2025

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
Annual Ryegrass	40

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

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: Properly reclaim, seed, and mulch all disturbed areas.

RECEIVED
Office of Oil and Gas

JUN 29 2023

WV Department of
Environmental Protection

Title: Oil and Gas Inspector

Date: 5/18/23

Field Reviewed? Yes No

WW-9

SUPPLEMENT PG 1

PROPOSED ELIJAH PAD

12-7-32
CHARLES & DITH ROSE - L/E
CHARLES D. ROSE JR., ET AL.
DB 427-667
18 AC

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

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

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

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

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

REFERENCE IS HEREBY MADE TO THE WV D.E.P. OFFICE OF OIL & GAS. "EROSION AND SEDIMENT CONTROL FIELD MANUAL" FOR REQUIREMENTS AND BMPs FOR AVERAGE FIELD CONDITIONS CONCERNING THE MAINTENANCE OF EXISTING ROADS AND THE CONSTRUCTION OF PROPOSED ROADS. FIELD CONDITIONS MAY REQUIRE VARIANCE FROM THESE GUIDELINES AND THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION TO THE INSPECTOR AND THE OPERATOR SHOULD THESE CONDITIONS OCCUR.

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

ENTRANCES ONTO PUBLIC ROADS SHALL BE CONSTRUCTED OR MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATIONS. ADDITIONAL PERMITS MAY BE REQUIRED. TEMPORARILY SEED AND MULCH ALL SLOPES UPON CONSTRUCTION OF LOCATION.

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

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

DRAWING NOT TO SCALE.

RECEIVED
Office of Oil and Gas
JUN 29 2023
WV Department of
Environmental Protection



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

- 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%
- 31.25' @ -8.00%
- 8.58' @ 0.00%

Jackson Surveying Inc.
8412 E. Pike St., #112
Charlottesville, VA 22901
Phone: 504-629-5801

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

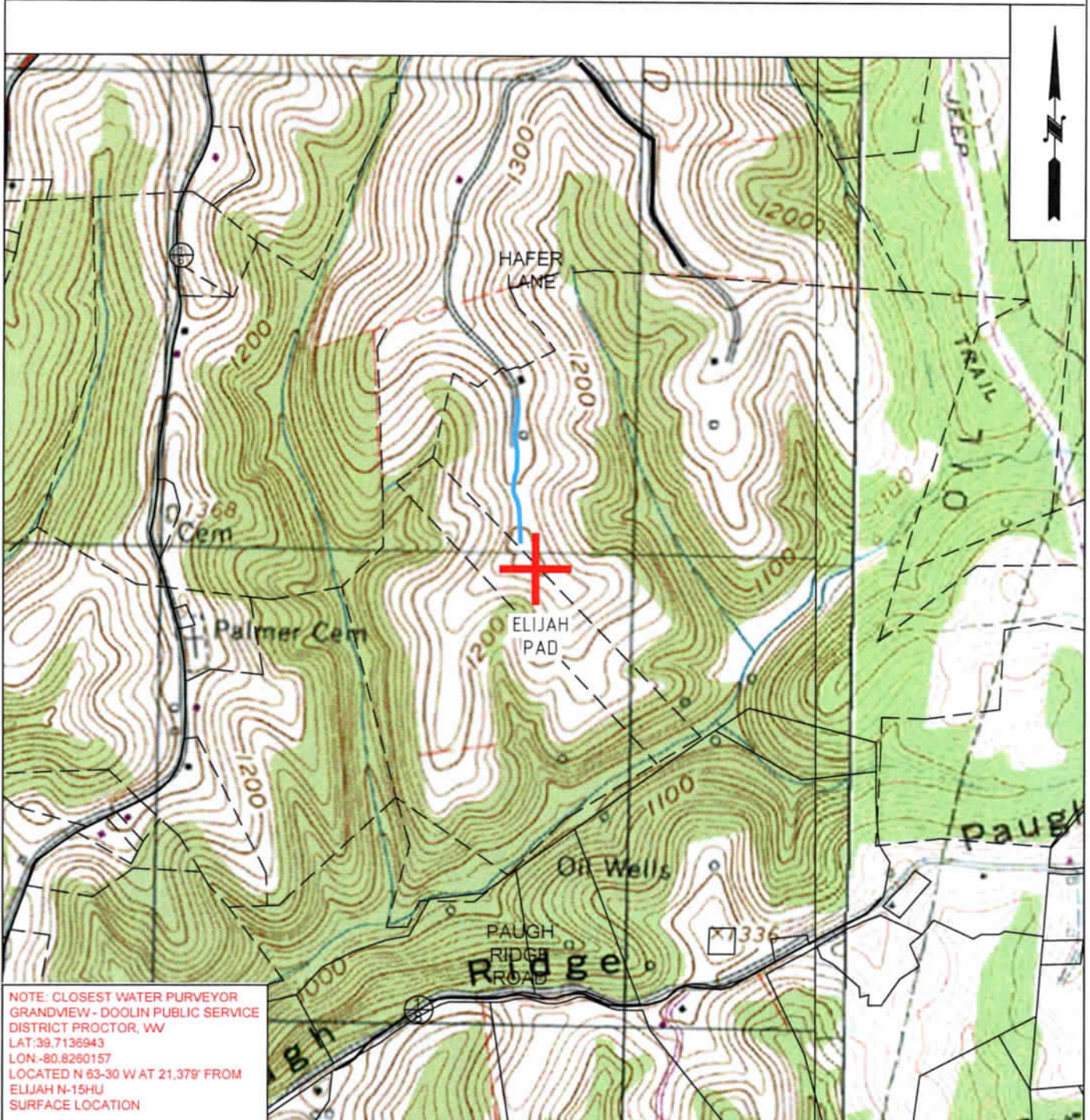
**TUG HILL
OPERATING**

08/18/2023

WW-9

PROPOSED ELIJAH PAD

SUPPLEMENT PG 2



NOTE: CLOSEST WATER PURVEYOR
GRANDVIEW - DOOLIN PUBLIC SERVICE
DISTRICT PROCTOR, WW
LAT: 39.7136943
LON: -80.8260157
LOCATED N 63-30 W AT 21.378' FROM
ELIJAH N-15HU
SURFACE LOCATION



OPERATOR **494510851**
TUG HILL OPERATING, LLC
380 SOUTHPOINTE BLVD
SUITE 200
CANONSBURG, PA 15317

TOPO SECTION
NEW MARTINSVILLE 7.5'
SCALE:
1" = 1000'

LEASE NAME
ELIJAH
DATE:
DATE: 12-01-2021

08/18/2023

4710303593



TUG HILL
OPERATING

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

Well Name: Elijah N-15HU

Pad Name: Elijah

County: Wetzel

UTM (meters), NAD83, Zone 17

Northing: 4,393,186.27

Easting: 520,790.14

**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

McL
08/18/2023
5/18/23

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

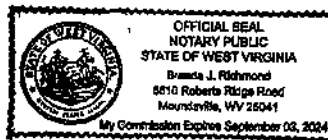
STATE OF WEST VIRGINIA S
 S SS:
COUNTY OF Wetzel S

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.

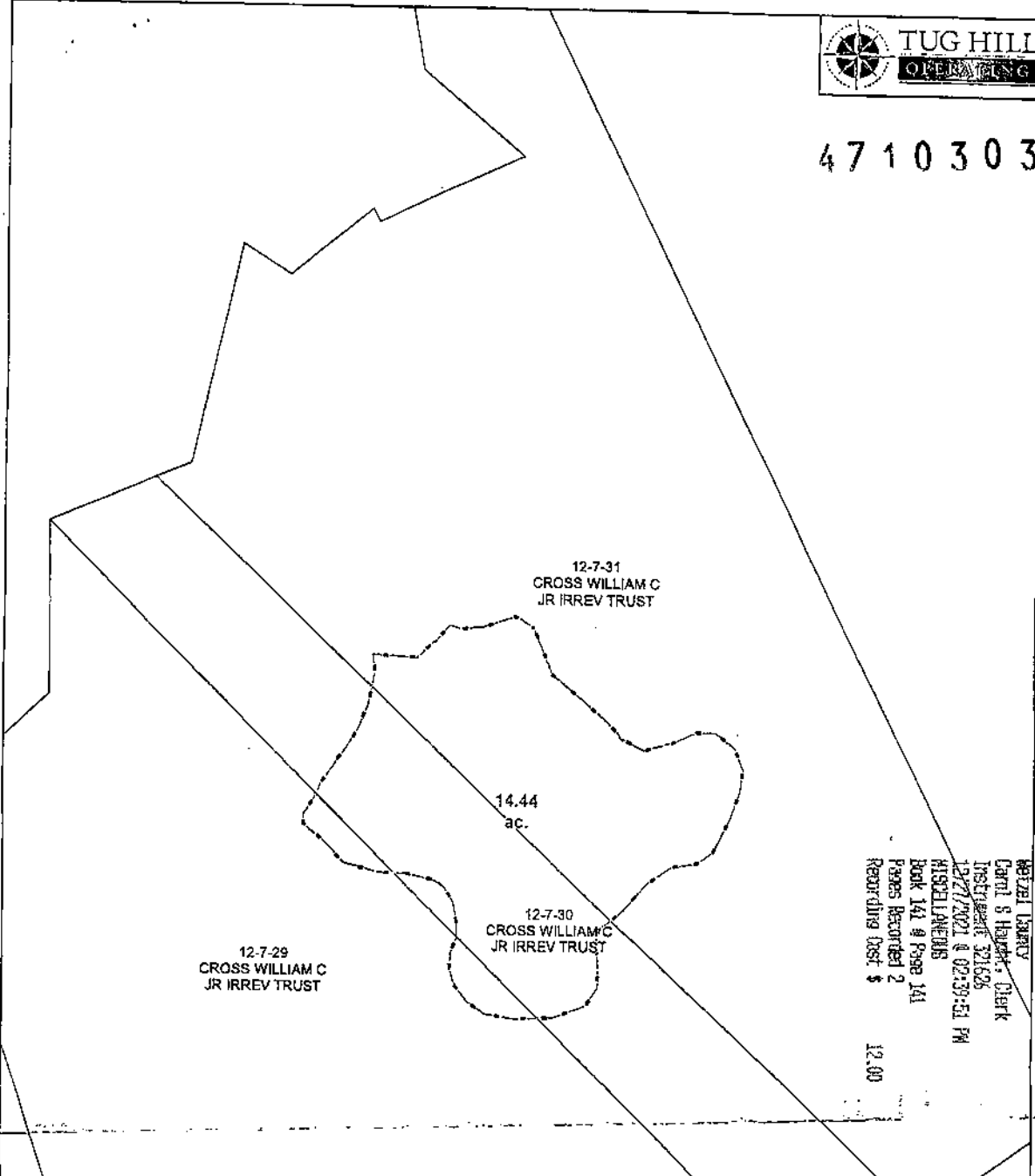
My Commission Expires: Sept 30 2024
Signature/Notary Public: Brenda J. Richmond
Name/Notary Public (print): Brenda J. Richmond

consideration is 0.



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

4710303593



WETZEL COUNTY
 Carol S. Harpold - Clerk
 Instrument 321626
 12/27/2021 @ 02:39:51 PM
 HISSELIAMENS
 Book 141 @ Page 141
 Pages Recorded 2
 Recording Cost \$ 12.00

1 inch = 328 feet

0 95 190 380
 Feet

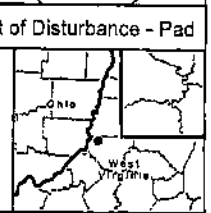
N

NOTE: THE APPROXIMATE LOCATION FOR THE TUG HILL OPENING SHALL BE THAT OF THE LOCATION OF THE OPENING AS SHOWN ON THE ORIGINAL SURVEY. THE LOCATION OF THE OPENING AS SHOWN ON THE ORIGINAL SURVEY SHALL BE THAT OF THE LOCATION OF THE OPENING AS SHOWN ON THE ORIGINAL SURVEY. THE LOCATION OF THE OPENING AS SHOWN ON THE ORIGINAL SURVEY SHALL BE THAT OF THE LOCATION OF THE OPENING AS SHOWN ON THE ORIGINAL SURVEY.

Exhibit "A"

CROSS WILLIAM C JR IRREV TRUST
 Wetzel County, WV

Date: _____
 Name: _____
 Name: _____

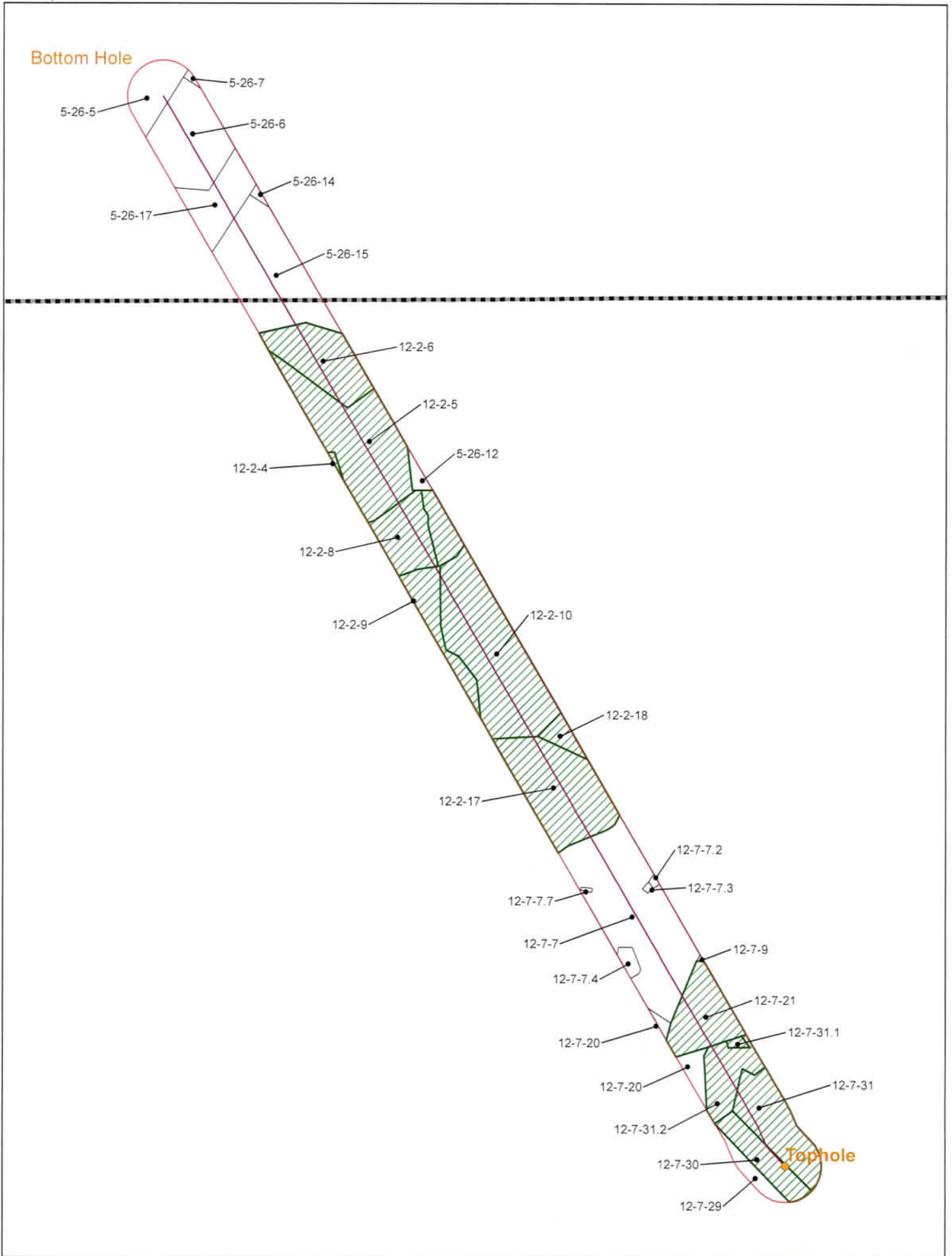


Limit of Disturbance - Pad

Date: 08/2023
 PCS: NAD 1983 UTM Zone 17N Foot US

Elijah N-15HU

Bottom Hole



Coordinate System: NAD 1983 UTM Zone 17N
 Projection: Transverse Mercator
 Datum: North American 1983
 False Easting: 1000000.0000
 False Northing: 0.0000
 Central Meridian: -81.0000
 Scale Factor: 0.9996
 Latitude Of Origin: 39.0000
 Units: Feet US

CONFIDENTIAL



- Utica Well
- 500' Buffer
- Force Pool

Elijah N-15HU
 Operators within 500 Feet of Well Borehole



Operator's within 500' of Well Boreholes

Elijah N - 15HU

4 / 1 0 3 0 3 5 9 7

COUNTY	DISTRICT	TMP	MINERAL OWNER OR LESSEE	ADDRESS
WETZEL	PROCTOR	12-2-4	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
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	12-2-8	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-8	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-8	BILLY MASON SULLIVAN AKA BILLY J SULLIVAN	1410 SOUTH 24TH AVE, UNIT B PHOENIX, AZ 85009
WETZEL	PROCTOR	12-2-8	KENNETH JAMES PARSONS	9713 ENERGY HIGHWAY FRIENDLY, WV 26146
WETZEL	PROCTOR	12-2-8	LIGHTNING CREEK HOLDINGS, LP	81 DUTILH RIDGE CRANBERRY TOWNSHIP, PA 16066
WETZEL	PROCTOR	12-2-8	PAM ISOM	71 VENABLE ROAD ANNVILLE, KY 40447
WETZEL	PROCTOR	12-2-8	REBECCA J HARRELL AKA REBECCA J ANTIBUS	533 N. KALAMAZOO AVENUE MARSHALL, MI 49068
WETZEL	PROCTOR	12-2-8	SHANNON HEMINGWAY	UNKNOWN & UNLOCATABLE
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

08/18/2023

Operator's within 500' of Well Boreholes

Elijah N - 15HU

4710303593

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	12-2-17	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-2-17	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-2-17	JEREMY MASON	1636 BAUM HILL ROAD CHILlicothe, OH 45601
WETZEL	PROCTOR	12-2-17	KATHY MASON	P.O. BOX 243 BAINBRIDGE, OH 45612
WETZEL	PROCTOR	12-2-17	CRYSTAL YOUNG	128 CORAL DRIVE PANAMA CITY BEACH, FL 32413
WETZEL	PROCTOR	12-2-17	ROBERT BOHRER	1000 GRACELAWN DRIVE BRENTWOOD, TN 37027
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	12-7-20	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 CIRCLE 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

08/18/2023

Operator's within 500' of Well Boreholes

Elijah N - 15HU

+710303593

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
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	12-7-29	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-29	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-7-29	BILL ANTILL	3276 WARREN ROAD, APT 2 CLEVELAND, OH 44111
WETZEL	PROCTOR	12-7-29	CHARLOTTE S BURGAN	7613 WHEAT FALL CT. DERWOOD, MD 20855-1168
WETZEL	PROCTOR	12-7-29	DAVIS FAMILY REVOCABLE TRUST DATED 2/22/95	9547 W COUNTRY CLUB DR SUN CITY, AZ 85373
WETZEL	PROCTOR	12-7-29	JAMES B HAWKINS	18 MARLPIT PLACE MIDDLETOWN, NJ 07748
WETZEL	PROCTOR	12-7-29	JOHN HAFFER THAXTON	50 N PINCH ROAD ELKVIEW, WV 25071 08/18/2023
WETZEL	PROCTOR	12-7-29	DOROTHY HAWKINS	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-29	DELORES DRAKE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-29	JOYCE RHODES	8714 SW 60TH CIR OCALA, FL 34476

Operator's within 500' of Well Boreholes

Elijah N - 15HU

4710303593

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
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	7373 SHERMAN CHURCH AVE SW LOT 312 EAST SPARTA, OH 44626
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	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

08/18/2023

Operator's within 500' of Well Boreholes

Elijah N - 15HU

4710303593

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

08/18/2023

Operator's within 500' of Well Boreholes

Elijah N - 15HU

4710303593

WETZEL	PROCTOR	12-7-31.1	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-31.1	EQT PRODUCTION COMPANY	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA 15222
WETZEL	PROCTOR	12-7-31.1	BILL ANTILL	3276 WARREN ROAD, APT 2 CLEVELAND, OH 44111
WETZEL	PROCTOR	12-7-31.1	CHARLOTTE S BURGAN	7613 WHEAT FALL CT. DERWOOD, MD 20855-1168
WETZEL	PROCTOR	12-7-31.1	DAVIS FAMILY REVOCABLE TRUST DATED 2/22/95	9547 W COUNTRY CLUB DR SUN CITY, AZ 85373
WETZEL	PROCTOR	12-7-31.1	JAMES B HAWKINS	18 MARLPIT PLACE MIDDLETOWN, NJ 07748
WETZEL	PROCTOR	12-7-31.1	JOHN HAFER THAXTON	50 N PINCH ROAD ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31.1	JOYCE RHODES	8714 SW 60TH CIR OCALA, FL 34476
WETZEL	PROCTOR	12-7-31.1	UNKNOWN & UNLOCATABLE HEIRS OF LARRY ANTILL	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31.1	LINDA RIVERIA	11051 NAOMI DRIVE, PARMA, OH 4413
WETZEL	PROCTOR	12-7-31.1	LINDA RYBOSKI	53710 QUIMBY AVENUE BRIDGEPORT, OH 43912
WETZEL	PROCTOR	12-7-31.1	LISA THAXTON DICKENS	48 HAFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31.1	MARJORIE ALTMAN	2870 SAN PAEIL STREET JACKSONVILLE, FL 32246
WETZEL	PROCTOR	12-7-31.1	MARY L THAXTON	47 HAFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31.1	GERALDINE HAWKINS	534 CASCADE COURT MAHWAH, NJ 07430
WETZEL	PROCTOR	12-7-31.1	SANDRA EKELS	7373 SHERMAN CHURCH AVE SW LOT 312 EAST SPARTA, OH 44626
WETZEL	PROCTOR	12-7-31.1	SARAH THAXTON	48 HAFER DRIVE ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31.1	SHAWN POULAIN	97 GLENWOOD HTS MANSFIELD, OH 44903
WETZEL	PROCTOR	12-7-31.1	UNKNOWN & UNLOCATABLE HEIRS OF CARRIE HAFER LITTLE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31.1	UNKNOWN & UNLOCATABLE HEIRS OF EVA HAFER	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31.1	TRUSTEES OF ST ANDREW PRESBYTERIAN	246 S. PINCH ROAD ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-31.2	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
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. 08/18/2023 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	JAMES B HAWKINS	18 MARLPIT PLACE MIDDLETOWN, NJ 07748

Operator's within 500' of Well Boreholes

Elijah N - 15HU

4710303593

WETZEL	PROCTOR	12-7-31.2	JOHN HAFFER 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 HAFFER 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 HAFFER 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	7373 SHERMAN CHURCH AVE SW LOT 312 EAST SPARTA, OH 44626
WETZEL	PROCTOR	12-7-31.2	SARAH THAXTON	48 HAFFER 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 HAFFER LITTLE	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31.2	UNKNOWN & UNLOCATABLE HEIRS OF EVA HAFFER	UNKNOWN & UNLOCATABLE
WETZEL	PROCTOR	12-7-31.2	TRUSTEES OF ST ANDREW PRESBYTERIAN	246 S. PINCH ROAD ELKVIEW, WV 25071
WETZEL	PROCTOR	12-7-7	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-7.2	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-7.3	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-7.4	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
WETZEL	PROCTOR	12-7-7.7	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
MARSHALL	FRANKLIN	5-26-5	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-5	TH EXPLORATION II 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

08/18/2023

Operator's within 500' of Well Boreholes

Elijah N - 15HU

4710303593

MARSHALL	FRANKLIN	5-26-7	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	5-26-14	TH EXPLORATION LLC	1320 S. UNIVERSITY BLVD SUITE 500 FORT WORTH, TX 76107
MARSHALL	FRANKLIN	5-26-14	TH EXPLORATION II 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

"For those parties identified as Missing or Address Unknown, the following actions were performed in pursuit of locating these individuals : A reasonable review of the records of the clerk of the county commission, the sheriff, the assessor, and the clerk of the circuit court in the county in which the interest is located, and includes unknown heirs, successors and assigns known to be alive; A reasonable inquiry in the vicinity of the owner's last known place of residence; A diligent inquiry into known interest owners in the same tract; and A reasonable review of available Internet resources commonly utilized by the industry."

08/18/2023

(BH) 10,785'

(TH) 2,178'

ELIJAH N-15HU UTICA UNIT - 461.1308± ACRES TUG HILL OPERATING, LLC

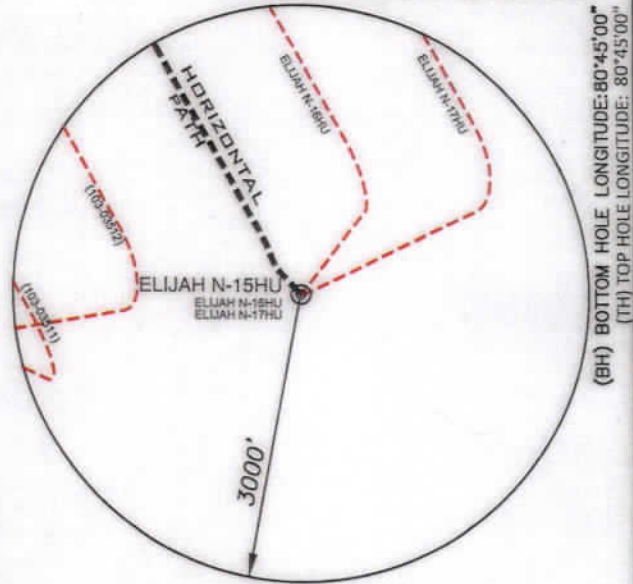
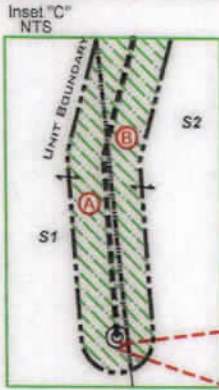
TOP HOLE LATITUDE: 39°42'30"
BOTTOM HOLE LATITUDE: 39°45'00"

form ww6

GRID NORTH

NOTES

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



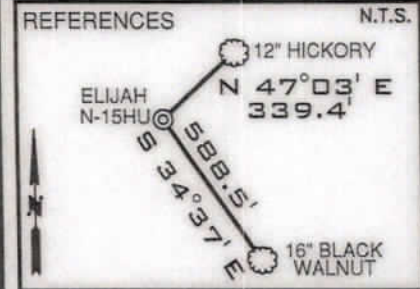
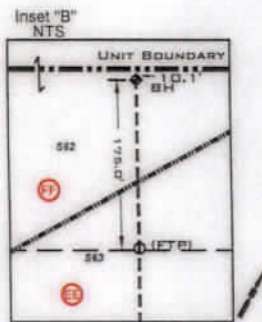
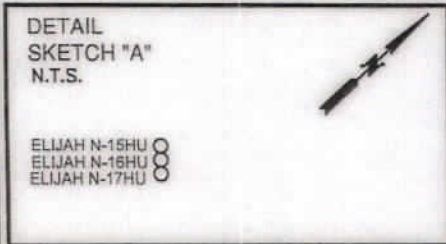
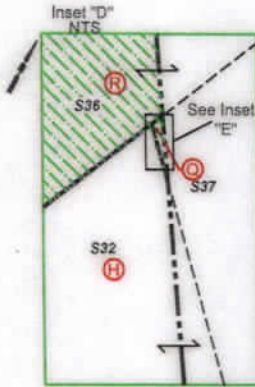
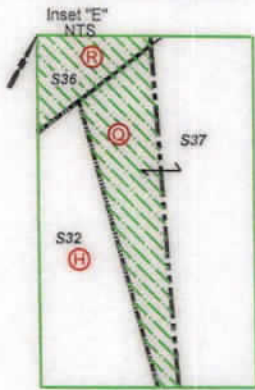
(BH) BOTTOM HOLE LONGITUDE: 80°45'00"
(TH) TOP HOLE LONGITUDE: 80°45'00"

(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS



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

SURFACE HOLE	
UTM. NAD83, ZONE 17 IN METERS	
N) 4,393,186.27	
E) 520,790.14	
LANDING POINT	
UTM. NAD83, ZONE 17 IN METERS	
N) 4,393,561.61	
E) 520,554.16	
BOTTOM HOLE	
UTM. NAD83, ZONE 17 IN METERS	
N) 4,397,690.59	
E) 518,155.02	



LINE	BEARING	DISTANCE
L1	N 81°38' W	1069.04'
L2	S 31°19' W	1856.06'
L3	N 42°03' W	370.48'
L4	N 32°22' W	7.11'
L5	N 22°49' W	276.91'
L6	N 29°25' W	269.91'
L7	N 29°17' W	276.91'

CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH
C1	N 28°34' W	31.58'	431.24'	31.59'
C2	N 28°50' W	183.97'	6484.23'	183.98'

FILE NUMBER _____
DRAWING NUMBER: ELIJAH_N-15HU_REV1
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING
GRADE GPS

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

P.S. 708

David L Jackson

JACKSON SURVEYING INC.
P.O. Box 1460
Clarksburg, WV 25302
304-623-5851



SEAL



DATE: MAY 25, 2023

OPERATORS WELL NO. ELIJAH N-15HU

API WELL NO. 47-103-03593

STATE WV COUNTY WV PERMIT WV

LOCATION ELEVATION 1275.8' WATERSHED (HUC 10) PROCTOR CREEK OF FRENCH CREEK - OHIO RIVER (HUC-10)

DISTRICT PROCTOR COUNTY WETZEL

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) _____

PLUG & ABANDON CLEAN OUT & REPLUG

TARGET FORMATION POINT PLEASANT ESTIMATED DEPTH TVD: 11,780' TMD: 27,706'

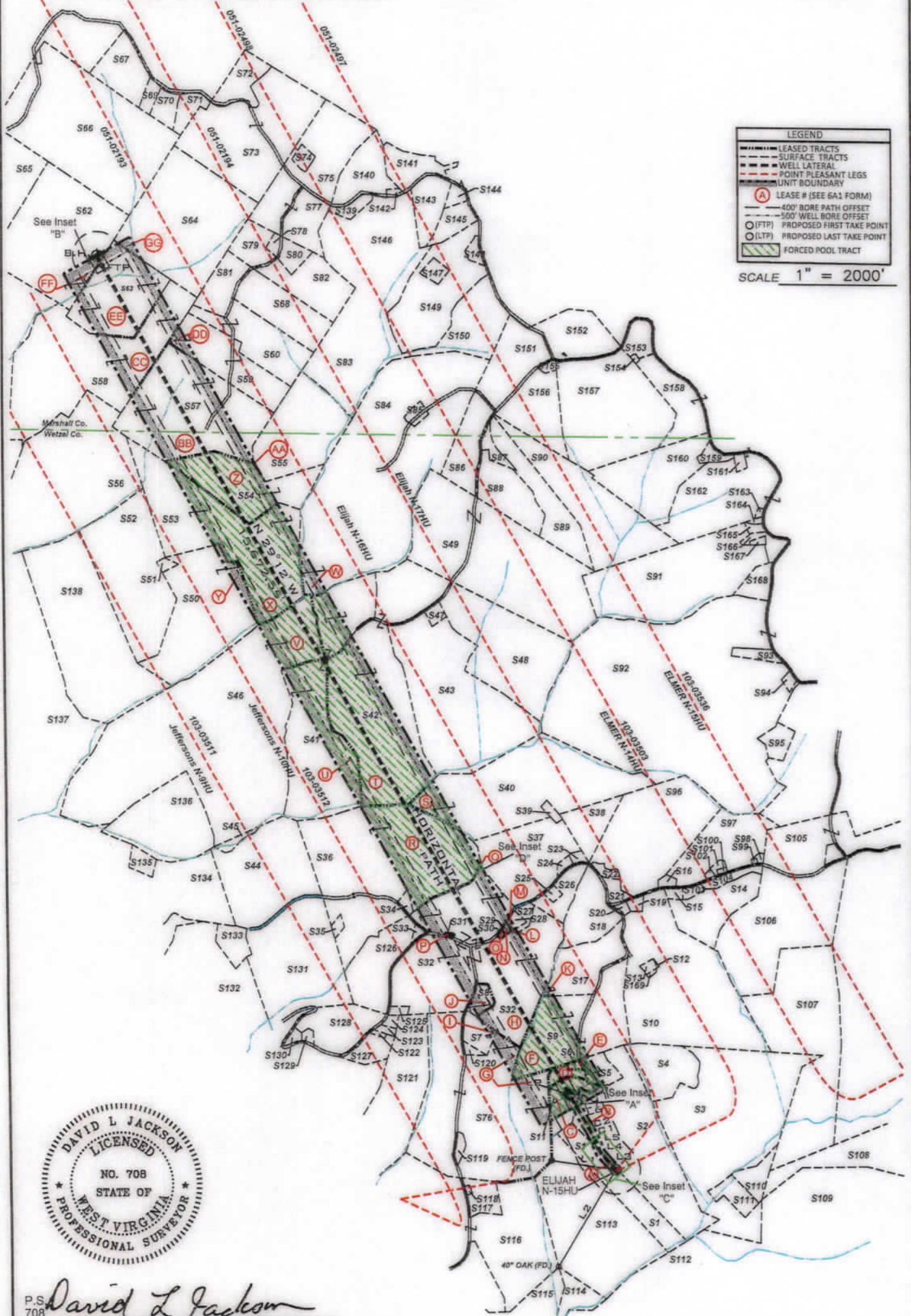
WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN, CT CORP

ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 ADDRESS 5098 WASHINGTON STREET WEST, SUITE 407 CHARLESTON, WV 25313-1561

COUNTY NAME
PERMIT

08/18/2023

ELIJAH N-15HU
UTICA UNIT - 461.1308± ACRES
TUG HILL OPERATING, LLC



LEGEND

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

SCALE 1" = 2000'



P.S. 708 *David L Jackson*

08/18/2023



TUG HILL
OPERATING

OPERATOR'S
WELL #: ELIJAH N-15HU
DISTRICT: Proctor
COUNTY: Wetzel
STATE: WV
API #: 47-103-

WELL PLAT
PAGE 2 OF 4
DATE: 05/25/2023

form: wwg

ELIJAH N-15HU
UTICA UNIT - 461.1308± ACRES
TUG HILL OPERATING, LLC

Table with columns: Tags, Number, Tax Map - Parcel, Surface Owner, Acres. Contains parcel data for the unit boundary.

Table with columns: Number, Tax Map - Parcel, Surface Owner, Acres. Contains Adjoining Parcels Ownership Table.



* FORCED POOLED TRACTS ARE HIGHLIGHTED

Signature of David L. Jackson

Large table with columns: Number, Tax Map - Parcel, Surface Owner, Acres. Contains detailed parcel ownership information for the entire unit.

08/18/2023



TUG HILL OPERATING

OPERATOR'S WELL #: ELIJAH N-15HU
DISTRICT: Proctor
COUNTY: Wetzel
STATE: WV
API #:

WELL PLAT
PAGE 3 OF 4
DATE: 05/25/2023

FORM W-6

**ELIJAH N-15HU
UTICA UNIT - 461.1308± ACRES
TUG HILL OPERATING, LLC**

Lease ID	TMP	Tag	Grantor, Lessor, Etc.	DeedBook/Page	
FORCE POOL	12-7-30	A	BRC APPALACHIA MINERAL I LLC, ET AL	102A 103A	505 320
FORCE POOL	12-7-31	B	BRC APPALACHIA MINERAL I LLC, ET AL	102A 103A	505 320
FORCE POOL	12-7-31.2	C/D	BRC APPALACHIA MINERAL I LLC, ET AL	102A 103A	505 320
FORCE POOL	12-7-31.1	E	BRC APPALACHIA MINERAL I LLC, ET AL	102A 103A	505 320
FORCE POOL	12-7-21	F	APRIL D AMRHEIN, ET AL	NA	NA
10*28422	12-7-20	G	COVESTRO LLC, ET AL	236A	577
10*21510	12-7-7	H	BARBARA A SPRAGUE	197A	894
10*28422	12-7-20.1	I	COVESTRO LLC, ET AL	236A	577
10*29090	12-7-7.4	J	CHARLES LEE HUGGINS AND BETTY JEAN HUGGINS	240A	460
10*41336	12-7-9	K	LARRY D GARNER, ET AL	313A	616
10*18160	12-7-7.5	L	MARK E ELLER	187A	950
10*18160	12-7-7.1	M	MARK E ELLER	187A	950
10*21510	12-7-7.2	N	BARBARA A SPRAGUE	197A	894
10*21510	12-7-7.3	O	BARBARA A SPRAGUE	197A	894
10*21510	12-7-7.7	P	BARBARA A SPRAGUE	197A	894
FORCE POOL	12-2-20	Q	CHERYL ANN COCHRAN FKA CHERYL ANN RICHMOND, ET AL	173A	198
FORCE POOL	12-2-17	R	ALLEN STEWART, ET AL	215A	315
FORCE POOL	12-2-18	S	CHERYL ANN COCHRAN FKA CHERYL ANN RICHMOND, ET AL	173A	198
FORCE POOL	12-2-10	T	LIGHTNING CREEK HOLDINGS, LP, ET AL	NA	NA
FORCE POOL	12-2-9	U	LIGHTNING CREEK HOLDINGS, LP, ET AL	NA	NA
FORCE POOL	12-2-8	V	LIGHTNING CREEK HOLDINGS, LP, ET AL	NA	NA
10*31441	5-26-12	W	JASON AND S M PARSONS	59	3
FORCE POOL	12-2-5	X	BETTY J FLANAGAN FKA BETTY J ECKLES, ET AL	176A	429
10*31102	12-2-4	Y	JACKSON YOHO	56	240
FORCE POOL	12-2-6	Z	BRC APPALACHIA MINERAL I LLC, ET AL	102A 103A	505 320
10*29670	5-26-13	AA	ALVIN F STONEKING JR	1100	97
10*22341	5-26-15	BB	ROBERT D & BONNIE L OLIVER FAMILY TRUST	965	488
10*41164	5-26-17	CC	VENABLE ROYALTY LTD AND V14 LP., ET AL	1151	438
10*14725	5-26-14	DD	HERBERT D MINOR, ET AL	724	198
10*41164	5-26-6	EE	VENABLE ROYALTY LTD AND V14 LP.	1151	438
10*14742	5-26-5	FF	SUSAN E GORE, ET AL	790	505
10*18343	5-26-7	GG	DOMINION ENERGY TRANSMISSION INC	936	79

* FORCED POOLED TRACTS ARE HIGHLIGHTED



David L Jackson

08/18/2023



**TUG HILL
OPERATING**

OPERATOR'S
WELL #: ELIJAH N-15HU
DISTRICT: Proctor
COUNTY: Wetzel
STATE: WV
API #: _____

WELL PLAT
PAGE 4 OF 4
DATE: 05/25/2023

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
-------------------------	-----------------------	-----------------------	---------	-----------

*See attached pages

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

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

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

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

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

10*24148	12-2-10	T	ROY C PARSONS	TH EXPLORATION LLC	1/8+	212A	517	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24376	12-2-10	T	WD LEMON	TH EXPLORATION LLC	1/8+	218A	504	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24472	12-2-10	T	ROY FRIEND YOHO	TH EXPLORATION LLC	1/8+	219A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24620	12-2-10	T	KORI D MASON	TH EXPLORATION LLC	1/8+	211A	854	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*24683	12-2-10	T	OKEY W DAVIS JR	TH EXPLORATION LLC	1/8+	219A	570	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*24732	12-2-10	T	JEFFREY SMITH AND LESLIE SMITH	TH EXPLORATION LLC	1/8+	220A	23	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*24754	12-2-10	T	WILLIAM M GREENE	TH EXPLORATION LLC	1/8+	220A	44	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*24755	12-2-10	T	JOHNNY P GREENE	TH EXPLORATION LLC	1/8+	471	222A	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*25013	12-2-10	T	KENNETH WAYNE MASON AND LANA FRETZ MASON	TH EXPLORATION LLC	1/8+	221A	311	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*25014	12-2-10	T	RICHARD JOSEPH MASON AND VICKY ANN MASON	TH EXPLORATION LLC	1/8+	221A	307	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*25314	12-2-10	T	LISA SUTPHIN	TH EXPLORATION LLC	1/8+	222A	123	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*29243	12-2-10	T	HARRY L WILLIAMS AND ROBERTA L WILLIAMS	TH EXPLORATION LLC	1/8+	246A	693	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*29273	12-2-10	T	LILLIAN GALLAGHER	TH EXPLORATION LLC	1/8+	246A	917	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*39899	12-2-10	T	EDWARD A BROOME	TH EXPLORATION LLC	1/8+	273A	876	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*40351	12-2-10	T	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	282A	435	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*40367	12-2-10	T	LAURA LEE RICHARDS COOK	TH EXPLORATION LLC	1/8+	289A	725	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*40391	12-2-10	T	MASON ENERGY LLC	TH EXPLORATION LLC	1/8+	290A	160	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*40785	12-2-10	T	ALICE J PRATKO	TH EXPLORATION LLC	1/8+	298A	391	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*41089	12-2-10	T	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	305A	239	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*41250	12-2-10	T	HAMMETT LAND & MINERALS LLC	TH EXPLORATION LLC	1/8+	204A	184	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*41497	12-2-10	T	ALF T AND CHERYL ANN MOORE	TH EXPLORATION LLC	1/8+	325A	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
10*41505	12-2-10	T	VICKIE NOLAN	TH EXPLORATION LLC	1/8+	325A	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
20*41613	12-2-10	T	AARON DAVIS	TH EXPLORATION LLC	1/8+	323A	317	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	12-2-10	T	LIGHTNING CREEK HOLDINGS, LP	UNLEASED	NA	NA	NA												
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	12-2-10	T	DOROTHY JOANNE HAAS	EQT PRODUCTION COMPANY	1/8+	212A	861												
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	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	12-2-10	T	STONE HILL MINERALS HOLDINGS LLC	UNLEASED	NA	NA	NA												
FORCE POOL	12-2-10	T	BILLY MASON SULLIVAN AKA BILLY J SULLIVAN	UNLEASED	NA	NA	NA												
10*18336	12-2-9	U	ED BROOME INC	TH EXPLORATION LLC	1/8+	198A	718	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18556	12-2-9	U	VANITA AND CORDOVA HOLDING COMPANY	TH EXPLORATION LLC	1/8+	188A	497	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*22219	12-2-9	U	PAUL D MASON	TH EXPLORATION LLC	1/8+	201A	834	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22229	12-2-9	U	MURIEL A MILLER	TH EXPLORATION LLC	1/8+	204A	150	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22230	12-2-9	U	JOHN P SNYDER	TH EXPLORATION LLC	1/8+	204A	146	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23007	12-2-9	U	JOHN M PARSONS & ANTOINETTE L COSTANTINO	TH EXPLORATION LLC	1/8+	209A	287	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23266	12-2-9	U	KEVIN P MASON	TH EXPLORATION LLC	1/8+	209A	225	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23512	12-2-9	U	VIVIAN A PARSONS	TH EXPLORATION LLC	1/8+	212A	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23824	12-2-9	U	JAMES H PARSONS JR	TH EXPLORATION LLC	1/8+	215A	267	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24148	12-2-9	U	ROY C PARSONS	TH EXPLORATION LLC	1/8+	212A	517	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24376	12-2-9	U	WD LEMON	TH EXPLORATION LLC	1/8+	218A	504	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24472	12-2-9	U	ROY FRIEND YOHO	TH EXPLORATION LLC	1/8+	219A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24620	12-2-9	U	KORI D MASON	TH EXPLORATION LLC	1/8+	211A	854	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*24683	12-2-9	U	OKEY W DAVIS JR	TH EXPLORATION LLC	1/8+	219A	570	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*24732	12-2-9	U	JEFFREY SMITH AND LESLIE SMITH	TH EXPLORATION LLC	1/8+	220A	23	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*24754	12-2-9	U	WILLIAM M GREENE	TH EXPLORATION LLC	1/8+	220A	44	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*24755	12-2-9	U	JOHNNY P GREENE	TH EXPLORATION LLC	1/8+	471	222A	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*25013	12-2-9	U	KENNETH WAYNE MASON AND LANA FRETZ MASON	TH EXPLORATION LLC	1/8+	221A	311	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*25014	12-2-9	U	RICHARD JOSEPH MASON AND VICKY ANN MASON	TH EXPLORATION LLC	1/8+	221A	307	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*25314	12-2-9	U	LISA SUTPHIN	TH EXPLORATION LLC	1/8+	222A	123	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*29243	12-2-9	U	HARRY L WILLIAMS AND ROBERTA L WILLIAMS	TH EXPLORATION LLC	1/8+	246A	693	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*29273	12-2-9	U	LILLIAN GALLAGHER	TH EXPLORATION LLC	1/8+	246A	917	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*39899	12-2-9	U	EDWARD A BROOME	TH EXPLORATION LLC	1/8+	273A	876	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*40351	12-2-9	U	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	282A	435	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*40367	12-2-9	U	LAURA LEE RICHARDS COOK	TH EXPLORATION LLC	1/8+	289A	725	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*40391	12-2-9	U	MASON ENERGY LLC	TH EXPLORATION LLC	1/8+	290A	160	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*40785	12-2-9	U	ALICE J PRATKO	TH EXPLORATION LLC	1/8+	298A	391	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*41089	12-2-9	U	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	305A	239	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*41257	12-2-9	U	HAMMETT LAND & MINERALS LLC	TH EXPLORATION LLC	1/8+	204A	184	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*41497	12-2-9	U	ALF T AND CHERYL ANN MOORE	TH EXPLORATION LLC	1/8+	325A	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
10*41505	12-2-9	U	VICKIE NOLAN	TH EXPLORATION LLC	1/8+	325A	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

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ID	Acq Date	Type	Owner	Company	Acq	323A	317	323A	317	323A	317	323A	317	323A	317	323A	317	323A	317	323A	317	
10*41613	12-2-9	U	AARON DAVIS	TH EXPLORATION LLC	1/8+	323A	317	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
FORCE POOL	12-2-9	U	LIGHTNING CREEK HOLDINGS, LP	UNLEASED	NA	NA	NA															**FORCE POOL**
FORCE POOL	12-2-9	U	DANNY DAVIS IR AND JENNIFER DAVIS	STONE ENERGY CORPORATION	1/8+	143A	527	Stone Energy Corp to EQT Production Company: 183A/305														**FORCE POOL**
FORCE POOL	12-2-9	U	DOROTHY JOANNE HAAS	EQT PRODUCTION COMPANY	1/8+	212A	861															**FORCE POOL**
FORCE POOL	12-2-9	U	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	12-2-9	U	KATHERINE J MCGUANE	STONE ENERGY CORPORATION	1/8+	143A	505	Stone Energy Corp to EQT Production Company: 183A/305														**FORCE POOL**
FORCE POOL	12-2-9	U	STONE HILL MINERALS HOLDINGS LLC	UNLEASED	NA	NA	NA															**FORCE POOL**
FORCE POOL	12-2-9	U	BILLY MASON SULLIVAN AKA BILLY J SULLIVAN	UNLEASED	NA	NA	NA															**FORCE POOL**
10*18336	12-2-8	V	ED BROOME INC	TH EXPLORATION LLC	1/8+	198A	718	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18556	12-2-8	V	VANITA AND CORDOVA HOLDING COMPANY	TH EXPLORATION LLC	1/8+	188A	497	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22219	12-2-8	V	PAUL D MASON	TH EXPLORATION LLC	1/8+	202A	834	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22279	12-2-8	V	MURIEL A MILLER	TH EXPLORATION LLC	1/8+	204A	150	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22230	12-2-8	V	JOHN P SNYDER	TH EXPLORATION LLC	1/8+	204A	146	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*23007	12-2-8	V	JOHN M PARSONS & ANTOINETTE L COSTANTINO	TH EXPLORATION LLC	1/8+	209A	287	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*23266	12-2-8	V	KEVIN P MASON	TH EXPLORATION LLC	1/8+	209A	225	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*23512	12-2-8	V	VIVIAN A PARSONS	TH EXPLORATION LLC	1/8+	212A	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*23824	12-2-8	V	JAMES H PARSONS JR	TH EXPLORATION LLC	1/8+	215A	262	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24100	12-2-8	V	ROME PRESBYTERIAN CHURCH OF PROCTORVILLE	TH EXPLORATION LLC	1/8+	216A	422	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24148	12-2-8	V	ROY C PARSONS	TH EXPLORATION LLC	1/8+	212A	527	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24376	12-2-8	V	WD LEMON	TH EXPLORATION LLC	1/8+	218A	504	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24472	12-2-8	V	ROY FRIEND YOHO	TH EXPLORATION LLC	1/8+	219A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24620	12-2-8	V	KORI D MASON	TH EXPLORATION LLC	1/8+	211A	854	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24683	12-2-8	V	OKEY W DAVIS, JR	TH EXPLORATION LLC	1/8+	219A	570	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24732	12-2-8	V	JEFFREY SMITH AND LESUE SMITH	TH EXPLORATION LLC	1/8+	220A	23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24754	12-2-8	V	WILLIAM M GREENE	TH EXPLORATION LLC	1/8+	220A	44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24755	12-2-8	V	JOHNNY P GREENE	TH EXPLORATION LLC	1/8+	222A	471	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*25013	12-2-8	V	KENNETH WAYNE MASON AND LANA FRETZ MASON	TH EXPLORATION LLC	1/8+	222A	311	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*25014	12-2-8	V	RICHARD JOSEPH MASON AND VICKY ANN MASON	TH EXPLORATION LLC	1/8+	221A	307	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*25314	12-2-8	V	LISA SUTPHIN	TH EXPLORATION LLC	1/8+	222A	123	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*25359	12-2-8	V	MASON A BEGLEY AND DENINA M BEGLEY	TH EXPLORATION LLC	1/8+	222A	468	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*25720	12-2-8	V	CATHRA LYNN BEGLEY	TH EXPLORATION LLC	1/8+	223A	526	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*26574	12-2-8	V	JACQUELEIN R KOSKI	TH EXPLORATION LLC	1/8+	224A	505	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*26575	12-2-8	V	ALANNA L HAMILTON	TH EXPLORATION LLC	1/8+	224A	502	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*26942	12-2-8	V	SHERRY L FEE	TH EXPLORATION LLC	1/8+	226A	412	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*27146	12-2-8	V	JULIE P SIMMONS AND DOUGLAS A SIMMONS	TH EXPLORATION LLC	1/8+	228A	189	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*27149	12-2-8	V	NEIL D PATTERSON JR & THERESA PATTERSON	TH EXPLORATION LLC	1/8+	228A	186	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*27310	12-2-8	V	CLARK E PATTERSON AND MALISSA D PATTERSON	TH EXPLORATION LLC	1/8+	228A	192	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*28421	12-2-8	V	ROBERT G JEWELL	TH EXPLORATION LLC	1/8+	236A	838	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*29189	12-2-8	V	DWAYNE EARL BEGLEY	TH EXPLORATION LLC	1/8+	245A	371	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*29243	12-2-8	V	HARRY L WILLIAMS AND ROBERTA L WILLIAMS	TH EXPLORATION LLC	1/8+	246A	693	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*29273	12-2-8	V	LILLIAN GALLAGHER	TH EXPLORATION LLC	1/8+	246A	917	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*29327	12-2-8	V	MICHAEL V PARSONS AND LINDA D PARSONS	TH EXPLORATION LLC	1/8+	285A	567	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*39899	12-2-8	V	EDWARD A BROOME	TH EXPLORATION LLC	1/8+	273A	876	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*40351	12-2-8	V	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	282A	435	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*40367	12-2-8	V	LAURA LEE RICHARDS COOK	TH EXPLORATION LLC	1/8+	289A	725	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*40391	12-2-8	V	MASON ENERGY LLC	TH EXPLORATION LLC	1/8+	290A	160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*40499	12-2-8	V	ALLDALE MINERALS II LP	TH EXPLORATION LLC	1/8+	292A	937	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*40785	12-2-8	V	ALICE J PRATKO	TH EXPLORATION LLC	1/8+	298A	391	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*41089	12-2-9	V	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	305A	239	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*41256	12-2-8	V	HAMMETT LAND & MINERALS LLC	TH EXPLORATION LLC	1/8+	204A	184	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*41331	12-2-8	V	HERBERT L MILLER AKA HERBERT L SMITH	ANTERO RESOURCES CORPORATION	1/8+	306A	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*41455	12-2-8	V	JEFFREY J MCGLONE	TH EXPLORATION LLC	1/8+	322A	459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*41456	12-2-8	V	KELLY M MCGLONE	TH EXPLORATION LLC	1/8+	322A	456	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*41467	12-2-8	V	STEVEN M AND ROSEMARIE MCGLONE	TH EXPLORATION LLC	1/8+	325A	229	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*41497	12-2-8	V	ALF T AND CHERYL ANN MOORE	TH EXPLORATION LLC	1/8+	325A	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	N/A	
10*41505	12-2-8	V	VICKIE NOLAN	TH EXPLORATION LLC	1/8+	325A	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	N/A	
10*41613	12-2-8	V	AARON DAVIS	TH EXPLORATION LLC	1/8+	323A	317	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Antero Resources Corporation to TH Exploration LLC: 318A/65

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FORCE POOL	12-2-8	V	LIGHTNING CREEK HOLDINGS, LP	UNLEASED	NA	NA	NA													**FORCE POOL**	
FORCE POOL	12-2-8	V	CARRIE ELLEN MORSE	EQT PRODUCTION COMPANY	1/8+	219A	241														**FORCE POOL**
FORCE POOL	12-2-8	V	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	12-2-8	V	DOROTHY JOANNE HAAS	EQT PRODUCTION COMPANY	1/8+	212A	861														**FORCE POOL**
FORCE POOL	12-2-8	V	DOROTHY PYATT LEWIS	ANTERO RESOURCES CORPORATION	1/8+	175A	513	Antero Resources Corporation to EQT Production Company: 231A/22													**FORCE POOL**
FORCE POOL	12-2-8	V	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	12-2-8	V	JO ANDERSON COMBS	EQT PRODUCTION COMPANY	1/8+	219A	237														**FORCE POOL**
FORCE POOL	12-2-8	V	JOHN PHILLIP HOWSER	EQT PRODUCTION COMPANY	1/8+	219A	234														**FORCE POOL**
FORCE POOL	12-2-8	V	JUDITH R WHITE AND FRANKIE D WHITE	STONE ENERGY CORPORATION	1/8+	143A	509	Stone Energy Corp to EQT Production Company: 183A/305													**FORCE POOL**
FORCE POOL	12-2-8	V	KATHERINE J MCGUANE	STONE ENERGY CORPORATION	1/8+	143A	505	Stone Energy Corp to EQT Production Company: 183A/305													**FORCE POOL**
FORCE POOL	12-2-8	V	LENORA SHELTON	ANTERO RESOURCES CORPORATION	1/8+	175A	527	Antero Resources Corporation to EQT Production Company: 231A/22													**FORCE POOL**
FORCE POOL	12-2-8	V	MONA LOU MOORE	ANTERO RESOURCES CORPORATION	1/8+	175A	519	Antero Resources Corporation to EQT Production Company: 231A/22													**FORCE POOL**
FORCE POOL	12-2-8	V	ROSE MARIE BARKER	ANTERO RESOURCES CORPORATION	1/8+	175A	509	Antero Resources Corporation to EQT Production Company: 231A/22													**FORCE POOL**
FORCE POOL	12-2-8	V	VICTORIA MCCLINTOCK	STONE ENERGY CORPORATION	1/8+	143A	531	Stone Energy Corp to EQT Production Company: 183A/305													**FORCE POOL**
FORCE POOL	12-2-8	V	BILLY MASON SULLIVAN AKA BILLY J SULLIVAN	UNLEASED	NA	NA	NA														**FORCE POOL**
FORCE POOL	12-2-8	V	DENZIL FLOYD MASON	UNLEASED	NA	NA	NA														**FORCE POOL**
FORCE POOL	12-2-8	V	JOHN R WARSHINSKY	UNLEASED	NA	NA	NA														**FORCE POOL**
FORCE POOL	12-2-8	V	KENNETH JAMES PARSONS	UNLEASED	NA	NA	NA														**FORCE POOL**
FORCE POOL	12-2-8	V	PAM ISOM	UNLEASED	NA	NA	NA														**FORCE POOL**
FORCE POOL	12-2-8	V	REBECCA J HARRELL AKA REBECCA J ANTIBUS	UNLEASED	NA	NA	NA														**FORCE POOL**
FORCE POOL	12-2-8	V	SHANNON HEMINGWAY	UNLEASED	NA	NA	NA														**FORCE POOL**
10*21697	12-2-5	X	CONNIE SIMS	TH EXPLORATION LLC	1/8+	214A	364	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22217	12-2-5	X	NANCY SELLERS	TH EXPLORATION LLC	1/8+	202A	790	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22220	12-2-5	X	HAROLD E SELLERS	TH EXPLORATION LLC	1/8+	202A	786	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22231	12-2-5	X	MARILYN SLATER	TH EXPLORATION LLC	1/8+	204A	144	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22569	12-2-5	X	PATRICIA M LEHR	TH EXPLORATION LLC	1/8+	208A	426	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22716	12-2-5	X	SALLY BROKKEN AND TOM BROKKEN	TH EXPLORATION LLC	1/8+	209A	210	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23038	12-2-5	X	SHIRLEY JANE MILLIKEN	TH EXPLORATION LLC	1/8+	220A	280	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23044	12-2-5	X	DONNA R WOLFE AND DWIGHT WOLFE	TH EXPLORATION LLC	1/8+	204A	160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23045	12-2-5	X	JAMES A MAIBACH & MELISSA F MAIBACH	TH EXPLORATION LLC	1/8+	204A	158	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23344	12-2-5	X	JEFFREY S MAIBACH	TH EXPLORATION LLC	1/8+	214A	678	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23346	12-2-5	X	EMILY B MORRIS	TH EXPLORATION LLC	1/8+	214A	682	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24021	12-2-5	X	KELLI PAGE MARTI	TH EXPLORATION LLC	1/8+	215A	884	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24081	12-2-5	X	DON MATTHEW PAGE	TH EXPLORATION LLC	1/8+	215A	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	N/A
10*24318	12-2-5	X	LORI PAGE ESBORN AND MICHAEL ESBORN	TH EXPLORATION LLC	1/8+	217A	164	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24356	12-2-5	X	BEATRICE TORRES	TH EXPLORATION LLC	1/8+	218A	179	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30216	12-2-5	X	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	N/A
10*41330	12-2-5	X	FIVE STAR RESOURCES	ANTERO RESOURCES CORPORATION	1/8+	286A	97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Antero Resources Corporation to TH Exploration LLC: 318A/65

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FORCE POOL	12-2-5	X	BETTY J FLANAGAN FKA BETTY J ECKLES	ANTERO RESOURCES CORPORATION	1/8+	176A	429	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**										
FORCE POOL	12-2-5	X	BONNIE JEAN BOLDEN	ANTERO RESOURCES CORPORATION	1/8+	186A	880	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**										
FORCE POOL	12-2-5	X	CHARLES R MYERS	ANTERO RESOURCES CORPORATION	1/8+	175A	491	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**										
FORCE POOL	12-2-5	X	CLAUDIA R SCHEEHLE	ANTERO RESOURCES CORPORATION	1/8+	175A	497	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**										
FORCE POOL	12-2-5	X	CLIFFORD W JOHNSON AND ALBERTA B JOHNSON	STONE ENERGY CORPORATION	1/8+	156A	501	Stone Energy Corp to EQT Production Company: 183A/305	**FORCE POOL**										
FORCE POOL	12-2-5	X	HERBERT D MINOR	ANTERO RESOURCES CORPORATION	1/8+	170A	420	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**										
FORCE POOL	12-2-5	X	RICHARD S WHITE II	ANTERO RESOURCES CORPORATION	1/8+	175A	501	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**										
FORCE POOL	12-2-5	X	RUTH ANN SHINGLETON FKA RUTH ANN ECKLES	ANTERO RESOURCES CORPORATION	1/8+	176A	465	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**										
FORCE POOL	12-2-5	X	SHARON E YOHO	ANTERO RESOURCES CORPORATION	1/8+	175A	505	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**										
FORCE POOL	12-2-5	X	SHARON SUE ANDREWS	ANTERO RESOURCES CORPORATION	1/8+	186A	877	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**										
FORCE POOL	12-2-5	X	SHIRLEY DORSEY	ANTERO RESOURCES CORPORATION	1/8+	175A	487	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**										
FORCE POOL	12-2-5	X	SHIRLEY K WHITE	ANTERO RESOURCES CORPORATION	1/8+	175A	503	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**										
FORCE POOL	12-2-5	X	VICKI LYNN BOLDEN	ANTERO RESOURCES CORPORATION	1/8+	186A	882	Antero Resources Corporation to EQT Production Company: 231A/22	**FORCE POOL**										
FORCE POOL	12-2-5	X	THOMAS L ICEMAN	UNLEASED	NA	NA	NA		**FORCE POOL**										
FORCE POOL	12-2-5	X	SUE M SCHAAD	UNLEASED	NA	NA	NA		**FORCE POOL**										
FORCE POOL	12-2-5	X	VIRGINIA ANN HAHN	UNLEASED	NA	NA	NA		**FORCE POOL**										
FORCE POOL	12-2-5	X	KYO ENERGY INC	UNLEASED	NA	NA	NA		**FORCE POOL**										
10*21141	12-2-6	Z	SHARON S ANDREWS AND GERARD S ANDREWS	TH EXPLORATION LLC	1/8+	200A	443	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*21366	12-2-6	Z	BONNIE BOLDEN	TH EXPLORATION LLC	1/8+	201A	434	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*21672	12-2-6	Z	VICKIE L BOLDEN	TH EXPLORATION LLC	1/8+	201A	435	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*21697	12-2-6	Z	CONNIE SIMS	TH EXPLORATION LLC	1/8+	214A	364	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*21699	12-2-6	Z	PATRICIA M LEHR	TH EXPLORATION LLC	1/8+	212A	35	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*21700	12-2-6	Z	NANCY SELLERS	TH EXPLORATION LLC	1/8+	213A	408	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*22071	12-2-6	Z	SALLY BROKKEN AND TOM BROKKEN	TH EXPLORATION LLC	1/8+	202A	820	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*22072	12-2-6	Z	HAROLD E SELLERS	TH EXPLORATION LLC	1/8+	213A	682	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*22204	12-2-6	Z	JAMES A MAIBACH & MELUSSA F MAIBACH	TH EXPLORATION LLC	1/8+	216A	169	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*22231	12-2-6	Z	MARILYN SLATER	TH EXPLORATION LLC	1/8+	204A	144	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*23038	12-2-6	Z	SHIRLEY JANE MILLIKEN	TH EXPLORATION LLC	1/8+	220A	280	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*23044	12-2-6	Z	DONNA R WOLFE AND DWIGHT WOLFE	TH EXPLORATION LLC	1/8+	204A	160	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*23344	12-2-6	Z	JEFFREY S MAIBACH	TH EXPLORATION LLC	1/8+	214A	678	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*23346	12-2-6	Z	EMILY B MORRIS	TH EXPLORATION LLC	1/8+	214A	682	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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10*24021	12-2-6	Z	KELLI PAGE MARTI	TH EXPLORATION LLC	1/8+	215A	884	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24081	12-2-6	Z	DON MATTHEW PAGE	TH EXPLORATION LLC	1/8+	216A	401	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*2431B	12-2-6	Z	LORI PAGE ESBORN AND MICHAEL ESBORN	TH EXPLORATION LLC	1/8+	217A	164	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24356	12-2-6	Z	BEATRICE TORRES	TH EXPLORATION LLC	1/8+	218A	179	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*30216	12-2-6	Z	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
10*41328	12-2-6	Z	FIVE STAR RESOURCES	ANTERO RESOURCES CORPORATION	1/8+	286A	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FORCE POOL	12-2-6	Z	BRC APPALACHIA MINERAL I LLC	BRC WORKING INTEREST COMPANY LLC	1/8+	102A 103A	505 320	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/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**	Antero Resources Corporation to TH Exploration LLC: 318A/65
FORCE POOL	12-2-6	Z	B&R CONSTRUCTION INC	STONE ENERGY CORPORATION	1/8+	112A	459	Stone Energy Corp to EQT Production Company: 183A/305										
FORCE POOL	12-2-6	Z	BETTY J FLANAGAN FKA BETTY J ECKLES	ANTERO RESOURCES CORPORATION	1/8+	176A	429	Antero Resources Corporation to EQT Production Company: 231A/22										
FORCE POOL	12-2-6	Z	CHARLES R MYERS	ANTERO RESOURCES CORPORATION	1/8+	175A	491	Antero Resources Corporation to EQT Production Company: 231A/22										
FORCE POOL	12-2-6	Z	CLAUDIA R SCHEEHLE	ANTERO RESOURCES CORPORATION	1/8+	175A	497	Antero Resources Corporation to EQT Production Company: 231A/22										
FORCE POOL	12-2-6	Z	CLIFFORD W JOHNSON AND ALBERTA B JOHNSON	STONE ENERGY CORPORATION	1/8+	156A	501	Stone Energy Corp to EQT Production Company: 183A/305										
FORCE POOL	12-2-6	Z	PATRICIA E ECKLES	ANTERO RESOURCES CORPORATION	1/8+	286A	100	Antero Resources Corporation to EQT Production Company: 231A/22										
FORCE POOL	12-2-6	Z	HERBERT D MINOR	ANTERO RESOURCES CORPORATION	1/8+	170A	422	Antero Resources Corporation to EQT Production Company: 231A/22										
FORCE POOL	12-2-6	Z	RICHARD S WHITE II	ANTERO RESOURCES CORPORATION	1/8+	175A	501	Antero Resources Corporation to EQT Production Company: 231A/22										
FORCE POOL	12-2-6	Z	RUTH ANN SHINGLETON FKA RUTH ANN ECKLES	ANTERO RESOURCES CORPORATION	1/8+	176A	465	Antero Resources Corporation to EQT Production Company: 231A/22										
FORCE POOL	12-2-6	Z	SHARON E YOHO	ANTERO RESOURCES CORPORATION	1/8+	175A	505	Antero Resources Corporation to EQT Production Company: 231A/22										
FORCE POOL	12-2-6	Z	SHIRLEY DORSEY	ANTERO RESOURCES CORPORATION	1/8+	175A	487	Antero Resources Corporation to EQT Production Company: 231A/22										
FORCE POOL	12-2-6	Z	SHIRLEY K WHITE	ANTERO RESOURCES CORPORATION	1/8+	175A	503	Antero Resources Corporation to EQT Production Company: 231A/22										
FORCE POOL	12-2-6	Z	SUE M SCHAAD	UNLEASED	NA	NA	NA											
FORCE POOL	12-2-6	Z	VIRGINIA ANN HAHN	UNLEASED	NA	NA	NA											
FORCE POOL	12-2-6	Z	THOMAS L ICEMAN	UNLEASED	NA	NA	NA											
10*2234J	5-26-15	BB	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*4116A	5-26-17	CC	VENABLE ROYALTY LTD AND V14 L.P.	TH EXPLORATION LLC	1/8+	1151	438	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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10*23093	5-26-17	CC	PURPLEBURGH VENTURES LLC	CHEVRON USA INC	1/8*	950	125	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 41/411	
10*23094	5-26-17	CC	WILDES MINERAL INTERESTS LLC	CHEVRON USA INC	1/8*	950	134	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 41/411	
10*23096	5-26-17	CC	APPALACHIAN BASIN MINERALS LP	CHEVRON USA INC	1/8*	950	128	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 41/411	
10*23097	5-26-17	CC	PENNMARC RESOURCES II LP	CHEVRON USA INC	1/8*	950	137	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 41/411	
10*23098	5-26-17	CC	MCCROW ENERGY PARTNERS II LLC	CHEVRON USA INC	1/8*	950	122	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 41/411	
10*23099	5-26-17	CC	MARCELLUS TX MINERAL PARTNERS LTD	CHEVRON USA INC	1/8*	950	131	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 41/411	
10*41164	5-26-6	EE	VENABLE ROYALTY LTD AND V14 L.P.	TH EXPLORATION LLC	1/8*	1151	438	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*14742	5-26-5	FF	SUSAN E GORE	GASTAR EXPLORATION USA INC	1/8*	790	505	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: 29/157	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563
10*14744	5-26-5	FF	THE SAMUEL MILTON SHEETS TRUST	GASTAR EXPLORATION USA INC	1/8*	791	637	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: 29/157	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563
10*14745	5-26-5	FF	RALPH B TAYLOR	GASTAR EXPLORATION USA INC	1/8*	794	485	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	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563
10*17716	5-26-5	FF	MICHAEL J AND BARBARA L WILEY	TH EXPLORATION LLC	1/8*	919	638	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*17777	5-26-5	FF	MICHELLE E AND ROBERT T BAKER	TH EXPLORATION LLC	1/8*	921	128	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21420	5-26-5	FF	DAVID D BURKETT	TH EXPLORATION LLC	1/8*	957	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21421	5-26-5	FF	BRYANNA FLYNN RANKIN	TH EXPLORATION LLC	1/8*	957	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21437	5-26-5	FF	REBECCA MCMILLAN AND ROBERT MCMILLAN	TH EXPLORATION LLC	1/8*	957	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21821	5-26-5	FF	LINDA K TAYLOR AND RAY P MAGEE	TH EXPLORATION LLC	1/8*	951	631	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*25633	5-26-5	FF	CHESTNUT HOLDINGS INC	TH EXPLORATION LLC	1/8*	1034	546	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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STATE OF WEST VIRGINIA §
§
COUNTY OF MARSHALL §

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "Assignment") is made and entered into this 7th day of February, 2018 (the "Effective Date"), by and between CHEVRON U.S.A. INC. (hereinafter "Assignor") and TH EXPLORATION, LLC (hereinafter "Assignee") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated August 1, 2018 (the "Acreage Trade Agreement"). Capitalized terms used but not defined herein and defined in the Acreage Trade Agreement shall have the meanings given to such terms in the Acreage Trade Agreement.

WITNESSETH:

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

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

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

1. Assignment. Assignor does hereby grant, bargain, sell, convey, deliver, assign, set over and transfer, as of the Effective Date, to Assignee, its respective successors and assigns, forever, all of Assignor's right, title and interest in and to the Leases, and the lands covered thereby, together with all rights incident thereto and appurtenances thereon, and that Assignor excepts and reserves from this Assignment the Chevron ORRI previously conveyed to Assignor and as described in that certain Memorandum of Assignment of Oil and Gas Lease Interests dated November 6, 2012 by and between Cornell Holdings Incorporated and Chevron U.S.A. Inc., which is recorded at Book 0028, Page 0239 in the Office of the County Clerk of Marshall County, West Virginia.

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

2. Special Warranty. Assignor represents and warrants that Assignor has not conveyed or otherwise encumbered (other than Permitted Encumbrances) its interest in the Leases since the time that Assignor obtained its interests in the Leases. Assignor does covenant, promise and agree, to and with the Assignee, its respective successors and assigns, to forever specially warrant and defend the title to the Leases or portions thereof included under this Assignment, unto the Assignee and its respective successors and assigns, against the lawful claims of Assignor, and all persons claiming, or to claim, the same or any part thereof, by, through or under Assignor.

035 08/18/2023

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 Atium Marcellus I, LLC (hereinafter "Assignor") and TH Exploration II, LLC, (hereinafter "Assignee" and, together with Assignor, the "Parties"). Capitalized terms used but not defined herein shall have the meanings commonly given to such terms in the industry.

WITNESSETH:

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

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

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

1. Assignment. Assignor does hereby grant, bargain, sell, convey, deliver, assign, set over and transfer, as of the Effective Date, to Assignee, its respective successors and assigns, forever, all of Assignor's right, title, and interest in and to one hundred feet (100 ft.) above the formation commonly referred to as the Marcellus Shale formation down to one hundred feet (100 ft.) below the same, in the Leases, and the lands covered thereby, together with all rights incident thereto and appurtenances thereon. It being the Parties intention to assign all of Assignor's interest in each unit as described in Exhibit "A-1", including any changes, revisions, or amendments to the same, now or at any time in the future.

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

2. Special Warranty. Assignor represents and warrants that Assignor has not conveyed or otherwise encumbered (other than permits or easements, rights of way, surface leases and other rights with respect to surface operations that do not materially interfere with, impair or prohibit the operation of the affected Leases, hereinafter "Permitted Encumbrances") its interest in the Leases since the time that Assignor obtained its interests in the Leases. Assignor does covenant, promise and agree, to and with the

ASSIGNMENT AND CONVEYANCE OF OIL AND GAS LEASES

STATE OF WEST VIRGINIA
COUNTY OF WETZEL

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

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

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

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

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

This Assignment is further made subject to the following:

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

2. **Assumption of Liabilities.** Subject to the terms of the Trade Agreement, effective as of the Effective Time, Assignee hereby acknowledges, assumes, and agrees to assume, pay, perform, fulfill and discharge the Antero Assumed Liabilities.



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-15HU

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, and CR 2/2 in the area reflected on the Elijah N-15HU 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,

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

Amy L. Morris
Permitting Specialist – Appalachia Region

4710303593

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-15HU
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: West Virginia
County: Wetzel
District: Proctor
Quadrangle: New Martinsville 7.5'
Watershed: French Creek - Ohio River (HUC 10)

UTM NAD 83 Easting: 520,790.14
Northing: 4,393,186.27
Public Road Access: Co. Rt. 89/2 - Hafer Road
Generally used farm name: William Cross, Jr. Irrevocable Trust

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

- 1. NOTICE OF SEISMIC ACTIVITY or NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED
- 2. NOTICE OF ENTRY FOR PLAT SURVEY or NO PLAT SURVEY WAS CONDUCTED
- 3. NOTICE OF INTENT TO DRILL or NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)
- 4. NOTICE OF PLANNED OPERATION
- 5. PUBLIC NOTICE
- 6. NOTICE OF APPLICATION

OOG OFFICE USE ONLY

- RECEIVED/ NOT REQUIRED
- RECEIVED
- RECEIVED/ NOT REQUIRED
- RECEIVED
- RECEIVED
- RECEIVED

Required Attachments:

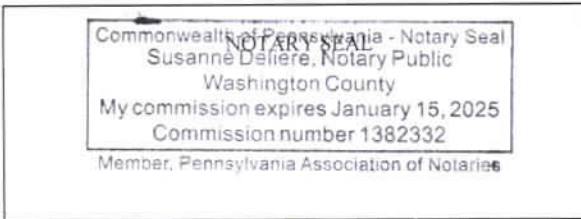
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication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

08/18/2023

Certification of Notice is hereby given:

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

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



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

Oil and Gas Privacy Notice:

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

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

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

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.

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.

WW-6A
(8-13)

API NO. 47-103 **4710303593**
OPERATOR WELL NO. Elijah N-15HU
Well Pad Name: Elijah

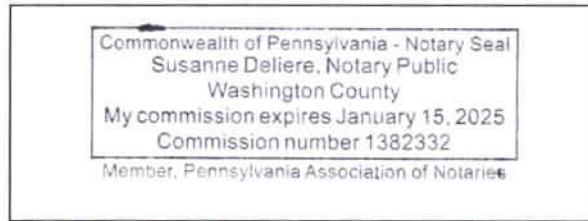
Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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



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

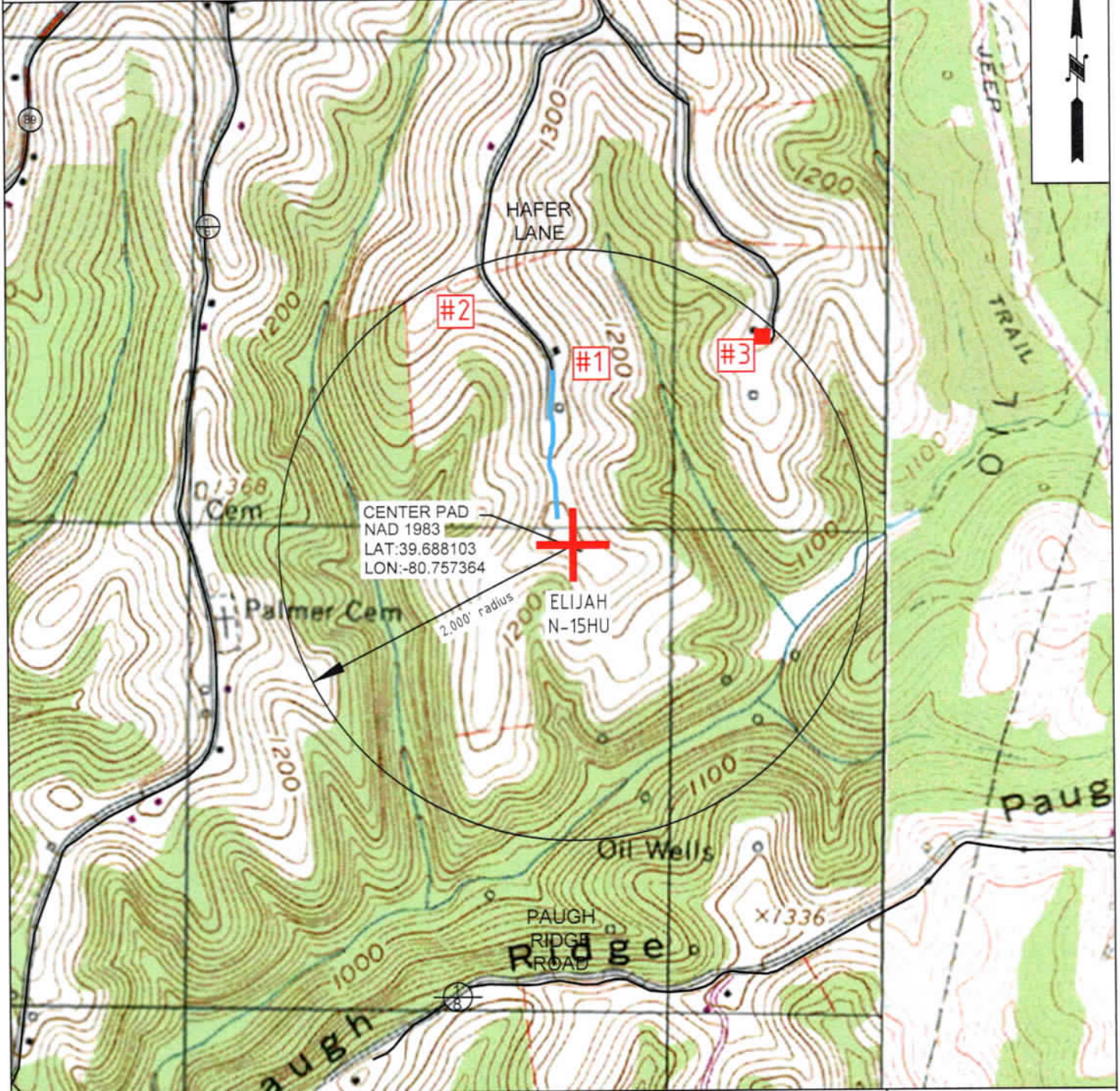
08/18/2023

WW-6A

SUPPLEMENT PG 1

Elijah Well Pad

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



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

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4710303593

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

4710303593

**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>520,790.14</u>
County: <u>Wetzel</u>	Northing: <u>4,393,186.27</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 Cree 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@wolterskluwer.com
Facsimile: _____

Oil and Gas Privacy Notice:

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

08/18/2023



4710303593

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-15HU 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



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-15HU

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

Elijah Well Site
 Site Design, Construction Plan, &
 Erosion and Sediment Control Plans
 Tug Hill Operating
 Wetzel County
 Proctor District
 Latitude 39.68810286°
 Longitude -80.75736351°
 Proctor Creek Watershed

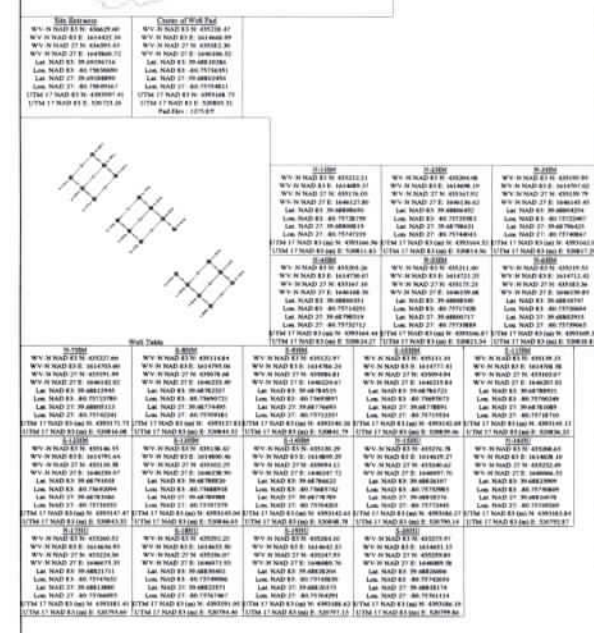
Pertinent Site Information
 Elijah Well Site
 Emergency Number: 304-455-6960
 Proctor District, Wetzel County, WV
 Watershed: Proctor Creek Watershed
 Site 911 Address:

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

Exhibit A: Final Design: Issue for Permitting

Property Owner Information - Elijah Well Site

Owner	Lot	Acres	Well Pad	Area	Grass	Wooded	Water	Other	Acres	Total
Wetzel Co. & Son, Inc.	10	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
Wetzel Co. & Son, Inc.	11	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
Wetzel Co. & Son, Inc.	12	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
Wetzel Co. & Son, Inc.	13	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
Total		4.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00



Project Contacts

Organization	Name	Phone	Email
Wetzel Co. & Son, Inc.	John DeLoach	304-281-1000	john@wvcs.com
Proctor District	Proctor District	304-281-1000	
Tug Hill Operating, LLC	Mike Gannon	304-281-1000	mike@tughill.com

Site Locations (NAD 83)

Location	Easting	Northing	UTM Zone
Well Pad	559760.00	5070430.00	18Q
Access Road	559800.00	5070400.00	18Q

Approach Route:

From the intersection of WV Rt 2 and OH Rt 7 near New Marlinton, WV, Travel North on WV Rt 2 for 0.6 mi. Turn Right onto Co Rt 272 (North Hill Rd), Follow Co Rt 272 for 2.3 mi. Turn Right onto Co Rt 29 (South Ridge), Follow Co Rt 29 for 0.8 mi. Turn Right onto Co Rt 29 (Church Rd), Follow Co Rt 29 for 2.5 mi. Turn Right onto Co Rt 29 (Coffield Rd), Follow Co Rt 29 for 1.5 mi. Continue straight onto Co Rt 177 (Coffield Rd), Follow Co Rt 177 for 1.7 mi. Turn Right onto Co Rt 89 (Proctor Creek Rd), Follow Co Rt 89 for 0.8 mi. Turn Left onto Co Rt 89/2, Slater Rd, Follow Co Rt 89/2 for 0.7 mi. The site entrance will be at the end of the road.

Planting Conditions

Planting Condition	Planting Method	Planting Species
Final Construction Activities	Planting	Native Plant
Final Construction Activities	Planting	Native Plant
Final Construction Activities	Planting	Native Plant



APPROVED WVDEP OOG
 8/18/2023

Disturbed Area

Area	Acres
Well Pad Construction	0.20
Access Road Construction	0.50
Clearing	0.20
Additional Clearing	0.00
Topsoil Storage	0.00
Total Disturbed Area	0.90

Elijah Well Site Quantities

Item	Quantity	Unit	Notes
Well Pad Construction	0.20	Acres	
Access Road Construction	0.50	Acres	
Clearing	0.20	Acres	
Additional Clearing	0.00	Acres	
Topsoil Storage	0.00	Acres	
Total	0.90	Acres	

Site Locations (NAD 83)

Location	Easting	Northing	UTM Zone
Well Pad	559760.00	5070430.00	18Q
Access Road	559800.00	5070400.00	18Q

Notes:

All well pads and access roads shall be constructed in accordance with the following conditions:

- All well pads and access roads shall be constructed within the boundaries of the site.
- All well pads and access roads shall be constructed on a minimum of 15% slope.
- All well pads and access roads shall be constructed on a maximum of 30% slope.
- All well pads and access roads shall be constructed on a minimum of 10% slope.
- All well pads and access roads shall be constructed on a maximum of 20% slope.

COVER SHEET
Elijah Well Site
 Proctor District
 Wetzel County, WV

TUG HILL OPERATING

THIS DOCUMENT PREPARED FOR TUG HILL OPERATING

Key Signatures

Date: 08/18/2023
 Scale: As Shown
 Designed By: JTB
 Title No.:
 Sheet 1 of 11

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



TUG HILL OPERATING



THIS DOCUMENT PREPARED FOR TUG HILL OPERATING



Elijah Well Site
 Project District
 West Virginia

Date: 08/18/2023
 Scale: As Shown
 Drawn By: JZ
 File No:
 Sheet 10 of 11