

02/23/2023



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west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Wednesday, February 1, 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 HENDRICKSON N-9HU  
47-051-02481-00-00

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

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

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

James A. Martin  
Chief

A handwritten signature in blue ink, appearing to read 'James A. Martin', is written over the typed name and title.

Operator's Well Number: HENDRICKSON N-9HU  
Farm Name: LINDA L PICKERING HENDRICKSON  
U.S. WELL NUMBER: 47-051-02481-00-00  
Horizontal 6A New Drill  
Date Issued: 2/1/2023

Promoting a healthy environment.

02/03/2023

# 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

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1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*. 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
8. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
9. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
10. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.
11. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov.



west virginia department of environmental protection

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

Randall M. Albert, Chairman  
dep.wv.gov

January 13, 2023

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

RE: Application for Deep Well Permit – API #47-051-02481

COMPANY: Tug Hill Operating, LLC


FARM: Linda L. Pickering Hendrickson Hendrickson N-9HU

COUNTY: Marshall DISTRICT: Franklin QUAD: Wileyville

The deep well review of the application for the above company is Approved to drill to Trenton for Point Pleasant completion.

The applicant has complied with the provision of Chapter 22C-9, of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

1. Comments to Notice of Deviation filed? Yes, but withdrawn.
2. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners? Yes
3. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells: \*\*yes
4. Provided a plat showing that the productive interval of the well meets the requirements of the Rules of the Commission W. Va. C.S.R. § 39-1-4.2.

Sincerely,  
  
Susan Rose  
Administrator

\*\*Corley N-10HU 47-051-01998; Corley N-9HU 47-051-01983; Hillrock S-13HU 47-051-02273; Hillrock S-14HU 47-051-02262; Hillrock S-15HU 47-051-02263; Pendleton N-10HU 47-051-02455; Pendleton N-11HU 47-051-02456; Pendleton N-8HU 47-051-02454; Pendleton N-16HU 47-051-02441; Pendleton S-12HU 47-051-02457; Pendleton S-13HU 47-051-02458; Pendleton S-14HU 47-051-02459; Pendleton S-15HU 47-051-02460; Simms U-5H 47-051-01731; Hendrickson N-7HU 47-051-02479; Hendrickson S-10HU 47-051-02482; Hendrickson N-8HU 47-051-02480; Hendrickson S-12HU 47-051-02484; Hendrickson S-11HU 47-051-02483; Hendrickson S-13HU 47-051-02485; Bryan N-12HU 47-051-02029; Bryan N-13HU 47-051-02030; Bryan N-14HU 47-051-02031; Woodford 10HU 47-051-02152; Old Crow N-17HU 47-051-02122; Old Crow N-18HU 47-051-02123; Old Crow N-20HU 47-051-02191; Old Crow N-21HU 47-051-02335




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

Austin Caperton, Cabinet Secretary  
 dep.wv.gov

**ORDER  
 ISSUED UNDER  
 WEST VIRGINIA CODE, CHAPTER 22, ARTICLE 6A**

TO: Tug Hill Operating, LLC  
 380 Southpointe Boulevard, Plaza II., Suite 200  
 Canonsburg, PA 15317

DATE: October 8, 2020  
 ORDER NO.: 2020-W-4

**INTRODUCTION**

This Order (hereinafter "Order") is issued by the Office of Oil and Gas (hereinafter "OOG"), by and through its Chief, pursuant to the authority of W. Va. Code §§ 22-1-1, 22-6-1 and 22-6A-1 *et seq.* to Tug Hill Operating, LLC (hereinafter "Tug Hill" or "Operator"), collectively the "Parties."

**FINDINGS OF THE CHIEF**

In support of this Order, the Chief hereby finds the following:

1. OOG, an office within the West Virginia Department of Environmental Protection, is the agency with the duty and authority to execute and enforce W. Va. Code §22-6-1 and §22-6A-1 *et seq.*, and the rules and regulations promulgated thereunder.
2. Tug Hill is a "person" as defined by W. Va. Code §22-6-1(n), with a corporate address as 380 Southpointe Boulevard, Plaza II., Suite 200, Canonsburg, PA 15317.
3. On June 24, 2020 Tug Hill submitted fracture permit applications for wells identified as API#s 47-51-01467, 47-51-01479, 47-51-01480, 47-51-01491 and 47-51-01492. The wells are located on the Hendrickson Pad in the Franklin District of Marshall County, West Virginia.
4. On June 24, 2020 Tug Hill requested a waiver for Wetland W02 as outlined in Attachment 1, from well location restriction requirements in W. Va. Code §22-6A-12(b) for the fracture permit applications for wells identified as API#s 47- 51-01467, 47-51-01479, 47-51-01480, 47-51-01491 and 47-51-01492.

**CONCLUSIONS OF LAW**

1. West Virginia Code §22-1-6(d) requires, in part, that “in addition to other powers, duties and responsibilities granted and assigned to the secretary by this chapter, the secretary is authorized and empowered to... (3) Enter private lands to make surveys and inspections for environmental protection purposes; to investigate for violations of statutes or rules which the Office of Oil and Gas is charged with enforcing; to serve and execute warrants and processes; to make arrests; issue orders, which for the purposes of this chapter include consent agreements; and to otherwise enforce the statutes or rules which the Office of Oil and Gas is charged with enforcing.”
2. West Virginia Code §22-6A-2(a)(6) requires, in part, that “Concomitant with the broad powers to condition the issuance of well work permits, the secretary should also have broad authority to waive certain minimum requirements of this article when, in his or her discretion, such waiver is appropriate: *Provided*, That the secretary shall submit a written report of the number of waivers granted to the Legislature commencing January 1, 2013, and each year thereafter.”
3. West Virginia Code §22-6A-12(b) requires, in part, that “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 Office of Oil and Gas 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 Office of Oil and Gas 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.”

**ORDER**

West Virginia Code §22-6A-12(b) requires, in part, that “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. The Office of Oil and Gas grants the request for a waiver for Wetland W02 from well location restriction requirements in W. Va. Code §22-6A-12(b) for the fracture permit applications for wells identified as API#s 47- 51-01467, 47-51-01479, 47-51-01480, 47-51-01491 and 47-51-01492. The Office of Oil and Gas hereby **ORDERS** that Tug Hill shall meet the following site construction and operational requirements for the Hendrickson Well Pad:

- a. A berm shall be constructed around the perimeter of the pad to contain any potential spills and storm water runoff. Berm is to be at least twenty-four inches (24”) in height;
- b. Erosion control blankets shall be installed on all slopes and down gradient locations of the pad as erosion and sediment controlling BMPs;
- c. Wetland W02 shall be protected by a layer of both Super Silt Fence and twenty four inch (24”) compost filter sock. This along with temporary and permanent vegetative cover will prevent sediment from reaching the wetlands
- d. Disturbed areas not used for operations shall be seeded and mulched per the seeding tables in the WVDEP-OOG Erosion and Sediment Control Manual;
- e. Drill cuttings and associated drilling mud shall be disposed of in a permitted landfill;
- f. Waste generated by the flowback treatment systems shall be sent to offsite disposal at a permitted landfill;
- g. Weekly site inspections shall be conducted to monitor and maintain the integrity of the BMP storm water controls;
- h. Weekly storm water and spill prevention inspections shall be conducted focusing on storm water and spill prevention BMPs and maintenance of these BMPs;
- i. Inspections of the storm water and spill prevention measures shall be conducted after any major storm event defined as a half inch (½”) rain within any twenty-four (24) hour period;
- j. Pad inspections shall be conducted no less than once a week to identify and mitigate potential deficiencies;
- k. All records from inspections shall be maintained on site for the life of the project and be available upon request.

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Thus ORDERED, the 8th day of October, 2020.

IN THE NAME OF THE STATE OF WEST VIRGINIA:

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

By: **James Martin** Digitally signed by James Martin  
Date: 2020.10.08 08:41:00 -04'00'  
JAMES A. MARTIN, CHIEF

02/03/2023

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator: Tug Hill Operating, LLC 494510851 Marshall Franklin Wileyville 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: Hendrickson N-9HU Well Pad Name: Hendrickson

3) Farm Name/Surface Owner: Linda L. Hendrickson Public Road Access: Co. Rte. 76

4) Elevation, current ground: 1,220.33' Elevation, proposed post-construction: 1,220.33'

5) Well Type (a) Gas  Oil  Underground Storage

Other

(b) If Gas Shallow  Deep

Horizontal

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Point Pleasant is the target formation at a depth of 11,443' - 11,560', thickness of 117' and anticipated pressure of approx. 7,500 psi.

8) Proposed Total Vertical Depth: 11,710'

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 24,283'

11) Proposed Horizontal Leg Length: 12,018.17'

12) Approximate Fresh Water Strata Depths: 70; 841'

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

14) Approximate Saltwater Depths: 1,368'

15) Approximate Coal Seam Depths: Sewickley Coal - 739' and Pittsburgh Coal - 835'

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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*John L. ...*  
STRICKLAND  
12-1-2022



18)

**CASING AND TUBING PROGRAM**

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	30"	NEW	BW	BW	120'	120'	259ft^3(CTS)
Fresh Water/Coal	20"	NEW	J55	106.5#	975'	975'	1,576ft^3(CTS)
Intermediate 1	13 3/8"	NEW	J55	54.5#	2,700'	2,700'	1,905ft^3(CTS)
Intermediate 2	9 5/8"	NEW	HPP110	47#	10,642'	10,642'	3,467ft^3(CTS)
Production	5 1/2"	NEW	P110	23#	24,283'	24,283'	5,744ft^3(CTS)
Tubing	2 7/8"	NEW	P110	6.5#		11,374'	
Liners							

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

**PACKERS**

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

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*John C. ...*  
STRADER GUYER  
12-1-2022

WW-6B  
(10/14)

4705102481  
02/23/2023  
API NO. 47-051 -  
OPERATOR WELL NO. Handrickson N-9HU  
Well Pad Name: Handrickson

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 (10,874'). 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 30,100,000 lb. proppant and 545,000 bbl of water. Max rate = 80bpm; max psi = 9,000#.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 30.63 acres

22) Area to be disturbed for well pad only, less access road (acres): 4.21 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.

Steve L. G...  
SUPERVISOR  
12-1-2022

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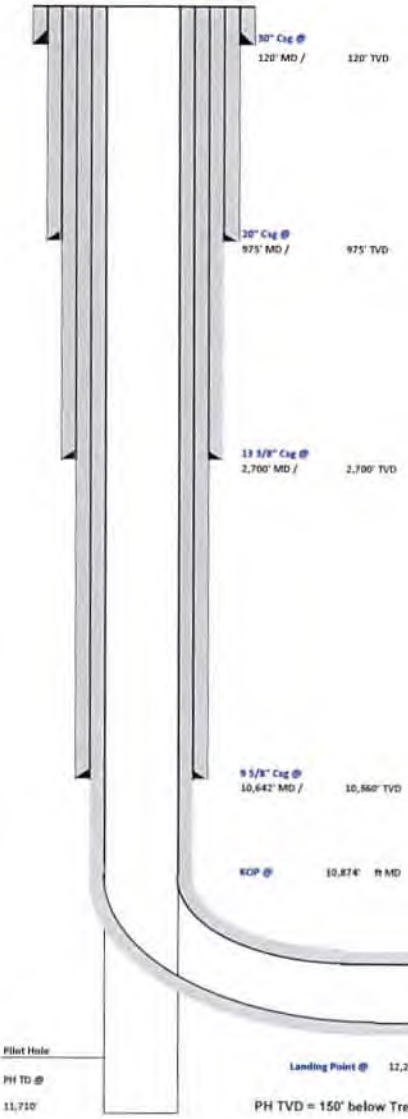


WELL NAME: Hendrickson N-9HU  
 STATE: WV COUNTY: Marshall  
 DISTRICT: Franklin  
 DF Elev: 1,220' GI Elev: 1,220'  
 TD: 24,283'  
 TH Latitude: 39.74484117  
 TH Longitude: -80.7479554  
 BH Latitude: 39.77751596  
 BH Longitude: -80.76278292

FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	841'
Sewickley Coal	739'
Pittsburgh Coal	835'
Big Lime	2,085'
Berea	2,568'
Tully	6,464'
Marcellus	6,564'
Onondaga	6,614'
Salina	7,325'
Lockport	8,414'
Utica	11,183'
Point Pleasant	11,443'
Landing Depth	11,493'
Trenton	11,580'
Pilot Hole TD	11,710'

CASING SUMMARY							
Type	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cement
Conductor	36"	30"	120'	120'	8W	8W	Surface
Surface	26"	20"	975'	975'	106.5	J55	Surface
Intermediate 1	17 1/2"	13 3/8"	2,700'	2,700'	54.5	J55	Surface
Intermediate 2	12 1/4"	9 5/8"	10,642'	10,360'	87	HPP110	Surface
Production	8 1/2"	5 1/2"	24,283'	11,283'	23	HCP110	Surface

CEMENT SUMMARY				DRILLING DETAILS	
Type	Sacks	Class	Density (ppg)	Fluid Type	Centralizer Notes
Conductor	318	A	15.6	Air	None
Surface	1,699	A	15.6	Air	1 Centralizer at equal distance
Intermediate 1	2,064	A	15.6	Air	1 Centralizer every other joint
Intermediate 2	3,168	A	14.5	Air	1 Centralizer every other joint
Production	5,884	A	16.5	Air / SOBMs	1 every other joint in lateral; 1 per joint in curve; 1 every other joint to surface



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4705102481

*Steve Adams*  
 STRAKER LOWER  
 12-1-2022

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4705102481



Tug Hill Operating, LLC Casing and Cement Program

Hendrickson N-9HU

Casing

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	20"	J55	26"	975'	CTS
Intermediate 1	13 3/8"	J55	17 1/2"	2,700'	CTS
Intermediate 2	9 5/8"	HPP110	12 1/4"	10,642'	CTS
Production	5 1/2"	HCP110	8 1/2"	24,283'	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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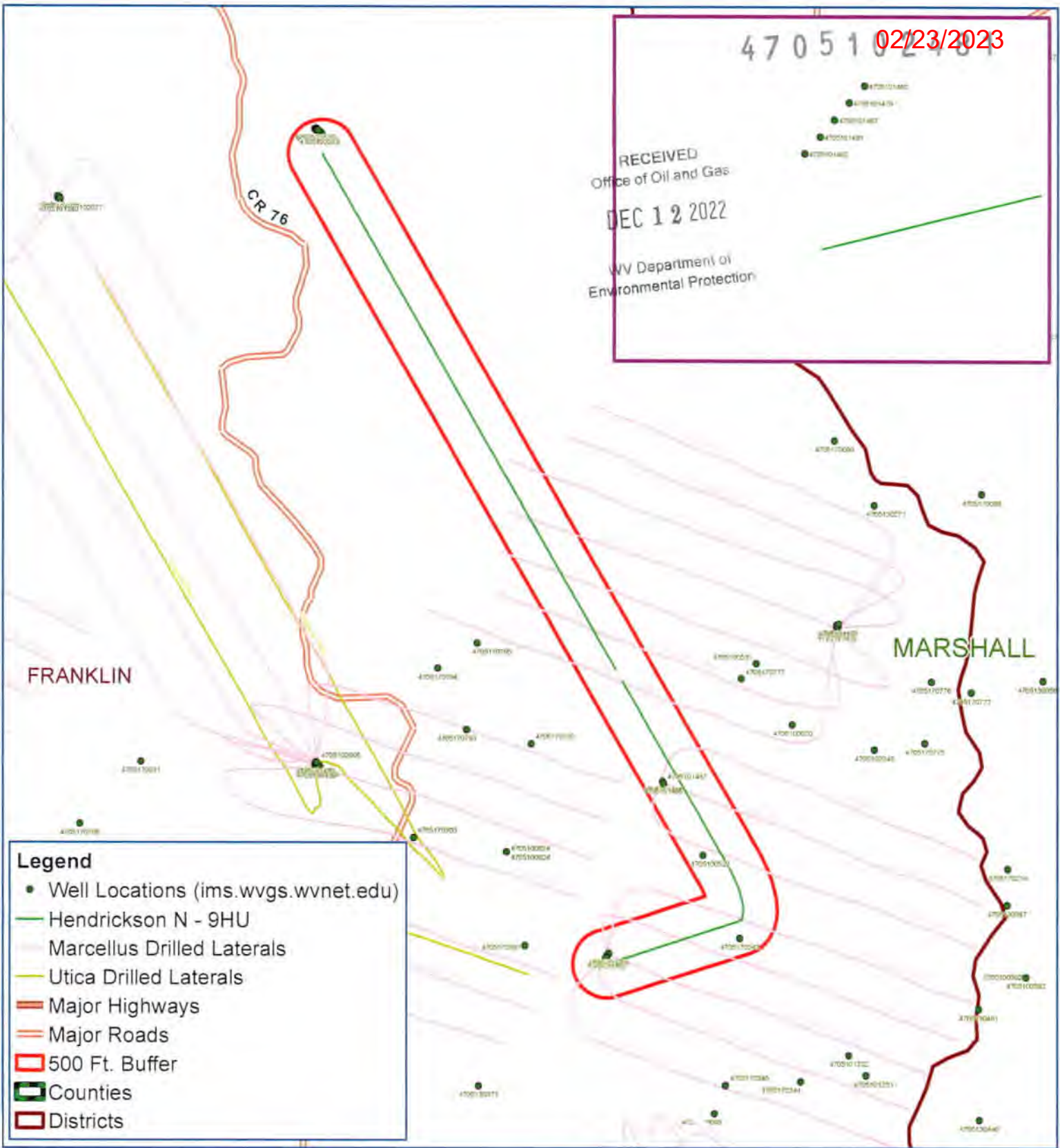
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- Legend**
- Well Locations ([ims.wvgs.wvnet.edu](http://ims.wvgs.wvnet.edu))
  - Hendrickson N - 9HU
  - Marcellus Drilled Laterals
  - Utica Drilled Laterals
  - Major Highways
  - Major Roads
  - 500 Ft. Buffer
  - Counties
  - Districts



## Hendrickson N - 9HU Franklin District Marshall County, WV



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

Map Prepared by:  
**DPS**  
LAND SERVICES

02/03/2023

Map Created: October 11, 2022  
Map Current As Of: October 11, 2022

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

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

## Data Sources Reviewed:

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

Contacted Adam Picard 724-485-9331, [apicard@dpslandservices.com](mailto:apicard@dpslandservices.com), DPS GIS (10/11/2022) to have him make maps of the wellbores with his information. DPS utilizes WVGES maps for their mapping seems it is the best publicly available. See attached map he provided.

## Request maps for:

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

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## 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
4705101467	Tug Hill Operating, LLC.	6670' TVD, 11434' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on same well pad as proposed well.
4705101479	Tug Hill Operating, LLC.	6676' TVD, 11924' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on same well pad as proposed well.
4705101480	Tug Hill Operating, LLC.	6692' TVD, 12395' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on same well pad as proposed well.
4705101491	Tug Hill Operating, LLC.	6675' TVD, 11518' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on same well pad as proposed well.

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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
4705101492	Tug Hill Operating, LLC.	6672' TVD, 12410' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on same well pad as proposed well.
4705170343	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing of the proposed Point Pleasant well.	State records are incomplete.
4705100522	Fruchtman, M.	2895' TVD	Gordon	unknown	No, this well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation. Well is plugged.	Well was plugged 8/26/1966.
4705101485	Tug Hill Operating, LLC.	6770' TVD, 11450' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705101486	Tug Hill Operating, LLC.	6770' TVD, 11450' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.

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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
4705101487	Tug Hill Operating, LLC.	6777' TVD, 11888' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102023	Tug Hill Operating, LLC.	6651' TVD, 14830' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102040	Tug Hill Operating, LLC.	6631' TVD, 15103' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102042	Tug Hill Operating, LLC.	6632' TVD, 15530' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102043	Tug Hill Operating, LLC.	6653' TVD, 15190' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.

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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
4705102122	Tug Hill Operating, LLC.	11358' TVD, 27771' MD	Point Pleasant	none	Yes, this is a producing well in the Point Pleasant. This well is within the expected fracture propagation from the proposed Point Pleasant stimulation. Proper casing and cement should prevent migration of fluids between wellbores.	Producing Point Pleasant well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102123	Tug Hill Operating, LLC.	11368' TVD, 24961' MD	Point Pleasant	none	Yes, this is a producing well in the Point Pleasant. This well is within the expected fracture propagation from the proposed Point Pleasant stimulation. Proper casing and cement should prevent migration of fluids between wellbores.	Producing Point Pleasant well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102168	Tug Hill Operating, LLC.	6610' TVD, 15888' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102185	Tug Hill Operating, LLC.	6661' TVD, 16766' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102186	Tug Hill Operating, LLC.	6666' TVD, 17250' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.

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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
4705102187	Tug Hill Operating, LLC.	6627' TVD, 18465' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102189	Tug Hill Operating, LLC.	6456' TVD, 20797' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102191	Tug Hill Operating, LLC.	11374' TVD, 25077' MD	Point Pleasant	none	Yes, this is a producing well in the Point Pleasant. This well is within the expected fracture propagation from the proposed Point Pleasant stimulation. Proper casing and cement should prevent migration of fluids between wellbores.	Producing Point Pleasant well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102192	Tug Hill Operating, LLC.	6485' TVD, 21009' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102208	Tug Hill Operating, LLC.	6513' TVD, 17857' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.

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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
4705102226	Tug Hill Operating, LLC.	6689' TVD (proposed)	Marcellus (proposed)	none	No, this is a canceled permit. Well will not be drilled to the proposed depth.	Canceled permit.
4705102227	Tug Hill Operating, LLC.	6509' TVD, 17655' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102238	Tug Hill Operating, LLC.	6512' TVD, 16979' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102239	Tug Hill Operating, LLC.	6530' TVD, 18095' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.
4705102240	Tug Hill Operating, LLC.	6588' TVD, 18261' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.

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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
4705102270	Tug Hill Operating, LLC.	6431' TVD, 21400' MD	Marcellus	none	No, this is a producing well in the Marcellus. This well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation.	Producing Marcellus well, operated by Tug Hill Operating, LLC., located on an adjacent well pad to the proposed well.

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Well: County = 51 Permit = 01467 [Link to all digital records for well](#)

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101467	Marshall	1467	Franklin	Wileyville	Littleton	39.745186	-80.747924	521596.9	4399506.4

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705101467	1 As Proposed	522994.4	4398994	-80.731631	39.740533

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OT
4705101467	3/31/2012	Dvld Orgrl Loc	Completed	Linda L Pickering & Donald R Hendrickson	1H		Hendrickson	WV16-0065-000/WV16-0007-001/WV16-0007-004	Donald R Hendrickson et al	G
4705101467	-/-	Dvld Wrkd Ovr	Permitted	Linda L Hendrickson	1H		Hendrickson		L L Hendrickson	Tt

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
4705101467	3/31/2012	6/27/2011	1228	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Fractured	6670	11434	11434	
4705101467	-/-	-/-	1220	Ground Level												

Comment: 3/31/2012 Lease Number: WV16-0007-002/WV16-0007-005/WV16-0007-003/WV16-0007-006

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4705101467	3/31/2012	Water	Fresh Water	Vertical			60	Pennsylvanian System					
4705101467	3/31/2012	Water	Salt Water	Vertical			1600						
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	6762	Marcellus Fm	6932	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	6972	Marcellus Fm	7182	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	7272	Marcellus Fm	7482	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	7572	Marcellus Fm	7782	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	7872	Marcellus Fm	8082	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	8172	Marcellus Fm	8382	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	8472	Marcellus Fm	8682	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	8772	Marcellus Fm	8982	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	9072	Marcellus Fm	9282	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	9372	Marcellus Fm	9582	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	9672	Marcellus Fm	9882	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	9972	Marcellus Fm	10182	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	10272	Marcellus Fm	10482	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	10572	Marcellus Fm	10782	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	10872	Marcellus Fm	11082	Marcellus Fm					
4705101467	3/31/2012	Pay	Oil & Gas	Deviated	11172	Marcellus Fm	11382	Marcellus Fm					

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Well: County = 51 Permit = 01479 [Link to all digital records for well](#)

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101479	Marshall	1479	Franklin	Wileyville	Littleton	39.745232	-80.747884	521600.3	4399511.5

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705101479	1 As Proposed	523164.4	4399128.2	-80.729642	39.741738

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT
4705101479	3/31/2012	Dvtd Orgnl Loc	Completed	Hendrickson North	2H		Hendrickson	WV16-0065-000/1-288082-001/WV16-0007-001	Linda Louise & D R Hendrickson et al	Gastar Explorati
4705101479	-/-	Dvtd Wrkd Ovr	Permitted	Linda L Hendrickson	2H		Hendrickson		L L Hendrickson	Tug Hill Operatr

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
4705101479	3/31/2012	7/3/2011	1228	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Fractured	6676	11924	11924	
4705101479	-/-	-/-	1220	Ground Level												

Comment: 3/31/2012 Additional Lease Numbers: WV16-0007-002 thru 006

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
4705101479	Gastar Exploration USA, Inc.	2012	430,620	0	0	0	45,973	59,174	67,759	49,372	50,131	33,221	49,459	46,631	28,900
4705101479	Gastar Exploration USA, Inc.	2013	389,948	7,867	12,179	44,293	44,372	45,821	37,393	36,995	31,298	36,141	33,293	30,540	29,737
4705101479	Gastar Exploration USA, Inc.	2014	324,454	28,349	27,379	31,963	25,702	32,616	30,315	30,678	26,653	24,809	20,436	21,580	23,774
4705101479	Gastar Exploration Inc.	2015	254,399	25,266	20,225	23,138	23,014	22,657	18,509	16,353	20,719	23,981	21,341	22,686	16,510
4705101479	Tug Hill Operating, LLC	2016	260,643	25,532	18,662	26,440	23,907	23,974	20,056	20,868	21,075	19,196	19,918	20,619	20,392
4705101479	Tug Hill Operating, LLC	2017	197,191	18,439	16,082	18,435	17,545	17,573	17,112	17,065	16,372	15,267	13,798	14,977	14,522
4705101479	Tug Hill Operating, LLC	2018	174,729	14,389	16,458	16,914	15,022	17,206	16,143	11,690	14,360	12,183	13,907	13,194	13,263
4705101479	Tug Hill Operating, LLC	2019	184,337	16,492	15,112	16,024	15,546	14,929	14,337	15,891	16,244	15,495	15,292	14,440	14,535
4705101479	Tug Hill Operating, LLC	2020	77,637	0	0	0	0	0	0	13,101	13,434	13,256	12,371	12,893	12,582
4705101479	Tug Hill Operating, LLC	2021	146,700	13,841	12,398	11,932	12,280	11,956	11,836	11,227	12,032	12,303	12,600	12,027	12,268

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Well: County = 51 Permit = 01480 [Link to all digital records for well](#)

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101480	Marshall	1480	Franklin	Wileyville	Littleton	39.745277	-80.747843	521603.8	4399516.5

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705101480	1 As Proposed	523217.6	4399303.5	-80.729015	39.743316

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_A
4705101480	3/31/2012	Dvtd Orgnl Loc	Completed	Hendrickson North	4H		Hendrickson	WV16-0065-000/1-288082-001/WV16-0007-001	Linda Louise & D R Hendrickson et al	Gastar Explorat
4705101480	-/-	Dvtd Wrkd Ovr	Permitted	Linda L Hendrickson	4H		Hendrickson		L L Hendrickson	Tug Hill Operati

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
4705101480	3/31/2012	7/22/2011	1228	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Fractured	6692	12395	12395	
4705101480	-/-	-/-	1220	Ground Level												

Comment: 3/31/2012 Additional Lease Numbers WV16-0007-002 thru 006

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
4705101480	Gastar Exploration USA, Inc.	2012	508,242	0	0	0	72,596	67,959	80,861	58,445	58,500	37,293	48,389	50,296	33,903
4705101480	Gastar Exploration USA, Inc.	2013	421,951	3,657	15,042	47,289	47,821	48,390	39,225	43,415	39,361	33,977	35,730	34,038	34,006
4705101480	Gastar Exploration USA, Inc.	2014	326,535	31,916	28,202	32,257	25,522	31,800	31,623	28,746	25,901	23,702	20,843	21,897	24,126
4705101480	Gastar Exploration Inc.	2015	255,597	25,425	21,264	23,138	23,014	22,657	18,509	16,353	20,719	23,981	21,341	22,686	16,510
4705101480	Tug Hill Operating, LLC	2016	260,643	25,532	18,662	26,440	23,907	23,974	20,056	20,868	21,075	19,196	19,918	20,619	20,392
4705101480	Tug Hill Operating, LLC	2017	197,194	18,439	16,082	18,435	17,545	17,573	17,112	17,065	16,372	15,250	13,798	14,977	14,542
4705101480	Tug Hill Operating, LLC	2018	174,705	14,363	16,458	16,914	15,022	17,206	16,143	11,679	14,360	12,196	13,907	13,194	13,263
4705101480	Tug Hill Operating, LLC	2019	164,391	16,492	15,112	16,024	15,546	14,929	14,391	15,891	16,244	15,495	15,292	14,440	14,535
4705101480	Tug Hill Operating, LLC	2020	78,580	0	0	0	0	0	0	13,101	13,434	13,256	13,314	12,893	12,582
4705101480	Tug Hill Operating, LLC	2021	146,964	13,841	12,398	11,932	12,280	11,956	11,836	11,227	12,032	12,303	12,600	12,311	12,268

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Well: County = 51 Permit = 01491 [Link to all digital records for well](#)

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101491	Marshall	1491	Franklin	Wileyville	Littleton	39.745141	-80.747963	521593.6	4399501.3

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705101491	1 As Proposed	521753.5	4399254.4	-80.746105	39.742912

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN
4705101491	3/31/2012	Dvtd Orgrl Loc	Completed	Hendrickson South	3H		Hendrickson South	WV16-0065-000/1-306235-001/WV16-0007-001	Linda Louise & Donald Ray Hendrickson et al
4705101491	--	Dvtd Wrkd Ovr	Permitted	Linda L Hendrickson	3H		Hendrickson		L L Hendrickson

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	KOC
4705101491	3/31/2012	8/3/2011	1228	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Fractured	6675	11518	11518	
4705101491	--	--	1220	Ground Level												

Comment: 3/31/2012 Additional Lease Numbers: WV16-0007-004/WV16-0017-001/WV16-0007-002/WV16-0007-005/WV16-0007-003/WV16-0007-006/1288528

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
4705101491	Gastar Exploration USA, Inc.	2012	358,323	0	0	0	44,497	51,759	54,013	40,957	43,126	27,187	39,379	34,644	22,761
4705101491	Gastar Exploration USA, Inc.	2013	337,131	6,878	18,294	33,227	33,928	36,108	31,243	32,691	25,609	34,805	31,909	26,408	26,031
4705101491	Gastar Exploration USA, Inc.	2014	269,427	25,905	22,353	25,857	21,055	26,810	24,074	24,069	21,139	20,259	17,021	19,869	21,016
4705101491	Gastar Exploration Inc.	2015	219,107	23,305	17,933	20,301	20,474	19,239	16,038	14,129	16,285	20,540	15,213	20,171	15,479
4705101491	Tug Hill Operating, LLC	2016	242,082	22,368	17,307	22,457	20,502	21,524	20,118	19,943	20,427	19,468	20,240	18,962	18,762
4705101491	Tug Hill Operating, LLC	2017	190,919	18,801	16,744	17,784	16,291	16,476	15,856	16,243	15,855	15,218	11,976	14,790	14,882
4705101491	Tug Hill Operating, LLC	2018	161,328	14,185	14,062	15,813	13,449	14,878	15,003	11,260	11,754	12,307	13,287	12,567	12,763
4705101491	Tug Hill Operating, LLC	2019	157,881	11,995	13,200	13,560	13,223	13,026	12,189	13,868	13,364	13,803	13,622	13,022	13,009
4705101491	Tug Hill Operating, LLC	2020	81,696	0	0	0	0	0	0	12,553	12,811	12,358	12,515	11,528	19,931
4705101491	Tug Hill Operating, LLC	2021	138,517	15,786	14,529	11,018	11,797	11,128	9,821	9,678	10,798	10,803	11,614	10,706	10,839

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**Well: County = 51 Permit = 01492** [Link to all digital records for well](#)

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101492	Marshall	1492	Franklin	Wileyville	Littleton	39.745096	-80.748004	521590.1	4399496.3

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705101492	1 As Proposed	521670.8	4399094.2	-80.747075	39.741471

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN
4705101492	3/31/2012	Dvtd Orgnl Loc	Completed	Hendrickson South	5H		Hendrickson South	WV16-0065-000/1-306235-001/WV16-0007-001	Linda Louise & Donald Ray Hendrickson et al
4705101492	--	Dvtd Wrkd Ovr	Permitted	Linda L Hendrickson	5H		Hendrickson		L L Hendrickson

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	KOC
4705101492	3/31/2012	10/5/2011	1228	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Fractured	6672	12410	12410	
4705101492	--	--	1220	Ground Level												

Comment: 3/31/2012 Additional Lease Numbers WV16-0007-004/WV16-0017-001/WV16-0007-002/WV16-0007-005/WV16-0007-003/WV16-0007-006/1288528

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
4705101492	Gastar Exploration USA, Inc	2012	465,670	0	0	0	55,296	61,762	70,460	53,242	55,546	35,019	55,543	47,263	31,539
4705101492	Gastar Exploration USA, Inc	2013	417,529	9,870	12,514	39,126	45,647	50,959	41,781	44,464	36,129	32,128	29,451	38,001	37,459
4705101492	Gastar Exploration USA, Inc	2014	387,127	37,280	32,163	37,206	30,299	38,580	34,841	34,633	30,421	29,151	24,325	28,396	30,032
4705101492	Gastar Exploration Inc	2015	314,899	33,306	25,625	29,218	29,465	27,681	23,079	20,325	23,440	29,558	21,894	29,029	22,279
4705101492	Tug Hill Operating, LLC	2016	348,364	32,189	24,906	32,316	29,503	30,974	28,950	28,698	29,395	28,015	29,126	27,287	26,999
4705101492	Tug Hill Operating, LLC	2017	274,758	27,055	24,095	25,591	23,443	23,709	22,817	23,374	22,816	21,899	17,235	21,304	21,415
4705101492	Tug Hill Operating, LLC	2018	232,154	20,392	20,236	22,755	19,353	21,410	21,589	16,223	16,914	17,710	19,121	18,084	18,367
4705101492	Tug Hill Operating, LLC	2019	227,021	17,214	18,995	19,513	19,029	18,745	17,413	19,957	19,231	19,863	19,602	18,739	18,720
4705101492	Tug Hill Operating, LLC	2020	118,083	0	0	0	0	0	0	18,064	18,435	17,783	18,010	16,590	29,201
4705101492	Tug Hill Operating, LLC	2021	199,314	22,717	20,907	15,855	16,961	16,013	14,133	13,926	15,539	15,546	16,713	15,407	15,597

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**Well: County = 51 Permit = 70343** [Link to all digital records for well](#)

Report Time: Wednesday, October 12, 2022 2:52:56 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170343	Marshall	70343	Franklin	Wileyville	Littleton	39.745869	-80.740988	522191	4399583.8

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170343	--	unknown	Ppty Map	William Yoho						unknown			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGI
4705170343	--	--						unclassified	unclassified	not available	unknown	unknown									

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**Well: County = 51 Permit = 00522** [Link to all digital records for well](#)

Report Time: Wednesday, October 12, 2022 2:53:31 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705100522	Marshall	522	Franklin	Wileyville	Littleton	39 749208	-80 742896	522026 4	4399954

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705100522	5/2/1964	Original Loc	Completed	Louis Goddard	1				Louis Goddard	Fruchlman, M			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT
4705100522	5/2/1964	3/25/1964	1248	Ground Level	Cameron-Garner	Gordon	Gordon	Development Well	Development Well	Gas w/ Oil Show	Spudder	Nat/Open H	2895		2895		55	0

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4705100522	5/2/1964	Show	Oil	Vertical			1109	Pennsylvanian System	0	0			
4705100522	5/2/1964	Show	Oil	Vertical	1412		1422	Mahonig Ss/Big Dunk	0	0			
4705100522	5/2/1964	Pay	Gas	Vertical	2848		2851	Gordon	0	0			

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

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

Plugging Information

API	PLG_DT	DEPTH_PBT
4705100522	8/26/1966	0

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Well: County = 51 Permit = 01485 [Link to all digital records for well](#)

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Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101485	Marshall	1485	Franklin	Glen Easton	Cameron	39.752145	-80.74497	521847.8	4400279.4

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705101485	1	As Proposed	523265.1	4399738.4	-80.728445

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	P
4705101485	1/9/2012	Dvtd Orgnl Loc	Completed	Roger H Hall	1H		Hall	WV16-0031-001/WV0007-001/WV160007-004/1-288082-001	Roger H Hall et al	Gastar Exploration USA, Inc.	6790	1

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O
4705101485	1/9/2012	8/27/2011	1320	Ground Level	Cameron-Garner	Onondaga Ls	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Fractured	6770	11450	11450		2823	3540	

Comment: 1/9/2012 Additional Lease Numbers: WV16-0007-002/WV16-0007-005/WV16-0007-003/WV16-0007-006

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
4705101485	Gastar Exploration USA, Inc.	2012	568,880	13,628	68,027	62,640	50,928	55,910	62,884	48,140	50,711	36,688	50,789	42,625	25,910
4705101485	Gastar Exploration USA, Inc.	2013	344,539	33,446	12,776	35,563	33,402	32,870	31,296	31,361	28,769	28,073	26,376	25,269	25,338
4705101485	Gastar Exploration USA, Inc.	2014	242,937	25,374	23,877	24,651	19,619	23,779	22,262	22,030	19,231	17,814	14,944	15,069	14,287
4705101485	Gastar Exploration Inc.	2015	200,100	20,838	15,851	19,143	19,518	18,364	15,549	12,455	15,379	17,124	16,159	16,337	13,383
4705101485	Tug Hill Operating, LLC	2016	195,301	20,049	15,856	20,619	16,856	15,908	15,415	15,145	16,311	15,353	15,353	14,314	14,118
4705101485	Tug Hill Operating, LLC	2017	147,529	12,387	13,008	14,040	13,406	13,257	12,335	12,381	12,716	12,075	9,766	11,584	10,569
4705101485	Tug Hill Operating, LLC	2018	120,829	11,717	9,038	10,677	9,761	10,838	12,442	9,528	8,700	7,473	11,797	9,775	9,083
4705101485	Tug Hill Operating, LLC	2019	132,471	9,458	9,165	13,013	11,268	12,525	11,655	11,764	11,706	11,361	10,970	10,665	8,921
4705101485	Tug Hill Operating, LLC	2020	106,842	9,449	9,525	10,168	9,812	9,839	9,402	9,979	10,203	10,547	10,369	4,460	3,069
4705101485	Tug Hill Operating, LLC	2021	98,454	13,363	8,275	7,989	8,109	8,320	7,521	7,654	7,622	7,844	8,204	7,133	6,410

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Well: County = 51 Permit = 01486 [Link to all digital records for well](#)

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Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101486	Marshall	1486	Franklin	Glen Easton	Cameron	39.752198	-80.74499	521846.1	4400285.3

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705101486	1	As Proposed	523192.4	4399963.8	-80.729286 39.749266

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRG
4705101486	1/9/2012	Dvld Orgnl Loc	Completed	Roger H Hall	2H	Hall	WV16-0031-001/WV16-0007-001/WV16-0007-004	Roger H Hall et al	Gastar Exploration USA, Inc.	6790	Marcellus Fr	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	C
4705101486	1/9/2012	10/16/2011	1320	Ground Level	Cameron-Gamer	Onondaga Ls	Marcellus Frm	Development Well	Development Well	Oil and Gas	Rotary	Fractured	6770	11440	11440		2760	3801	

Comment: 1/9/2012 Additional Lease Numbers:1-288082-001/WV16-0007-002/WV160007-005/WV16-0007-003/WV16-0007-006

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
4705101486	Gastar Exploration USA, Inc.	2012	516,849	13,508	65,437	62,035	53,418	55,468	61,053	47,407	51,475	32,928	0	44,652	29,468
4705101486	Gastar Exploration USA, Inc.	2013	415,723	39,851	21,418	42,695	36,923	36,749	39,159	32,893	31,940	31,909	31,544	37,538	33,106
4705101486	Gastar Exploration USA, Inc.	2014	350,835	31,358	32,332	34,021	36,329	45,062	31,285	26,185	23,307	23,979	23,210	26,883	16,684
4705101486	Gastar Exploration USA, Inc.	2015	251,431	27,983	22,043	23,973	23,479	21,107	18,754	18,108	19,908	21,308	19,699	18,416	16,653
4705101486	Tug Hill Operating, LLC	2016	259,600	30,890	26,119	26,360	23,966	21,401	18,798	18,564	19,693	18,051	17,754	19,138	18,842
4705101486	Tug Hill Operating, LLC	2017	223,018	23,205	22,481	25,812	25,625	17,615	16,031	16,055	15,530	15,113	12,781	14,941	17,825
4705101486	Tug Hill Operating, LLC	2018	161,398	10,777	13,082	13,762	13,902	13,206	14,779	13,099	13,437	13,251	14,109	13,666	14,328
4705101486	Tug Hill Operating, LLC	2019	199,019	15,090	13,895	16,242	15,934	16,958	16,490	15,834	16,115	15,316	15,626	19,212	22,307
4705101486	Tug Hill Operating, LLC	2020	126,312	16,812	15,951	15,502	15,098	14,123	9,983	6,653	6,802	7,031	6,913	6,779	4,665
4705101486	Tug Hill Operating, LLC	2021	148,246	19,889	11,580	12,143	12,326	12,647	11,431	11,650	11,589	11,935	12,471	10,842	9,743

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**Well: County = 51 Permit = 01487** [Link to all digital records for well](#)

Report Time: Wednesday, October 12, 2022 3:03:14 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705101487	Marshall	1487	Franklin	Glen Easton	Cameron	39.752093	-80.744949	521849.6	4400273.6

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705101487	1	As Proposed	523232.1	4399555.3	-80.728837

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
4705101487	1/9/2012	Dvld Orgrnl Loc	Completed	Roger H Hall	3H		Hall	1-288082-001/WV16-0007-001/WV16-0007-004	Roger H Hall et al	Gastar Exploration USA, Inc	6790	Marcellus Fm

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O
4705101487	1/9/2012	9/20/2011	1320	Ground Level	Cameron-Garner	Onondaga Ls	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Fractured	6777	11888	11853		2606	3815	

Comment: 1/9/2012 Additional Lease Numbers: WV16-0007-002/WV16-0007-005/WV16-0007-003/WV16-0007-006

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
4705101487	Gastar Exploration USA, Inc.	2012	658,384	11,823	73,365	63,005	69,660	68,446	75,924	58,168	47,382	43,035	60,510	51,806	35,260
4705101487	Gastar Exploration USA, Inc.	2013	521,894	53,222	26,580	45,655	50,585	49,785	47,405	47,504	43,578	42,109	39,568	37,905	37,998
4705101487	Gastar Exploration USA, Inc.	2014	364,407	38,058	35,815	36,980	29,427	35,663	33,394	33,043	28,855	26,721	22,418	22,603	21,430
4705101487	Gastar Exploration Inc.	2015	300,140	31,258	23,775	28,719	29,271	27,544	23,320	18,662	23,070	25,686	24,235	24,505	20,075
4705101487	Tug Hill Operating, LLC	2016	295,272	30,074	23,784	30,929	25,284	23,862	23,123	22,717	24,467	23,030	23,029	22,636	22,331
4705101487	Tug Hill Operating, LLC	2017	222,938	19,867	19,513	21,060	20,109	19,886	18,502	18,571	19,074	18,112	15,008	17,377	15,854
4705101487	Tug Hill Operating, LLC	2018	180,523	16,851	13,557	16,016	14,642	16,257	18,663	14,293	13,050	11,210	17,696	14,663	13,625
4705101487	Tug Hill Operating, LLC	2019	198,696	14,174	13,748	19,519	16,901	18,788	17,483	17,647	17,580	17,041	16,455	15,998	13,382
4705101487	Tug Hill Operating, LLC	2020	166,862	14,174	14,288	15,275	14,718	14,758	14,103	16,632	17,005	17,579	17,208	8,600	4,542
4705101487	Tug Hill Operating, LLC	2021	138,711	17,281	11,021	11,823	12,001	12,314	11,131	11,343	11,284	10,214	10,881	10,556	8,662

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Well: County = 51 Permit = 02023 [Link to all digital records for well](#)

Report Time: Wednesday, October 12, 2022 3:03:35 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102023	Marshall	2023	Franklin	Powhatan Point	Clarington	39.778344	-80.762938	520300.8	4403182.9

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102023	1 As Proposed	521032.7	4401848.7	-80.754434	39.766305
4705102023	1 As Drilled	521037.2	4401851.8	-80.754362	39.766333

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705102023	4/9/2021	Dvtd Orgnl Loc	Completed	Donna & Gary Lance Yoho		S-9HM	Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC	6681	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_B
4705102023	4/9/2021	4/15/2019	1286	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Acid-Frac	6651	14830	14830	6296			

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
4705102023	Tug Hill Operating, LLC	2021	1,116,502	0	0	0	0	62,831	146,765	142,323	101,592	134,184	223,465	151,295	154,047

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
4705102023	Tug Hill Operating, LLC	2021	39,018	0	0	0	0	4,078	8,146	6,495	4,259	4,539	4,618	3,579	3,304

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102023	Tug Hill Operating, LLC	2021	79,363	0	0	0	0	5,065	11,689	11,047	7,522	10,100	11,853	10,975	11,112

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102023	Tug Hill Operating, LLC	2021	33,337	0	0	0	0	2,394	8,944	4,150	4,170	2,596	3,124	3,975	3,984

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API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102040	Marshall	2040	Franklin	Powhatan Point	Clarington	39.778365	-80.762971	520298	4403185.3

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102040	1 As Proposed	521272.5	4401890.5	-80.751633	39.766676
4705102040	1 As Drilled	521274.2	4401892	-80.751613	39.766689

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
4705102040	4/3/2021	Dvld Orgnl Loc	Completed	Donna Vivian Yoho (TOD)/Gary Lance Yoho		S-10HM	Old Crow		D V Yoho et al	Tug Hill Operating, LLC	6689	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_B
4705102040	4/3/2021	7/6/2019	1265	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Acid-Frac	6631	15103	15103	6263			

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
4705102040	Tug Hill Operating, LLC	2021	1,169,641	0	0	0	0	62,093	141,196	151,946	110,408	147,510	229,298	161,676	165,514

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
4705102040	Tug Hill Operating, LLC	2021	43,117	0	0	0	0	3,624	8,024	7,297	5,031	5,507	5,336	4,400	3,898

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102040	Tug Hill Operating, LLC	2021	83,153	0	0	0	0	5,006	11,245	11,794	8,175	11,103	12,162	11,729	11,939

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102040	Tug Hill Operating, LLC	2021	46,164	0	0	0	0	2,365	14,138	4,431	6,591	2,853	3,205	6,283	6,298

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Well: County = 51 Permit = 02042 [Link to all digital records for well](#)

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Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102042	Marshall	2042	Franklin	Powhatan Point	Clarington	39.778322	-80.762906	520303.6	4403180.5

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102042	1 As Drilled	521470.4	4402008.9	-80.749319	39.767737
4705102042	1 As Proposed	521469.1	4402007.3	-80.749334	39.767723

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
4705102042	4/3/2021	Dvtd Origni Loc	Completed	Donna Vivian Yoho (TOD)/Gary Lance Yoho	S-11HM		Old Crow		D V Yoho et al	Tug Hill Operating, LLC	6593	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BI
4705102042	4/3/2021	4/14/2019	1265	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Acid+Frac	6632	15530	15530				

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
4705102042	Tug Hill Operating, LLC	2021	1,123,066	0	0	0	0	57,283	146,587	157,385	102,832	141,268	217,280	148,620	151,811

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
4705102042	Tug Hill Operating, LLC	2021	44,849	0	0	0	0	3,809	8,585	7,672	4,941	5,668	5,567	4,406	4,001

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102042	Tug Hill Operating, LLC	2021	80,013	0	0	0	0	4,618	11,675	12,216	7,614	10,633	11,525	10,781	10,951

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102042	Tug Hill Operating, LLC	2021	43,123	0	0	0	0	2,182	12,980	4,590	6,051	2,733	3,037	5,768	5,782

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**Well: County = 51 Permit = 02043** [Link to all digital records for well](#)

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API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102043	Marshall	2043	Franklin	Powhatan Point	Clarington	39.7783	-80.762874	520306.3	4403178.1

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102043	1 As Proposed	521684.7	4402091	-80.746814	39.768472
4705102043	1 As Drilled	521688.8	4402091.1	-80.746766	39.768472

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
4705102043	10/5/2020	Dvld Orgnl Loc	Completed	Donna Vivian Yoho (TOD)/Gary Lance Yoho	S-12HM		Old Crow		D V Yoho et al	Tug Hill Operating, LLC	6699	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_E
4705102043	10/5/2020	4/14/2019	1255	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Acid-Frac	6653	15190	15190	6600			

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
4705102043	Tug Hill Operating, LLC	2021	1,172,806	0	0	0	0	52,275	136,100	160,327	113,078	149,713	229,247	164,680	167,386

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
4705102043	Tug Hill Operating, LLC	2021	49,004	0	0	0	0	8,590	8,118	7,335	4,934	5,698	5,525	4,625	4,179

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102043	Tug Hill Operating, LLC	2021	83,319	0	0	0	0	4,214	10,839	12,444	8,373	11,269	12,160	11,946	12,074

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102043	Tug Hill Operating, LLC	2021	45,624	0	0	0	0	1,991	14,031	4,675	8,541	2,896	3,205	6,235	6,250

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Well: County = 51 Permit = 02122 [Link to all digital records for well](#)

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Location Information [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102122	Marshall	2122	Franklin	Powhatan Point	Clarington	39.77843	-80.763067	520289.7	4403192.4

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102122	1 As Drilled	517947.4	4407466.2	-80.790303	39.81699
4705102122	1 As Proposed	517947.4	4407466.9	-80.790303	39.816996

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
4705102122	8/1/2020	Dvld Orgnl Loc	Completed	Donna Vivian Yoho/Gary Lance Yoho		N-17HU	Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC	11592	PI Pleasant Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF
4705102122	8/1/2020	4/16/2019	1287	Ground Level	Cameron-Garner	Trenton Group	PI Pleasant Fm	Development Well	Development Well	Gas	Rotary	Acid-Frac	11358	27771	27771	10368			500

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
4705102122	Tug Hill Operating, LLC	2020	1,470,170	0	0	0	0	0	0	0	0	49,802	458,108	433,376	528,884
4705102122	Tug Hill Operating, LLC	2021	5,137,814	534,066	417,893	510,496	450,988	525,058	506,732	157,715	313,569	400,016	444,701	423,466	453,114

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
4705102122	Tug Hill Operating, LLC	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4705102122	Tug Hill Operating, LLC	2021	0	0	0	0	0	0	0	0	0	0	0	0	0

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102122	Tug Hill Operating, LLC	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4705102122	Tug Hill Operating, LLC	2021	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102122	Tug Hill Operating, LLC	2020	12,974	0	0	0	0	0	0	0	0	5,840	1,101	0	6,033
4705102122	Tug Hill Operating, LLC	2021	67,843	7,262	6,290	7,275	8,235	20,002	97	4,599	42	7,738	6,217	43	43

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Well: County = 51 Permit = 02123 [Link to all digital records for well](#)

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Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102123	Marshall	2123	Franklin	Powhatan Point	Clarington	39.778408	-80.763035	520292.5	4403190

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102123	1 As Proposed	518683.6	4406953.9	-80.781718	39.812358
4705102123	1 As Drilled	518682.8	4406949.4	-80.781725	39.812317

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
4705102123	7/7/2020	Dvtd Orign Loc	Completed	Donna Vivian Yoho/Gary Lance Yoho		N-18HU	Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC	11531	PI Pleasant Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_AFT	O_BEFO
4705102123	7/7/2020	4/14/2019	1287	Ground Level	Cameron-Garner	Pt Pleasant Fm	Pt Pleasant Fm	Development Well	Development Well	Gas	Rotary	Acid+Frac	11388	24961	24961	10650			500

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
4705102123	Tug Hill Operating, LLC	2020	1,464,875	0	0	0	0	0	0	0	0	53,045	455,129	413,134	543,567
4705102123	Tug Hill Operating, LLC	2021	5,802,560	568,636	427,133	542,828	505,155	557,819	534,070	315,054	359,874	471,764	515,064	499,184	505,979

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
4705102123	Tug Hill Operating, LLC	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4705102123	Tug Hill Operating, LLC	2021	0	0	0	0	0	0	0	0	0	0	0	0	0

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102123	Tug Hill Operating, LLC	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4705102123	Tug Hill Operating, LLC	2021	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102123	Tug Hill Operating, LLC	2020	17,449	0	0	0	0	0	0	0	0	6,037	1,094	4,118	6,200
4705102123	Tug Hill Operating, LLC	2021	78,399	7,732	6,430	7,736	9,546	21,250	82	9,187	36	9,126	7,200	37	37

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Well: County = 51 Permit = 02168 [Link to all digital records for well](#)

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Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102168	Marshall	2168	Franklin	Powhatan Point	Clarington	39.778409	-80.762922	520302.2	4403190.1

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102168	1 As Drilled	522017.2	4401974	-80.742936	39.767409
4705102168	1 As Proposed	522016.8	4401973	-80.742941	39.7674

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PF
4705102168	3/21/2021	Dvtd Orgnl Loc	Completed	Donna Vivian/Gary Lnce Yoho		S-13HM	Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC	6706	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_AFT	O_E
4705102168	3/21/2021	4/19/2019	1265	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Acid+Frac	6610	15888	15888	6822		

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
4705102168	Tug Hill Operating, LLC	2021	1,223,920	0	0	0	0	67,046	155,242	163,625	131,398	150,479	217,317	167,835	170,978

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
4705102168	Tug Hill Operating, LLC	2021	38,663	0	0	0	0	3,031	7,396	6,675	5,050	4,814	4,273	3,910	3,514

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102168	Tug Hill Operating, LLC	2021	87,559	0	0	0	0	5,405	12,364	12,700	9,729	11,326	11,527	12,175	12,333

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102168	Tug Hill Operating, LLC	2021	43,488	0	0	0	0	2,554	12,824	4,772	5,978	2,911	3,038	5,699	5,712

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Well: County = 51 Permit = 02185 [Link to all digital records for well](#)

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Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX	DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102185	Marshall	2185		Franklin	Powhatan Point	Clarington	39.778387	-80.762889	520305	4403187.7

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102185	1 As Drilled	522346.1	4401851.1	-80.7391	39.766293
4705102185	1 As Proposed	522348.9	4401855	-80.739067	39.766328

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
4705102185	3/21/2021	Dvtd Orgnl Loc	Completed	Donna Vivian Yoho/Gary Lance Yoho		S-14HM	Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC	6713	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_E
4705102185	3/21/2021	4/19/2019	1265	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Acid-Frac	6661	16766	16766	7130		

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
4705102185	Tug Hill Operating, LLC	2021	1,291,439	0	0	0	0	62,685	168,917	158,430	131,632	167,463	251,208	172,800	178,304

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
4705102185	Tug Hill Operating, LLC	2021	44,450	0	0	0	0	3,397	8,489	6,991	5,580	5,741	5,550	4,652	4,050

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102185	Tug Hill Operating, LLC	2021	91,877	0	0	0	0	5,054	13,453	12,297	9,747	12,605	13,324	12,535	12,862

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102185	Tug Hill Operating, LLC	2021	42,536	0	0	0	0	2,388	12,214	4,620	5,694	3,239	3,512	5,428	5,441

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Well: County = 51 Permit = 02186 [Link to all digital records for well](#)

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Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102186	Marshall	2186	Franklin	Powhatan Point	Clarington	39.778366	-80.762857	520307.7	4403185.3

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102186	1 As Drilled	522718.8	4401673	-80.734755	39.764679
4705102186	1 As Proposed	522717.8	4401673.1	-80.734766	39.764679

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
4705102186	3/8/2021	Dvtd Orgnl Loc	Completed	Donna Vivian Yoho/Gary Lance Yoho		S-15HM	Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC	6726	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFG	G_AFT O_BI
4705102186	3/8/2021	4/18/2019	1285	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Acid+Frac	6666	17250	17250	7385	

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
4705102186	Tug Hill Operating, LLC	2021	1,357,828	0	0	0	0	61,368	174,531	174,116	131,804	165,957	270,444	185,173	194,425

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
4705102186	Tug Hill Operating, LLC	2021	38,758	0	0	0	0	3,150	7,445	6,244	4,552	4,861	4,905	4,032	3,589

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102186	Tug Hill Operating, LLC	2021	96,415	0	0	0	0	4,947	13,900	13,515	9,759	12,492	14,345	13,433	14,024

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102186	Tug Hill Operating, LLC	2021	43,064	0	0	0	0	2,338	12,164	5,078	5,671	3,211	3,781	5,406	5,415

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Well: County = 51 Permit = 02187 [Link to all digital records for well](#)

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Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102187	Marshall	2187	Franklin	Powhatan Point	Clarrington	39.778344	-80.752825	520310.5	4403182.9

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102187	1 As Drilled	522998	4401595.5	-80.731498	39.763973
4705102187	1 As Proposed	523021.3	4401604.6	-80.731225	39.764054

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_ES
4705102187	3/7/2021	Dvtd Orgnl Loc	Completed	Donna Vivian Yoho/Gary Lanc Yoho			S-16HM Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC	6730	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BI
4705102187	3/7/2021	4/17/2019	1265	Ground Level	Cameron-Garner	Marcellus Fm	Marcellus Fm	Development Well	Development Well	Oil and Gas	Rotary	Acid-Frac	6627	18465	18465	7956			

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
4705102187	Tug Hill Operating, LLC	2021	1,394,341	0	0	0	0	64,174	182,136	181,865	152,808	167,661	269,990	184,887	190,820

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
4705102187	Tug Hill Operating, LLC	2021	45,071	0	0	0	0	3,202	8,685	7,533	5,731	5,412	5,604	4,723	4,181

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102187	Tug Hill Operating, LLC	2021	99,228	0	0	0	0	5,174	14,506	14,116	11,315	12,620	14,321	13,412	13,764

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102187	Tug Hill Operating, LLC	2021	44,268	0	0	0	0	2,445	12,522	5,303	5,838	3,243	3,774	5,585	5,578

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Well: County = 51 Permit = 02189 [Link to all digital records for well](#)

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Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102189	Marshall	2189	Franklin	Powhatan Point	Clarington	39.778516	-80.763196	520278.7	4403202

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102189	1	As Proposed	517845.1	4407358.7	-80.791501 39.816023

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_ES
4705102189	-/-		Dvtd Orgnl Loc	Permitted	Donna Vivian Yoho/Gary Lance Yoho		N-1HM	Old Crow	Donna Vivian Yoho et al	Tug Hill Operating, LLC		6679	Marcellus Fm

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL_BEF
4705102189	-/-	-/-	1284	Ground Level																	

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**Well: County = 51 Permit = 02191** [Link to all digital records for well](#)

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Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102191	Marshall	2191	Franklin	Powhatan Point	Clarington	39.77843	-80.762954	520299.4	4403192.5

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102191	1 As Drilled	519479.6	4407095.6	-80.772412	39.613617
4705102191	1 As Proposed	519401.7	4407233.7	-80.773318	39.614863

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
4705102191	8/18/2020	Dvld Orgrnl Loc	Completed	Donna Vivian Yoho/Gary Lance Yoho		N-2DHU	Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC		11561	Pl Pleasant Fm

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT
4705102191	8/18/2020	6/18/2019	1265	Ground Level	Unnamed	Pl Pleasant Fm	Pl Pleasant Fm	Development Well	Development Well	Gas	Rotary	Acid+Frac	11374	25077	25077	11502				500

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
4705102191	Tug Hill Operating, LLC	2020	1,568,069	0	0	0	0	0	0	0	0	48,854	469,626	515,595	553,994
4705102191	Tug Hill Operating, LLC	2021	5,817,016	529,678	436,728	567,730	469,452	559,764	521,733	419,507	376,300	461,733	510,658	476,726	487,007

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
4705102191	Tug Hill Operating, LLC	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4705102191	Tug Hill Operating, LLC	2021	0	0	0	0	0	0	0	0	0	0	0	0	0

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102191	Tug Hill Operating, LLC	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4705102191	Tug Hill Operating, LLC	2021	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705102191	Tug Hill Operating, LLC	2020	18,771	0	0	0	0	0	0	0	0	6,184	1,129	5,139	6,319
4705102191	Tug Hill Operating, LLC	2021	80,269	7,203	6,574	8,090	8,582	21,325	82	12,233	36	8,932	7,139	36	37

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**Well: County = 51 Permit = 02192** [Link to all digital records for well](#)

Report Time: Wednesday, October 12, 2022 3:18:27 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LONG_DD	UTME	UTMN
4705102192	Marshall	2192	Franklin	Powhatan Point	Clarington	39.778495	-80.763164	520281.4	4403199.6

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LONG_DD	LAT_DD
4705102192	1 As Proposed	518027	4407491.5	-80.789372	39.817216

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_ES
4705102192	+-	Dvtd Orgnl Loc	Permitted	Donna Vivian Yoho/Gary Lance Yoho	N-2HM		Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC	6664	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL_BEF	
4705102192	+-	+-	1285	Ground Level																		

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**Well: County = 51 Permit = 02208** [Link to all digital records for well](#)

Report Time: Wednesday, October 12, 2022 3:18:42 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LONG_DD	UTME	UTMN
4705102208	Marshall	2208	Franklin	Powhatan Point	Clarington	39.778538	-80.763115	520285.6	4403204.4

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LONG_DD	LAT_DD
4705102208	1 As Proposed	519253.6	4406759	-80.775062	39.810589

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_ES
4705102208	+-	Dvtd Orgnl Loc	Permitted	Donna Vivian Yoho/Gary Lance Yoho	N-5HM		Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC	6701	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL_BEF	
4705102208	+-	+-	1286	Ground Level																		

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**Well: County = 51 Permit = 02226** [Link to all digital records for well](#)

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Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102226	Marshall	2226	Franklin	Powhatan Point	Clarington	39.778473	-80.763132	520284.2	4403197.2

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102226	1 As Proposed	518210.3	4407638	-80.787226	39.818532

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_ES
4705102226	-/-	Dvtd Orgnl Loc	Cancelled	Donna Vivian Yoho/Gary Lance Yoho		N-3HM	Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC	6689	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL_BEF	
4705102226	-/-	-/-	1286	Ground Level																		

Comment: -/- Permit cancelled on DEP site as of 03/2020

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**Well: County = 51 Permit = 02227** [Link to all digital records for well](#)

Report Time: Wednesday, October 12, 2022 3:27:26 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102227	Marshall	2227	Franklin	Powhatan Point	Clarington	39.778452	-80.7631	520287	4403194.8

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102227	1 As Proposed	519019.7	4406706.8	-80.777796	39.810124

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_ES
4705102227	-/-	Dvtd Orgnl Loc	Permitted	donna Vivian Yoho/Gary Lance Yoho		N-4HM	Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC	6694	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL_BEF	
4705102227	-/-	-/-	1286	Ground Level																		

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**Well: County = 51 Permit = 02238** [Link to all digital records for well](#)

Report Time: Wednesday, October 12, 2022 3:27:47 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102238	Marshall	2238	Franklin	Powhatan Point	Clarington	39.778517	-80.763083	520288.4	4403202.1

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102238	1 As Proposed	519674	4406489.1	-80.770159	39.808148

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_ES
4705102238	--	Dvld Orgnl Loc	Permitted	Donna Vivian Yoho/Gary Lance Yoho	N-6HM		Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC		6716 Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL_BEF	
4705102238	--	--	1287	Ground Level																		

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**Well: County = 51 Permit = 02239** [Link to all digital records for well](#)

Report Time: Wednesday, October 12, 2022 3:28:04 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102239	Marshall	2239	Franklin	Powhatan Point	Clarington	39.778495	-80.763051	520291.1	4403199.7

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102239	1 As Proposed	519881	4406588.7	-80.767737	39.809022

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_ES
4705102239	--	Dvld Orgnl Loc	Permitted	Donna Vivian Yoho/Gary Lance Yoho	N-7HM		Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC		6727 Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL_BEF	
4705102239	--	--	1288	Ground Level																		

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**Well: County = 51 Permit = 02240** [Link to all digital records for well](#)

Report Time: Wednesday, October 12, 2022 3:28:19 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102240	Marshall	2240	Franklin	Powhatan Point	Clarington	39.778474	-80.763019	520293.9	4403197.3

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102240	1 As Proposed	520125	4406621.5	-80.764886	39.80933

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_ES
4705102240	-/-	Dvtd Orgnl Loc	Permitted	Donna Vivian Yoho/Gary Lance Yoho	N-8HM		Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC	6731	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL_BEF	
4705102240	-/-	-/-	1288	Ground Level																		

WV Geological & Economic Survey

**Well: County = 51 Permit = 02270** [Link to all digital records for well](#)

Report Time: Wednesday, October 12, 2022 3:28:48 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102270	Marshall	2270	Franklin	Powhatan Point	Clarington	39.778452	-80.762966	520296.7	4403194.9

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102270	1 As Proposed	518210.3	4407638	-80.787226	39.818532

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_ES
4705102270	-/-	Dvtd Orgnl Loc	Permitted	Donna Vivian Yoho/Gary Lance Yoho	N-19HU		Old Crow		Donna Vivian Yoho et al	Tug Hill Operating, LLC	6727	Marcellus Fm	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL_BEF	
4705102270	-/-	-/-	1288	Ground Level																		

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4705102481



**Well:** Hendrickson N-09 HU (slot J)  
**Site:** Hendrickson  
**Project:** Marshall County, West Virginia  
**Design:** rev0

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 @ 1220.00ft

Northing: 14433921.52    Easting: 1711264.06    Latitude: 39.74484117    Longitude: -80.74795540

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.86°



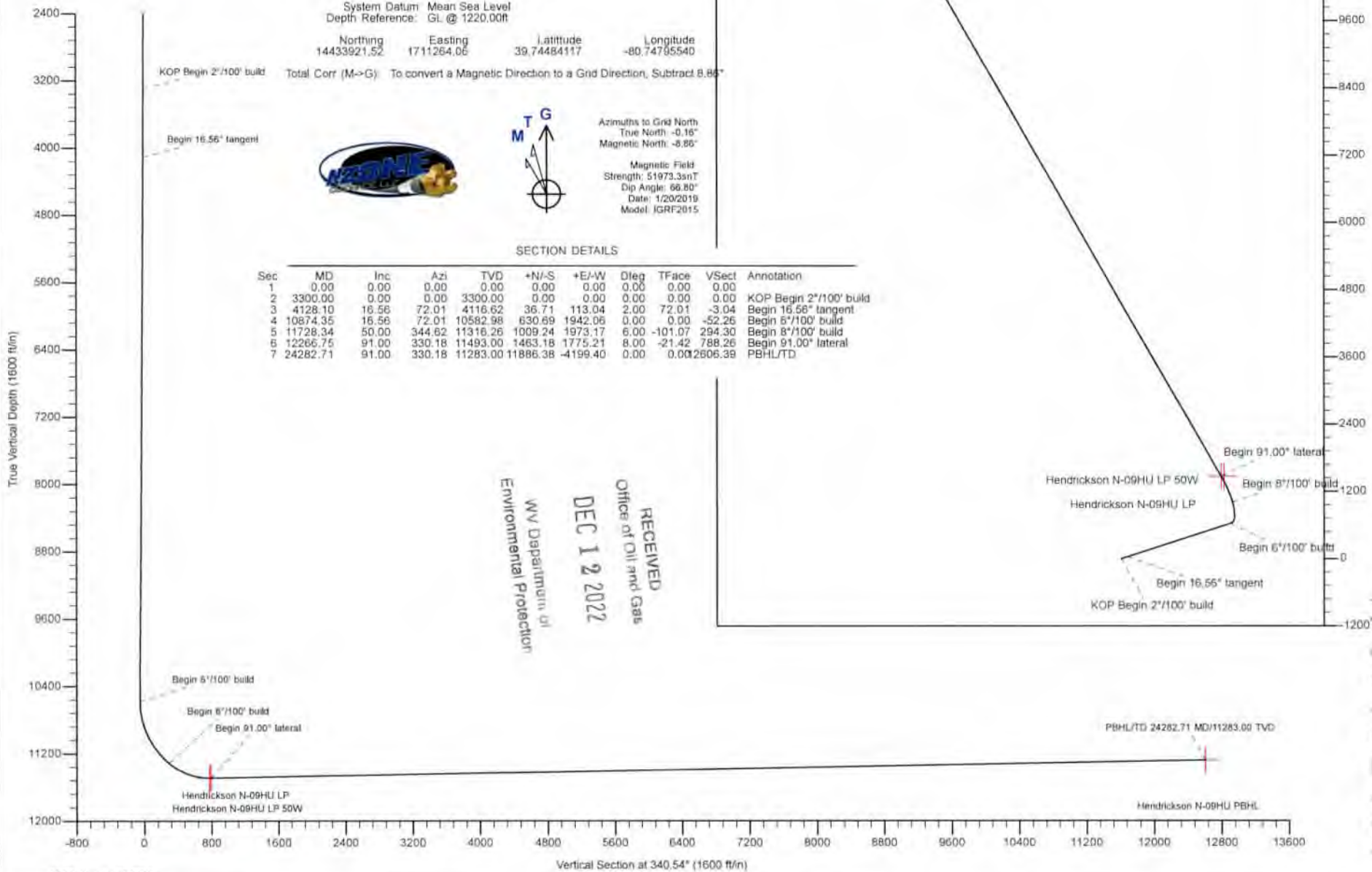
Azimuths to Grid North  
 True North: -0.16°  
 Magnetic North: -8.86°

Magnetic Field  
 Strength: 51973.3nT  
 Dip Angle: 66.80°  
 Date: 1/20/2019  
 Model: IGRF2015

**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	3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 2"/100' build
3	4128.10	16.56	72.01	4116.62	36.71	113.04	2.00	72.01	-3.04	Begin 16.56° tangent
4	10874.35	16.56	72.01	10582.98	630.69	1942.06	0.00	0.00	-52.26	Begin 5"/100' build
5	11728.34	50.00	344.62	11316.26	1009.24	1973.17	6.00	-101.07	294.30	Begin 8"/100' build
6	12266.75	91.00	330.18	11493.00	1463.18	1775.21	8.00	-21.42	788.26	Begin 91.00° lateral
7	24282.71	91.00	330.18	11283.00	11886.38	-4199.40	0.00	0.00	2606.39	PBHL/TD

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 WV Department of  
 Environmental Protection



705102481  
 (+)North(-)Depth  
 (ft/m)

4705102481

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02/23/2023

DEC 12 2022



Planning Report - Geographic

<b>Database:</b>	DB_Jul2216dt_v14	<b>Local Co-ordinate Reference:</b>	Well Hendrickson N-09 HU (slot J)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL @ 1220.00ft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL @ 1220.00ft
<b>Site:</b>	Hendrickson	<b>North Reference:</b>	Grid
<b>Well:</b>	Hendrickson N-09 HU (slot J)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

WV Department of  
Environmental Protection

<b>Project</b>	Marshall County, West Virginia		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD83 West Virginia - HARN		
<b>Map Zone:</b>	Zone 17N (84 W to 78 W)		

<b>Site</b>	Hendrickson				
<b>Site Position:</b>	<b>Northing:</b>	14,433,967.93 usft	<b>Latitude:</b>	39.74496853	
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,711,276.26 usft	<b>Longitude:</b>	-80.74791154
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.16 "

<b>Well</b>	Hendrickson N-09 HU (slot J)					
<b>Well Position</b>	<b>+N-S</b>	0.00 ft	<b>Northing:</b>	14,433,921.52 usft	<b>Latitude:</b>	39.74484117
	<b>+E-W</b>	0.00 ft	<b>Easting:</b>	1,711,264.06 usft	<b>Longitude:</b>	-80.74795540
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	1,220.00 ft	

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	1/20/2019	-8.70	66.80	51,973.29242461

<b>Design</b>	rev0			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N-S (ft)</b>	<b>+E-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	340.54

<b>Plan Survey Tool Program</b>	<b>Date</b>	1/27/2019		
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	24,282.71 rev0 (Original Hole)	MWD	MWD - Standard

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N-S (ft)</b>	<b>+E-W (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,128.10	16.56	72.01	4,116.62	36.71	113.04	2.00	2.00	0.00	72.01	
10,874.35	16.56	72.01	10,582.98	830.69	1,942.06	0.00	0.00	0.00	0.00	
11,728.34	50.00	344.62	11,316.26	1,009.24	1,973.17	6.00	3.92	-10.23	-101.07	
12,266.75	91.00	330.18	11,493.00	1,463.18	1,775.21	8.00	7.62	-2.68	-21.42	
24,282.71	91.00	330.18	11,283.00	11,886.38	-4,199.40	0.00	0.00	0.00	0.00	Hendrickson N-09HU

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Planning Report - Geographic

Database: DB\_Jul2216dt\_v14  
Company: Tug Hill Operating LLC  
Project: Marshall County, West Virginia  
Site: Hendrickson  
Well: Hendrickson N-09 HU (slot J)  
Wellbore: Original Hole  
Design: rev0

Local Co-ordinate Reference: Well Hendrickson N-09 HU (slot J)  
TVD Reference: GL @ 1220.00ft  
MD Reference: GL @ 1220.00ft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

WV Department of  
Office of Environmental Protection

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	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
100.00	0.00	0.00	100.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
200.00	0.00	0.00	200.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
300.00	0.00	0.00	300.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
400.00	0.00	0.00	400.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
500.00	0.00	0.00	500.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
600.00	0.00	0.00	600.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
700.00	0.00	0.00	700.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
800.00	0.00	0.00	800.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
900.00	0.00	0.00	900.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
3,100.00	0.00	0.00	3,100.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
3,200.00	0.00	0.00	3,200.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
3,300.00	0.00	0.00	3,300.00	0.00	0.00	14,433,921.52	1,711,264.06	39.74484117	-80.74795540
<b>KOP Begin 2°100' build</b>									
3,400.00	2.00	72.01	3,399.98	0.54	1.66	14,433,922.06	1,711,285.72	39.74484264	-80.74794949
3,500.00	4.00	72.01	3,499.84	2.16	6.64	14,433,923.68	1,711,270.69	39.74484704	-80.74793177
3,600.00	6.00	72.01	3,599.45	4.85	14.93	14,433,926.37	1,711,278.98	39.74485437	-80.74790225
3,700.00	8.00	72.01	3,698.70	8.61	26.52	14,433,930.13	1,711,290.57	39.74486462	-80.74788098
3,800.00	10.00	72.01	3,797.47	13.44	41.39	14,433,934.96	1,711,305.45	39.74487777	-80.74780800
3,900.00	12.00	72.01	3,895.62	19.34	59.54	14,433,940.86	1,711,323.60	39.74489381	-80.74774339
4,000.00	14.00	72.01	3,993.06	26.28	80.94	14,433,947.80	1,711,344.99	39.74491273	-80.74768721
4,100.00	16.00	72.01	4,089.64	34.28	105.55	14,433,955.80	1,711,369.61	39.74493449	-80.74757956
4,128.10	16.56	72.01	4,116.62	36.71	113.04	14,433,958.23	1,711,377.10	39.74494112	-80.74755288
<b>Begin 16.56° tangent</b>									
4,200.00	16.56	72.01	4,185.53	43.04	132.54	14,433,964.56	1,711,396.59	39.74495835	-80.74748347
4,300.00	16.56	72.01	4,281.38	51.85	159.65	14,433,973.37	1,711,423.70	39.74498232	-80.74736693
4,400.00	16.56	72.01	4,377.24	60.65	186.76	14,433,982.17	1,711,450.82	39.74500629	-80.74729039
4,500.00	16.56	72.01	4,473.09	69.46	213.87	14,433,990.98	1,711,477.93	39.74503026	-80.74719385
4,600.00	16.56	72.01	4,568.94	78.26	240.98	14,433,999.78	1,711,505.04	39.74505423	-80.74709731
4,700.00	16.56	72.01	4,664.79	87.06	268.09	14,434,008.58	1,711,532.15	39.74507820	-80.74700077
4,800.00	16.56	72.01	4,760.64	95.87	295.21	14,434,017.39	1,711,559.26	39.74510217	-80.74690423
4,900.00	16.56	72.01	4,856.49	104.67	322.32	14,434,026.19	1,711,586.37	39.74512614	-80.74680770
5,000.00	16.56	72.01	4,952.34	113.48	349.43	14,434,035.00	1,711,613.49	39.74515011	-80.74671116

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Planning Report - Geographic

WV Department of  
Environmental Protection

Database: DB\_Jul2216d\_v14  
Company: Tug Hill Operating LLC  
Project: Marshall County, West Virginia  
Site: Hendrickson  
Well: Hendrickson N-09 HU (slot J)  
Wellbore: Original Hole  
Design: rev0

Local Co-ordinate Reference: Well Hendrickson N-09 HU  
TVD Reference: GL @ 1220.00ft  
MD Reference: GL @ 1220.00ft  
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	16.56	72.01	5,048.18	122.28	376.54	14,434,043.80	1,711,640.60	39.74517408	-80.74661462
5,200.00	16.56	72.01	5,144.04	131.09	403.65	14,434,052.61	1,711,667.71	39.74519805	-80.74651808
5,300.00	16.56	72.01	5,239.90	139.89	430.76	14,434,061.41	1,711,694.82	39.74522202	-80.74642154
5,400.00	16.56	72.01	5,335.75	148.70	457.87	14,434,070.22	1,711,721.93	39.74524599	-80.74632500
5,500.00	16.56	72.01	5,431.60	157.50	484.99	14,434,079.02	1,711,749.04	39.74526996	-80.74622846
5,600.00	16.56	72.01	5,527.45	166.31	512.10	14,434,087.83	1,711,776.15	39.74529392	-80.74613192
5,700.00	16.56	72.01	5,623.30	175.11	539.21	14,434,096.63	1,711,803.27	39.74531789	-80.74603538
5,800.00	16.56	72.01	5,719.15	183.91	566.32	14,434,105.43	1,711,830.38	39.74534186	-80.74593884
5,900.00	16.56	72.01	5,815.00	192.72	593.43	14,434,114.24	1,711,857.49	39.74536583	-80.74584230
6,000.00	16.56	72.01	5,910.85	201.52	620.54	14,434,123.04	1,711,884.60	39.74538980	-80.74574576
6,100.00	16.56	72.01	6,006.71	210.33	647.66	14,434,131.85	1,711,911.71	39.74541377	-80.74564922
6,200.00	16.56	72.01	6,102.56	219.13	674.77	14,434,140.65	1,711,938.82	39.74543774	-80.74555268
6,300.00	16.56	72.01	6,198.41	227.94	701.88	14,434,149.46	1,711,965.93	39.74546170	-80.74545614
6,400.00	16.56	72.01	6,294.26	236.74	728.99	14,434,158.26	1,711,993.05	39.74548567	-80.74535960
6,500.00	16.56	72.01	6,390.11	245.55	756.10	14,434,167.07	1,712,020.16	39.74550964	-80.74526306
6,600.00	16.56	72.01	6,485.96	254.35	783.21	14,434,175.87	1,712,047.27	39.74553361	-80.74516652
6,700.00	16.56	72.01	6,581.81	263.16	810.32	14,434,184.68	1,712,074.38	39.74555758	-80.74506998
6,800.00	16.56	72.01	6,677.66	271.96	837.44	14,434,193.48	1,712,101.49	39.74558155	-80.74497344
6,900.00	16.56	72.01	6,773.51	280.77	864.55	14,434,202.28	1,712,128.60	39.74560551	-80.74487690
7,000.00	16.56	72.01	6,869.37	289.57	891.66	14,434,211.09	1,712,155.71	39.74562948	-80.74478036
7,100.00	16.56	72.01	6,965.22	298.37	918.77	14,434,219.89	1,712,182.83	39.74565345	-80.74468382
7,200.00	16.56	72.01	7,061.07	307.18	945.88	14,434,228.70	1,712,209.94	39.74567742	-80.74458728
7,300.00	16.56	72.01	7,156.92	315.98	972.99	14,434,237.50	1,712,237.05	39.74570138	-80.74449074
7,400.00	16.56	72.01	7,252.77	324.79	1,000.11	14,434,246.31	1,712,264.16	39.74572535	-80.74439420
7,500.00	16.56	72.01	7,348.62	333.59	1,027.22	14,434,255.11	1,712,291.27	39.74574932	-80.74429766
7,600.00	16.56	72.01	7,444.47	342.40	1,054.33	14,434,263.92	1,712,318.38	39.74577329	-80.74420112
7,700.00	16.56	72.01	7,540.32	351.20	1,081.44	14,434,272.72	1,712,345.50	39.74579725	-80.74410458
7,800.00	16.56	72.01	7,636.17	360.01	1,108.55	14,434,281.53	1,712,372.61	39.74582122	-80.74400804
7,900.00	16.56	72.01	7,732.03	368.81	1,135.66	14,434,290.33	1,712,399.72	39.74584519	-80.74391150
8,000.00	16.56	72.01	7,827.88	377.62	1,162.77	14,434,299.13	1,712,426.83	39.74586915	-80.74381495
8,100.00	16.56	72.01	7,923.73	386.42	1,189.89	14,434,307.94	1,712,453.94	39.74589312	-80.74371841
8,200.00	16.56	72.01	8,019.58	395.22	1,217.00	14,434,316.74	1,712,481.05	39.74591709	-80.74362187
8,300.00	16.56	72.01	8,115.43	404.03	1,244.11	14,434,325.55	1,712,508.16	39.74594106	-80.74352533
8,400.00	16.56	72.01	8,211.28	412.83	1,271.22	14,434,334.35	1,712,535.28	39.74596502	-80.74342879
8,500.00	16.56	72.01	8,307.13	421.64	1,298.33	14,434,343.16	1,712,562.39	39.74598899	-80.74333225
8,600.00	16.56	72.01	8,402.98	430.44	1,325.44	14,434,351.96	1,712,589.50	39.74601295	-80.74323571
8,700.00	16.56	72.01	8,498.84	439.25	1,352.56	14,434,360.77	1,712,616.61	39.74603692	-80.74313917
8,800.00	16.56	72.01	8,594.69	448.05	1,379.67	14,434,369.57	1,712,643.72	39.74606089	-80.74304262
8,900.00	16.56	72.01	8,690.54	456.86	1,406.78	14,434,378.38	1,712,670.83	39.74608485	-80.74294608
9,000.00	16.56	72.01	8,786.39	465.66	1,433.89	14,434,387.18	1,712,697.94	39.74610882	-80.74284954
9,100.00	16.56	72.01	8,882.24	474.47	1,461.00	14,434,395.98	1,712,725.06	39.74613279	-80.74275300
9,200.00	16.56	72.01	8,978.09	483.27	1,488.11	14,434,404.79	1,712,752.17	39.74615675	-80.74265646
9,300.00	16.56	72.01	9,073.94	492.07	1,515.22	14,434,413.59	1,712,779.28	39.74618072	-80.74255992
9,400.00	16.56	72.01	9,169.79	500.88	1,542.34	14,434,422.40	1,712,806.39	39.74620468	-80.74246337
9,500.00	16.56	72.01	9,265.64	509.68	1,569.45	14,434,431.20	1,712,833.50	39.74622865	-80.74236683
9,600.00	16.56	72.01	9,361.50	518.49	1,596.56	14,434,440.01	1,712,860.61	39.74625262	-80.74227029
9,700.00	16.56	72.01	9,457.35	527.29	1,623.67	14,434,448.81	1,712,887.72	39.74627658	-80.74217375
9,800.00	16.56	72.01	9,553.20	536.10	1,650.78	14,434,457.62	1,712,914.84	39.74630055	-80.74207721
9,900.00	16.56	72.01	9,649.05	544.90	1,677.89	14,434,466.42	1,712,941.95	39.74632451	-80.74198066
10,000.00	16.56	72.01	9,744.90	553.71	1,705.01	14,434,475.23	1,712,969.06	39.74634848	-80.74188412
10,100.00	16.56	72.01	9,840.75	562.51	1,732.12	14,434,484.03	1,712,996.17	39.74637244	-80.74178758
10,200.00	16.56	72.01	9,936.60	571.32	1,759.23	14,434,492.83	1,713,023.28	39.74639641	-80.74169104
10,300.00	16.56	72.01	10,032.45	580.12	1,786.34	14,434,501.64	1,713,050.39	39.74642037	-80.74159449
10,400.00	16.56	72.01	10,128.30	588.93	1,813.45	14,434,510.44	1,713,077.50	39.74644434	-80.74149795
10,500.00	16.56	72.01	10,224.16	597.73	1,840.56	14,434,519.25	1,713,104.62	39.74646830	-80.74140141

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Planning Report - Geographic

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Hendrickson N-09 HU (slot J)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1220.00ft
Project:	Marshall County, West Virginia	MD Reference:	GL @ 1220.00ft
Site:	Hendrickson	North Reference:	Grid
Well:	Hendrickson N-09 HU (slot J)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
10,600.00	16.56	72.01	10,320.01	606.53	1,867.67	14,434,528.05	1,713,131.73	39.74649227	-80.74130486	
10,700.00	16.56	72.01	10,415.86	615.34	1,894.79	14,434,536.86	1,713,158.84	39.74651623	-80.74120832	
10,800.00	16.56	72.01	10,511.71	624.14	1,921.90	14,434,545.66	1,713,185.95	39.74654020	-80.74111178	
10,874.35	16.56	72.01	10,582.98	630.89	1,942.06	14,434,552.21	1,713,206.11	39.74655802	-80.74104000	
<b>Begin 6"/100' build</b>										
10,900.00	16.33	68.63	10,607.58	633.25	1,948.84	14,434,554.77	1,713,212.90	39.74656499	-80.74101582	
11,000.00	16.78	45.53	10,703.52	648.86	1,972.07	14,434,570.47	1,713,236.13	39.74660794	-80.74093301	
11,100.00	19.14	27.54	10,798.71	673.63	1,989.97	14,434,595.15	1,713,254.03	39.74667557	-80.74086908	
11,200.00	22.83	14.26	10,892.11	707.01	2,002.34	14,434,628.53	1,713,266.40	39.74676713	-80.74082472	
11,300.00	27.32	4.81	10,982.70	748.72	2,009.05	14,434,670.24	1,713,273.11	39.74688163	-80.74080044	
11,400.00	32.27	357.95	11,069.48	798.31	2,010.02	14,434,719.83	1,713,274.07	39.74701780	-80.74079648	
11,500.00	37.50	352.79	11,151.50	855.23	2,005.24	14,434,776.75	1,713,269.30	39.74717417	-80.74081289	
11,600.00	42.90	348.74	11,227.87	918.86	1,994.77	14,434,840.38	1,713,258.82	39.74734900	-80.74084950	
11,700.00	48.42	345.45	11,297.74	988.51	1,978.71	14,434,910.03	1,713,242.77	39.74754040	-80.74090590	
11,728.34	50.00	344.82	11,316.28	1,009.24	1,973.17	14,434,930.76	1,713,237.22	39.74759737	-80.74092541	
<b>Begin 8"/100' build</b>										
11,800.00	55.37	342.08	11,359.89	1,063.80	1,956.81	14,434,985.32	1,713,220.86	39.74774733	-80.74098306	
11,900.00	62.93	339.03	11,410.95	1,144.65	1,928.17	14,435,066.16	1,713,192.22	39.74796960	-80.74108411	
12,000.00	70.55	336.38	11,450.42	1,229.55	1,893.29	14,435,151.07	1,713,157.34	39.74820305	-80.74120733	
12,100.00	78.20	333.96	11,477.34	1,316.86	1,852.85	14,435,238.38	1,713,116.90	39.74844315	-80.74135032	
12,200.00	85.88	331.67	11,491.18	1,404.88	1,807.62	14,435,326.40	1,713,071.68	39.74868523	-80.74151031	
12,266.75	91.00	330.18	11,493.00	1,463.18	1,775.21	14,435,384.69	1,713,039.27	39.74884556	-80.74162502	
<b>Begin 91.00' lateral</b>										
12,300.00	91.00	330.18	11,492.42	1,492.02	1,758.68	14,435,413.54	1,713,022.73	39.74892493	-80.74168355	
12,400.00	91.00	330.18	11,490.87	1,578.77	1,708.98	14,435,500.28	1,712,973.01	39.74916354	-80.74185956	
12,500.00	91.00	330.18	11,488.92	1,665.51	1,659.23	14,435,587.03	1,712,923.29	39.74940216	-80.74203557	
12,600.00	91.00	330.18	11,487.17	1,752.25	1,609.51	14,435,673.77	1,712,873.56	39.74964078	-80.74221159	
12,700.00	91.00	330.18	11,485.43	1,839.00	1,559.79	14,435,760.52	1,712,823.84	39.74987940	-80.74238760	
12,800.00	91.00	330.18	11,483.68	1,925.74	1,510.07	14,435,847.26	1,712,774.12	39.75011802	-80.74256361	
12,900.00	91.00	330.18	11,481.93	2,012.49	1,460.34	14,435,934.00	1,712,724.40	39.75035663	-80.74273963	
13,000.00	91.00	330.18	11,480.18	2,099.23	1,410.62	14,436,020.75	1,712,674.68	39.75059525	-80.74291565	
13,100.00	91.00	330.18	11,478.44	2,185.98	1,360.90	14,436,107.49	1,712,624.95	39.75083387	-80.74309166	
13,200.00	91.00	330.18	11,476.69	2,272.72	1,311.18	14,436,194.24	1,712,575.23	39.75107248	-80.74326768	
13,300.00	91.00	330.18	11,474.94	2,359.47	1,261.45	14,436,280.98	1,712,525.51	39.75131110	-80.74344370	
13,400.00	91.00	330.18	11,473.19	2,446.21	1,211.73	14,436,367.73	1,712,475.79	39.75154972	-80.74361973	
13,500.00	91.00	330.18	11,471.44	2,532.96	1,162.01	14,436,454.47	1,712,426.07	39.75178833	-80.74379575	
13,600.00	91.00	330.18	11,469.70	2,619.70	1,112.29	14,436,541.22	1,712,376.34	39.75202695	-80.74397177	
13,700.00	91.00	330.18	11,467.95	2,706.45	1,062.57	14,436,627.96	1,712,326.62	39.75226556	-80.74414780	
13,800.00	91.00	330.18	11,466.20	2,793.19	1,012.84	14,436,714.71	1,712,276.90	39.75250418	-80.74432383	
13,900.00	91.00	330.18	11,464.45	2,879.94	963.12	14,436,801.45	1,712,227.18	39.75274279	-80.74449985	
14,000.00	91.00	330.18	11,462.71	2,966.68	913.40	14,436,888.19	1,712,177.45	39.75298141	-80.74467588	
14,100.00	91.00	330.18	11,460.96	3,053.43	863.68	14,436,974.94	1,712,127.73	39.75322002	-80.74485191	
14,200.00	91.00	330.18	11,459.21	3,140.17	813.95	14,437,061.68	1,712,078.01	39.75345863	-80.74502795	
14,300.00	91.00	330.18	11,457.46	3,226.91	764.23	14,437,148.43	1,712,028.29	39.75369725	-80.74520398	
14,400.00	91.00	330.18	11,455.72	3,313.66	714.51	14,437,235.17	1,711,978.57	39.75393586	-80.74538001	
14,500.00	91.00	330.18	11,453.97	3,400.40	664.79	14,437,321.92	1,711,928.84	39.75417447	-80.74555605	
14,600.00	91.00	330.18	11,452.22	3,487.15	615.07	14,437,408.66	1,711,879.12	39.75441309	-80.74573208	
14,700.00	91.00	330.18	11,450.47	3,573.89	565.34	14,437,495.41	1,711,829.40	39.75465170	-80.74590812	
14,800.00	91.00	330.18	11,448.73	3,660.64	515.62	14,437,582.15	1,711,779.68	39.75489031	-80.74608416	
14,900.00	91.00	330.18	11,446.98	3,747.38	465.90	14,437,668.90	1,711,729.95	39.75512892	-80.74626020	
15,000.00	91.00	330.18	11,445.23	3,834.13	416.18	14,437,755.64	1,711,680.23	39.75536753	-80.74643624	
15,100.00	91.00	330.18	11,443.48	3,920.87	366.45	14,437,842.38	1,711,630.51	39.75560614	-80.74661228	
15,200.00	91.00	330.18	11,441.73	4,007.62	316.73	14,437,929.13	1,711,580.79	39.75584476	-80.74678833	
15,300.00	91.00	330.18	11,439.99	4,094.36	267.01	14,438,015.87	1,711,531.07	39.75608337	-80.74696437	

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Planning Report - Geographic

Database: DB\_Jul2216dI\_v14
Company: Tug Hill Operating LLC
Project: Marshall County, West Virginia
Site: Hendrickson
Well: Hendrickson N-09 HU (slot J)
Wellbore: Original Hole
Design: rev0

Local Co-ordinate Reference: Well Hendrickson N-09 HU (slot J)
TVD Reference: GL @ 1220.00ft
MD Reference: GL @ 1220.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

WV Department of Environmental Protection

Table with 10 columns: Measured Depth (ft), Inclination (°), Azimuth (°), Vertical Depth (ft), +N/-S (ft), +E/-W (ft), Map Northing (usft), Map Easting (usft), Latitude, Longitude. Rows range from 15,400.00 to 20,800.00 ft depth.

02/03/2023

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Planning Report - Geographic

WV Department of Environmental Protection

<b>Database:</b>	DB_Jul2216d_v14	<b>Local Co-ordinate Reference:</b>	Well Hendrickson N-09HU (slot J)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL @ 1220.00ft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL @ 1220.00ft
<b>Site:</b>	Hendrickson	<b>North Reference:</b>	Grid
<b>Well:</b>	Hendrickson N-09 HU (slot J)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
20,900.00	91.00	330.18	11,342.12	8,952.06	-2,517.44	14,442,873.57	1,708,746.62	39.76944513	-80.75682482	
21,000.00	91.00	330.18	11,340.37	9,038.81	-2,567.16	14,442,980.31	1,708,696.90	39.76988373	-80.75700094	
21,100.00	91.00	330.18	11,338.62	9,125.55	-2,616.88	14,443,047.06	1,708,647.18	39.76992232	-80.75717705	
21,200.00	91.00	330.18	11,336.88	9,212.30	-2,666.60	14,443,133.80	1,708,597.46	39.77016092	-80.75735317	
21,300.00	91.00	330.18	11,335.13	9,299.04	-2,716.33	14,443,220.54	1,708,547.74	39.77039951	-80.75752929	
21,400.00	91.00	330.18	11,333.38	9,385.78	-2,766.05	14,443,307.29	1,708,498.01	39.77063811	-80.75770541	
21,500.00	91.00	330.18	11,331.63	9,472.53	-2,815.77	14,443,394.03	1,708,448.29	39.77087670	-80.75788153	
21,600.00	91.00	330.18	11,329.88	9,559.28	-2,865.49	14,443,480.78	1,708,398.57	39.77111529	-80.75805765	
21,700.00	91.00	330.18	11,328.14	9,646.02	-2,915.22	14,443,567.52	1,708,348.85	39.77135389	-80.75823377	
21,800.00	91.00	330.18	11,326.39	9,732.77	-2,964.94	14,443,654.27	1,708,299.13	39.77159248	-80.75840989	
21,900.00	91.00	330.18	11,324.64	9,819.51	-3,014.66	14,443,741.01	1,708,249.40	39.77183107	-80.75858602	
22,000.00	91.00	330.18	11,322.89	9,906.26	-3,064.38	14,443,827.76	1,708,199.68	39.77206967	-80.75876214	
22,100.00	91.00	330.18	11,321.15	9,993.00	-3,114.10	14,443,914.50	1,708,149.96	39.77230826	-80.75893827	
22,200.00	91.00	330.18	11,319.40	10,079.75	-3,163.83	14,444,001.25	1,708,100.24	39.77254685	-80.75911440	
22,300.00	91.00	330.18	11,317.65	10,166.49	-3,213.55	14,444,087.99	1,708,050.51	39.77278544	-80.75929053	
22,400.00	91.00	330.18	11,315.90	10,253.24	-3,263.27	14,444,174.73	1,708,000.79	39.77302403	-80.75946666	
22,500.00	91.00	330.18	11,314.16	10,339.98	-3,312.99	14,444,261.48	1,707,951.07	39.77326262	-80.75964279	
22,600.00	91.00	330.18	11,312.41	10,426.72	-3,362.72	14,444,348.22	1,707,901.35	39.77350121	-80.75981893	
22,700.00	91.00	330.18	11,310.66	10,513.47	-3,412.44	14,444,434.97	1,707,851.63	39.77373981	-80.75999506	
22,800.00	91.00	330.18	11,308.91	10,600.21	-3,462.16	14,444,521.71	1,707,801.90	39.77397840	-80.76017120	
22,900.00	91.00	330.18	11,307.17	10,686.96	-3,511.88	14,444,608.46	1,707,752.18	39.77421699	-80.76034733	
23,000.00	91.00	330.18	11,305.42	10,773.70	-3,561.61	14,444,695.20	1,707,702.46	39.77445558	-80.76052347	
23,100.00	91.00	330.18	11,303.67	10,860.45	-3,611.33	14,444,781.95	1,707,652.74	39.77469416	-80.76069961	
23,200.00	91.00	330.18	11,301.92	10,947.19	-3,661.05	14,444,868.69	1,707,603.02	39.77493275	-80.76087575	
23,300.00	91.00	330.18	11,300.17	11,033.94	-3,710.77	14,444,955.44	1,707,553.29	39.77517134	-80.76105189	
23,400.00	91.00	330.18	11,298.43	11,120.68	-3,760.49	14,445,042.18	1,707,503.57	39.77540993	-80.76122804	
23,500.00	91.00	330.18	11,296.68	11,207.43	-3,810.22	14,445,128.92	1,707,453.85	39.77564852	-80.76140418	
23,600.00	91.00	330.18	11,294.93	11,294.17	-3,859.94	14,445,215.67	1,707,404.13	39.77588711	-80.76158033	
23,700.00	91.00	330.18	11,293.18	11,380.92	-3,909.66	14,445,302.41	1,707,354.40	39.77612570	-80.76175647	
23,800.00	91.00	330.18	11,291.44	11,467.66	-3,959.38	14,445,389.16	1,707,304.68	39.77636428	-80.76193262	
23,900.00	91.00	330.18	11,289.69	11,554.41	-4,009.11	14,445,475.90	1,707,254.96	39.77660287	-80.76210877	
24,000.00	91.00	330.18	11,287.94	11,641.15	-4,058.83	14,445,562.65	1,707,205.24	39.77684146	-80.76228492	
24,100.00	91.00	330.18	11,286.19	11,727.89	-4,108.55	14,445,649.39	1,707,155.52	39.77708004	-80.76246107	
24,200.00	91.00	330.18	11,284.45	11,814.64	-4,158.27	14,445,736.14	1,707,105.79	39.77731863	-80.76263723	
24,282.71	91.00	330.18	11,283.00	11,886.38	-4,199.40	14,445,807.88	1,707,064.67	39.77751596	-80.76278292	

PBHL/TD 24282.71 MD/11283.00 TVD

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Hendrickson N-09HU PE - plan hits target center - Point	0.00	0.00	11,283.00	11,886.38	-4,199.40	14,445,807.88	1,707,064.67	39.77751596	-80.76278292	
Hendrickson N-09HU LF - plan misses target center by 43.48ft at 12242.45ft MD (11493.03 TVD, 1442.04 N, 1787.19 E) - Point	0.00	0.00	11,493.00	1,463.17	1,825.20	14,435,384.69	1,713,089.25	39.74884516	-80.74144719	
Hendrickson N-09HU LF - plan misses target center by 0.01ft at 12266.75ft MD (11493.00 TVD, 1463.17 N, 1775.21 E) - Point	0.00	0.00	11,493.00	1,463.17	1,775.20	14,435,384.69	1,713,039.25	39.74884556	-80.74162506	



Planning Report - Geographic

<b>Database:</b>	DB_Jul2216dt_v14	<b>Local Co-ordinate Reference:</b>	Well Hendrickson N-09 HU (slot J)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL @ 1220.00ft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL @ 1220.00ft
<b>Site:</b>	Hendrickson	<b>North Reference:</b>	Grid
<b>Well:</b>	Hendrickson N-09 HU (slot J)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
3,300.00	3,300.00	0.00	0.00	KOP Begin 2°/100' build
4,128.10	4,116.62	36.71	113.04	Begin 16.56° tangent
10,874.35	10,582.98	630.69	1,942.06	Begin 6°/100' build
11,728.34	11,316.26	1,009.24	1,973.17	Begin 8°/100' build
12,266.75	11,493.00	1,463.18	1,775.21	Begin 91.00° lateral
24,282.71	11,283.00	11,886.38	-4,199.40	PBHL/TD 24282.71 MD/11283.00 TVD

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DEC 12 2022  
WV Department of  
Environmental Protection

4705102481 02/23/2023

WW-9  
(4/16)

API Number 47 - 051 - \_\_\_\_\_  
Operator's Well No. Hendrickson N-9HU

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

RECEIVED  
Office of Oil and Gas

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FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Tug Hill Operating, LLC OP Code 494510851 WV Department of Environmental Protection  
Watershed (HUC 10) Middle Fish Creek Quadrangle Wileyville 7.5'

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

Will a pit be used? Yes  No

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

Will a synthetic liner be used in the pit? Yes  No  If so, what ml.? All pits will be sealed with proper concrete

Proposed Disposal Method For Treated Pit Wastes:

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

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

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

-If oil based, what type? Synthetic, petroleum, etc. n/a

Additives to be used in drilling medium? \_\_\_\_\_

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. All drill cuttings to be disposed of in 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? Water Control Safety Landfill (DWP-1027 - WVD0918) and Westwood Safety Landfill, LLC (SAN142 / PA DEP ECP12842) (DWP09 Safety Landfill 120479)

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 - Geosciences

Subscribed and sworn before me this 5th day of December, 2022

Susanne Deliere Notary Public

My commission expires 1/15/2025

Commonwealth of Pennsylvania - Notary Seal  
Susanne Deliere, Notary Public  
Washington County  
My commission expires January 15, 2025  
Commission # 2332  
Member, Pennsylvania Association of Notaries

02/03/2023

Operator's Well No. Hendrickson N-9HU

Tug Hill Operating, LLC

Proposed Revegetation Treatment: Acres Disturbed 4.21 acres Prevegetation pH 6.0

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch 2.5 Tons/acre

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WV Department of  
Environmental Protection

Seed Mixtures

**Temporary**

**Permanent**

Seed Type	lbs/acre
Annual Ryegrass	40
Spring Oats	96

Seed Type	lbs/acre
Orchard Grass	12
Ladino	3
White Clover	2

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: STRADER GANGE 12-1-2022

Comments: \_\_\_\_\_

Title: Oil and Gas Inspector Date: \_\_\_\_\_

Field Reviewed? ( ) Yes ( ) No



WW-9

Page 1 of 3

# PROPOSED HENDRICKSON PAD

SUPPLEMENT PG 1

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.

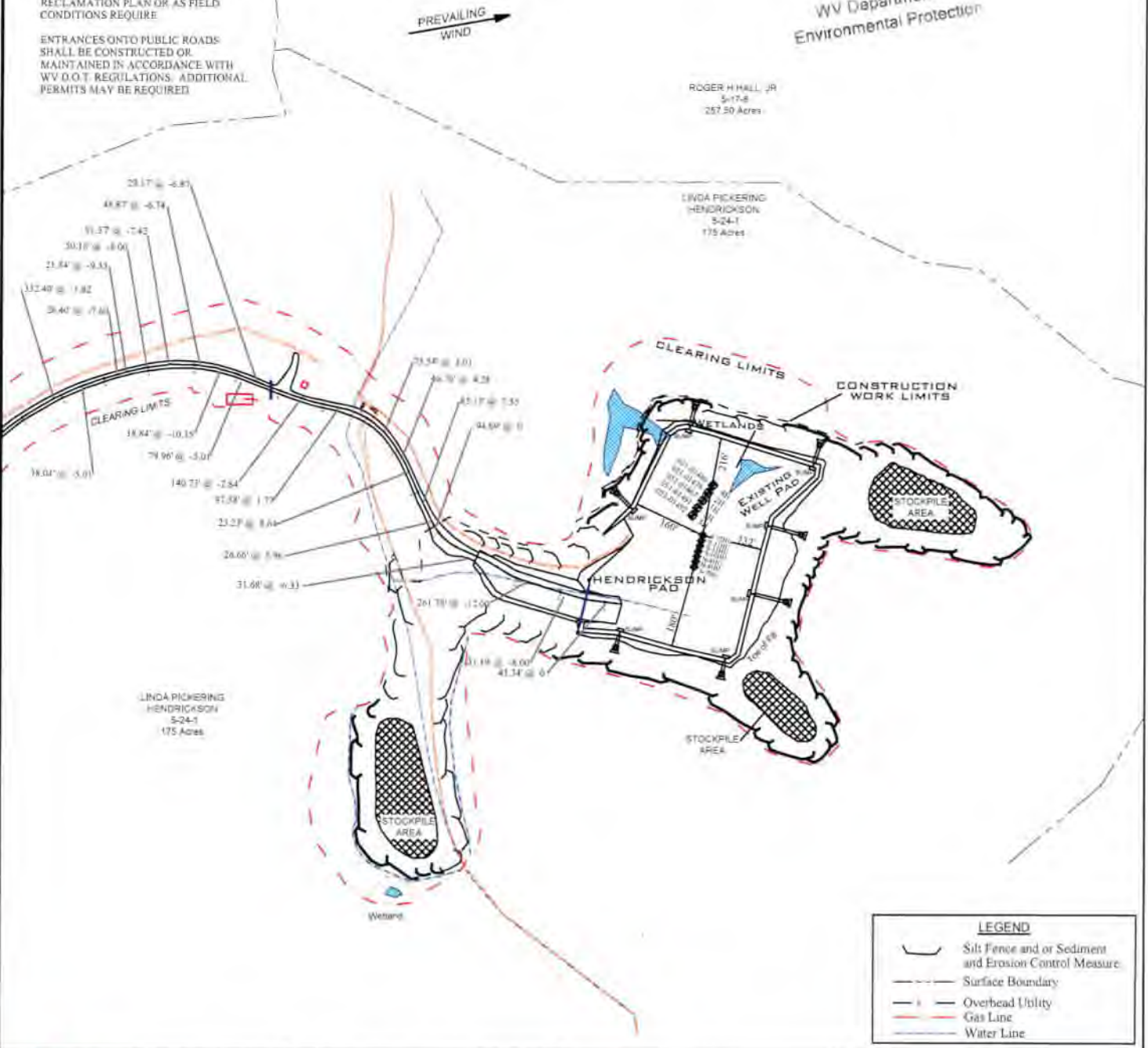
TEMPORARILY SEED AND MULCH ALL SLOPES UPON CONSTRUCTION OF LOCATION.

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.

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WV Department of  
Environmental Protection



LEGEND	
	Silt Fence and or Sediment and Erosion Control Measure.
	Surface Boundary
	Overhead Utility
	Gas Line
	Water Line



**Jackson Surveying Inc.**  
2413 E. Pike St.  
Sta. 112  
Charleston, WV 25301  
Phone: 304-823-6801

TOPO SECTION	
WILEYVILLE T5	
COUNTY	DISTRICT
MARSHALL	FRANKLIN
DRAWN BY	J.O.T.
JOB NO.	494510851

OPERATOR	
PREPARED FOR:	
TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317	
DATE	SCALE
11-03-2022	NONE



WW-9

Page 2 of 3

# PROPOSED HENDRICKSON PAD

SUPPLEMENT PG 1

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.

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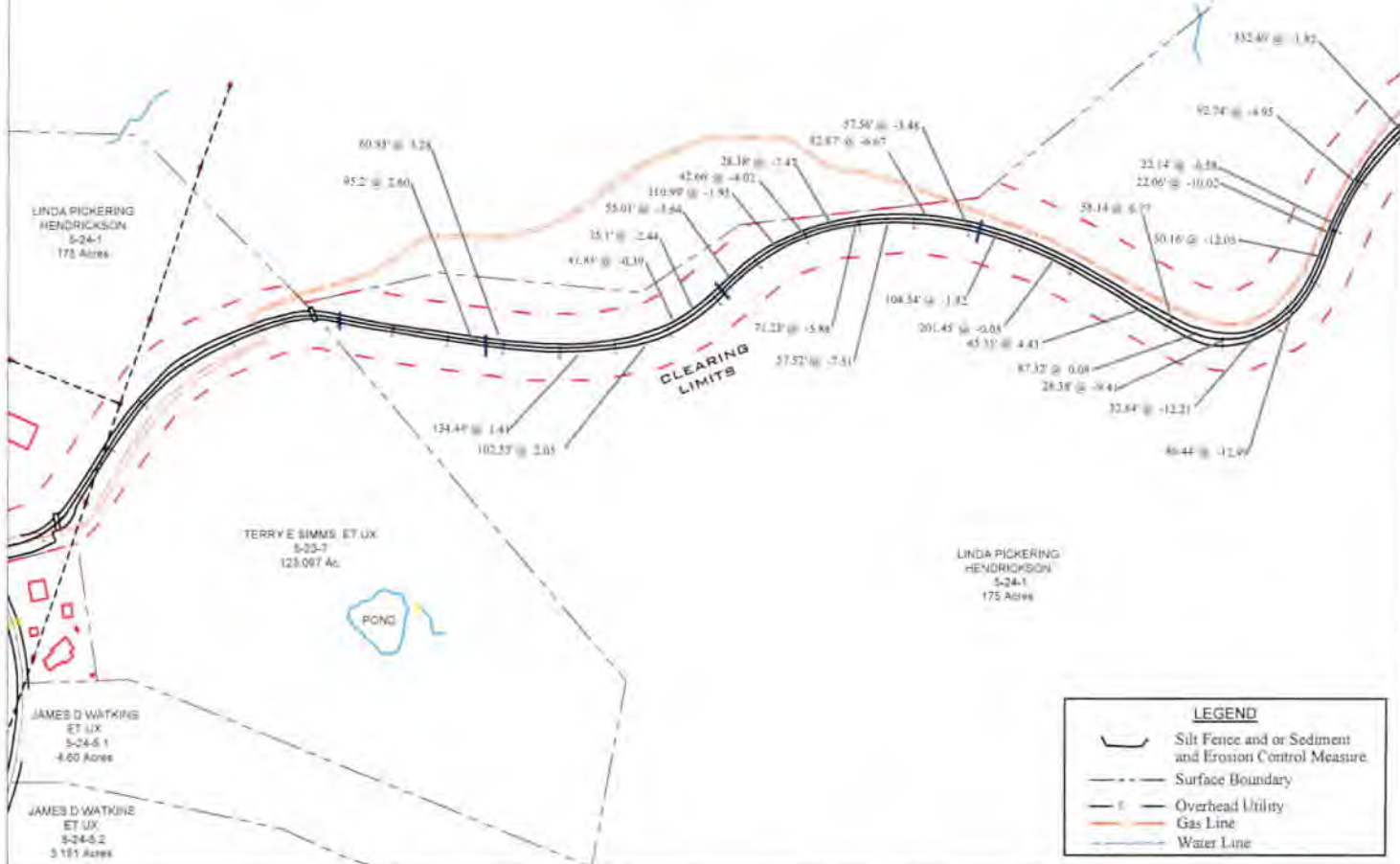
DEC 12 2022

WV Department of  
Environmental Protection

VICKI L. BOWEN  
S-17-0-4  
80.3 Acres



WANDY W. FRANCIS  
ET UX  
S-17-11-1  
67 Ac.



LINDA PICKERING  
HENDRICKSON  
S-24-1  
175 Acres

TERRY E. SIMMS, ET UX  
S-25-7  
123.007 Ac.

LINDA PICKERING  
HENDRICKSON  
S-24-1  
175 Acres

JAMES D. WATKINS  
ET UX  
S-24-6-1  
4.60 Acres

JAMES D. WATKINS  
ET UX  
S-24-6-2  
3.161 Acres

LEGEND	
	Silt Fence and or Sediment and Erosion Control Measure
	Surface Boundary
	Overhead Utility
	Gas Line
	Water Line

**Jackson Surveying Inc.**  
3412 E. Pike St.  
Ste. 112  
Martinsburg, WV 26101  
Phone: 304-523-5961

TOPO SECTION:	
WILEYVILLE T3V	
COUNTY:	DISTRICT:
MARSHALL	FRANKLIN
DRAWN BY:	JOB NO.:
J.D.C.	494510851

OPERATOR:	
PREPARED FOR:	
TUG HILL OPERATING, LLC 186 SOUTHPOWTE BLVD SUITE 200 CANONSBURG, PA 15317	
DATE:	SCALE:
11-03-2022	NONE

**TUG HILL OPERATING**

WW-9

# PROPOSED HENDRICKSON PAD

SUPPLEMENT PG 1

Page 3 of 3

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.

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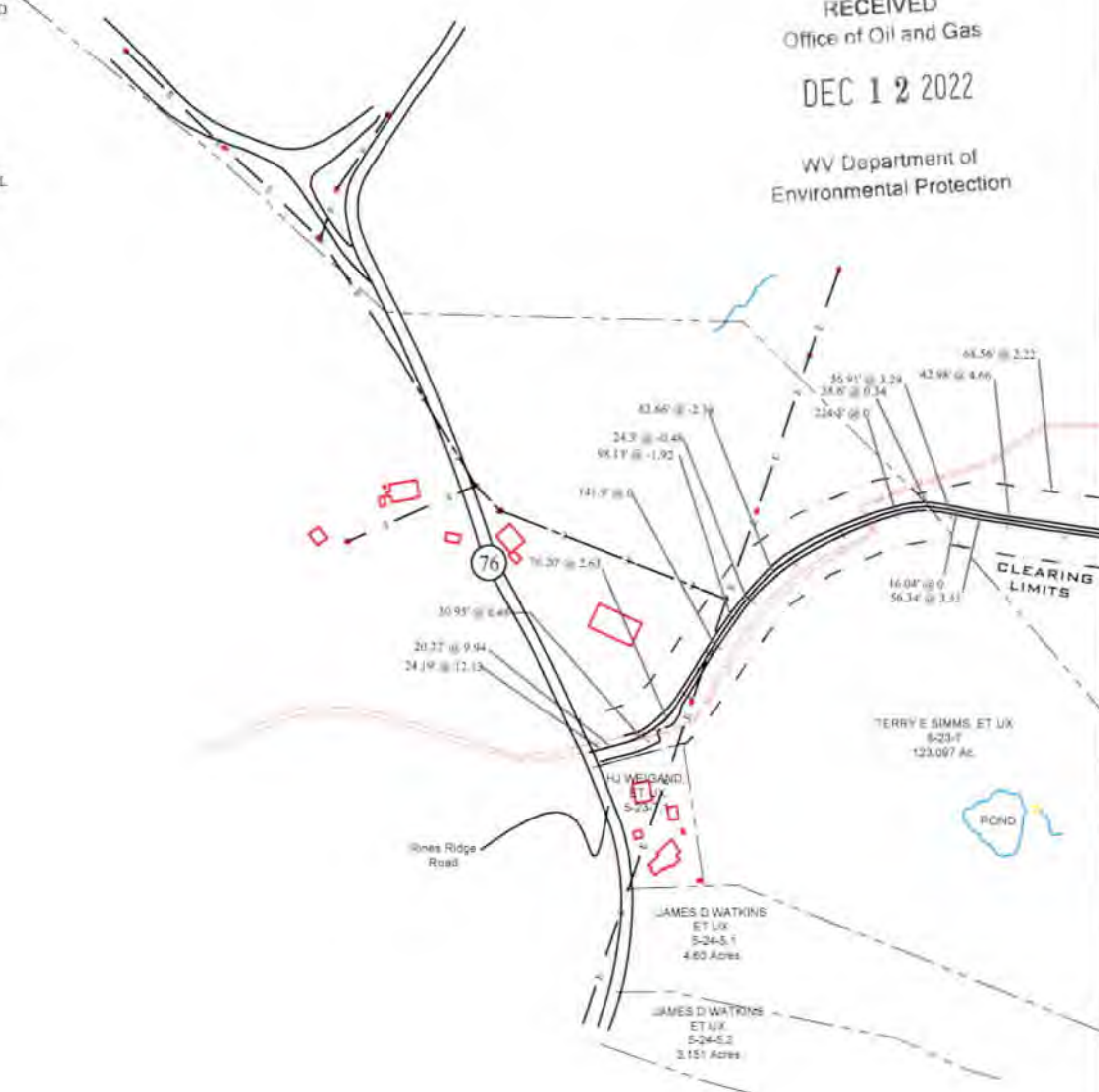
ALL TREES 6-INCHES AND ABOVE ARE TO BE CUT AND STACKED. BRUSH SLASHINGS ARE TO UTILIZED DOWN SLOPE OF SITE AND STRUCTURES TO ACT AS A CONTROL BARRIER IF AVAILABLE.



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LEGEND	
	Silt Fence and or Sediment and Erosion Control Measure
	Surface Boundary
	Overhead Utility Gas Line
	Water Line



**Jackson Surveying Inc.**  
8413 E. Pike St.  
Ste. 112  
Clarksburg, WV 26301  
Phone: 304-823-0001

TOPO SECTION:	
POWHATAN POINT T5	
COUNTY	DISTRICT
MARSHALL	FRANKLIN
DRAWN BY	JOB NO.
JJC	494510851

OPERATOR:	
PREPARED FOR	
TUG HILL OPERATING, LLC 390 SOUTHPOINTE BLVD SUITE 200 CANDONSBURG, PA 15317	
DATE	SCALE
11-03-2022	NONE





**TUG HILL**  
**OPERATING**

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

**Well Name: Hendrickson N-9HU**

**Pad Name: Hendrickson**

**County: Marshall**

UTM (meters), NAD83, Zone 17

Northing: 4,399,468.08

Easting: 521,594.33

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Environmental Protection

**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**

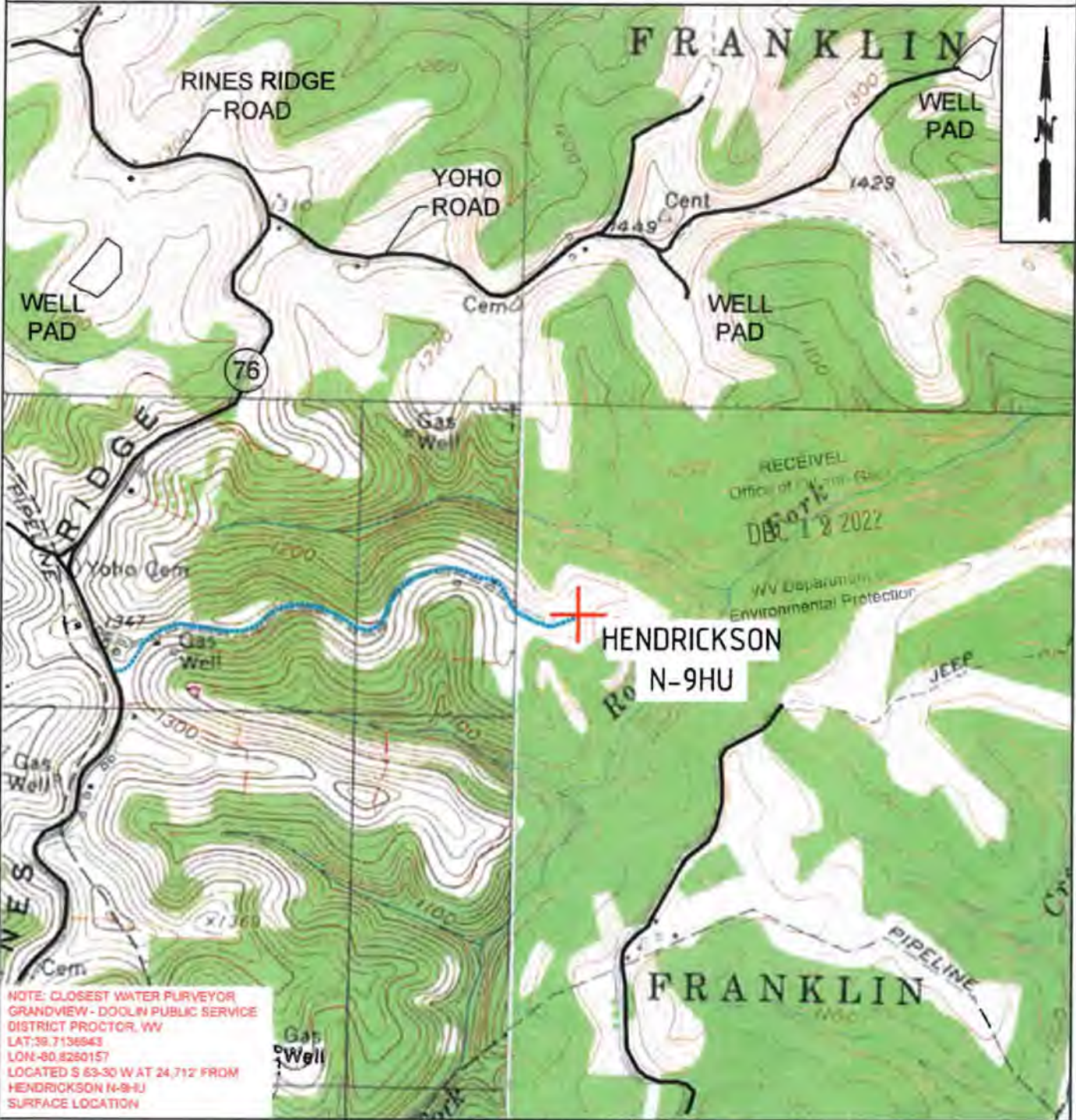
**(800) 921-9745**

*JV*  
*12-1-2022*

WW-9

# PROPOSED HENDRICKSON N-9HU

SUPPLEMENT PG 2



NOTE: CLOSEST WATER PURVEYOR  
GRANDVIEW - DOOLIN PUBLIC SERVICE  
DISTRICT PROCTOR, WV  
LAT: 39.7136943  
LON: -80.8260157  
LOCATED S 63-30 W AT 24.712' FROM  
HENDRICKSON N-9HU  
SURFACE LOCATION



**TUG HILL**  
OPERATING

<b>OPERATOR</b>	494510851	<b>TOPO SECTION</b>	<b>LEASE NAME</b>
TUG HILL OPERATING, LLC 380 SOUTHPONTE BLVD SUITE 200 CANONSBURG, PA 15317		WILEYVILLE 7.5'	HENDRICKSON
		<b>SCALE:</b>	<b>DATE:</b>
		1" = 2000'	DATE: 11-03-2022

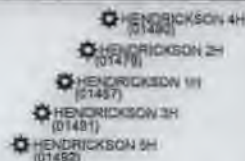
# HENDRICKSON LEASE WELL N-9HU 370.6670± ACRES



REFERENCES  
SCALE 1"=200'

(+) DENOTES LOCATION  
ON UNITED STATES  
TOPOGRAPHIC MAPS

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



02/23/2023

DETAIL  
SKETCH "A"  
SCALE 1"=100'

DETAIL "A"



DETAIL "B"



**SURFACE HOLE**  
UTM, NAD83, ZONE 17  
IN METERS  
N) 4,399,468.08  
E) 521,594.33

**LANDING POINT 1**  
UTM, NAD83, ZONE 17  
IN METERS  
N) 4,399,914.05  
E) 522,135.41

**BOTTOM HOLE**  
UTM, NAD83, ZONE 17  
IN METERS  
N) 4,403,091.05  
E) 520,314.35

**NOTES**

- BORE PATH BASED ON GRID NORTH.
- NO WATER WELLS WITHIN 250' OF WELL WERE FOUND, NO DWELLINGS WITHIN 625' OF PAD CENTER WERE FOUND.
- OWNERSHIP TAKEN FROM PUBLIC RECORDS OF MARSHALL COUNTY, WV IN SEPTEMBER, 2022. COORDINATES AND WELL TIES BASED UPON DIFFERENTIAL GPS MEASUREMENTS.
- WELL LOCATION REFERENCES ARE BASED UPON THE MAGNETIC MERIDIAN.
- BOUNDARIES ALONG ROADWAYS ARE BASED UPON MEMORANDUM BY DICKIE, MCCAMEY & CHLOOTE, P.C. FILE 0058004-0401147.
- ALL DEEP WELLS ARE SHOWN ON THIS PLAT. THERE ARE NO PERMITTED DEEP WELLS WITHIN 8400' OF PROPOSED WELL'S SURFACE LOCATION AND/OR 500' OF THE WELL LATERAL.

NOTE: L.P.1 and LTP are same point.

**LEGEND**

- LEASE TRACTS
- SURFACE TRACTS
- WELL LATERAL
- POINT PLEASANT LEGS
- UNIT BOUNDARY
- LEASE # (SEE SA1 FORM)
- 400' BORE PATH OFFSET
- 500' WELL BORE OFFSET
- (IFTP) PROPOSED FIRST TAKE POINT
- (LTP) PROPOSED LAST TAKE POINT
- FORCED POOL TRACT

LINE	BEARING	DISTANCE
L1	N 86°18' W	2,296.47'
L2	N 51°17' E	1,912.37'
L3	N 72°58' E	2,042.58'

CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH
C1	N 54°19' E	49.43'	77.76'	50.30'
C2	N 21°17' E	71.12'	154.78'	71.77'
C3	N 01°05' W	159.56'	513.73'	180.20'
C4	N 16°25' W	359.84'	1460.66'	380.75'
C5	N 25°51' W	291.85'	2451.13'	261.95'

FILE NUMBER \_\_\_\_\_

DRAWING NUMBER HENDRICKSON N-9HU REV0

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

*David L Jackson*



JACKSON SURVEYING INC.  
2413 East Pike St # 112  
Clarksburg, WV 26302  
304-823-5851

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

DATE: DECEMBER 07, 2022

OPERATORS WELL NO. HENDRICKSON N-9HU

API WELL NO. 47-051-02481 Deep  
STATE COUNTY PERMIT

LOCATION ELEVATION 1220.33' WATERSHED (HUC 10) Rocky Fork of Fish Creek (HUC-10)

DISTRICT Franklin COUNTY Marshall

QUADRANGLE Wileyville 7.5' LEASE NUMBER \_\_\_\_\_ SEE WW-6A1 Form

SURFACE OWNER LINDA L. PICKERING HENDRICKSON ACREAGE 175.0

OIL & GAS ROYALTY OWNER LINDA L. PICKERING HENDRICKSON LEASE ACREAGE 175.0

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

TARGET FORMATION POINT PLEASANT ESTIMATED DEPTH TVD: 11,710' TMD: 24,283'

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

02/03/2023

COUNTY NAME  
PERMIT

form: wvc

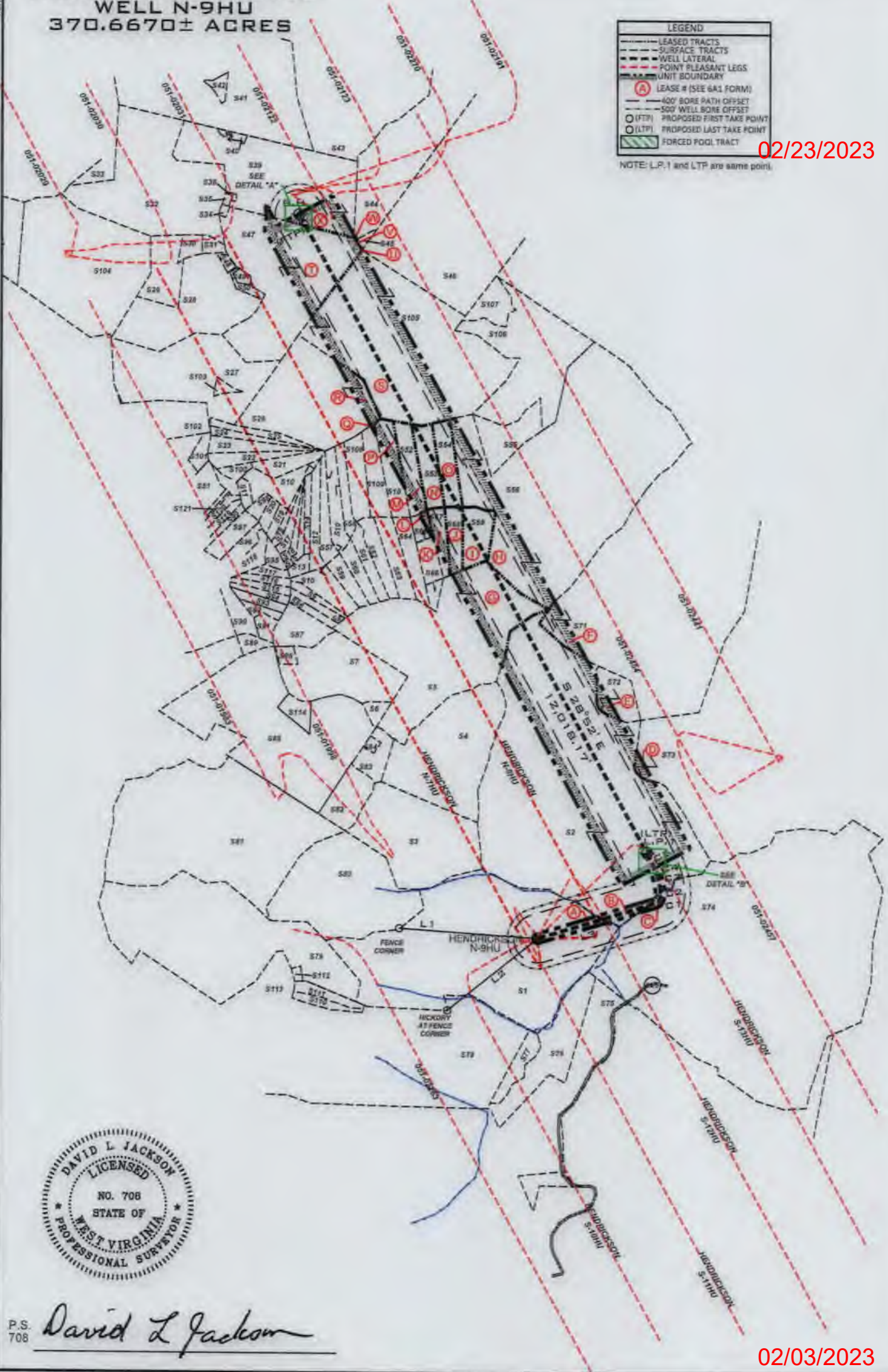
# HENDRICKSON LEASE WELL N-9HU 370.6670± ACRES

**LEGEND**

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

NOTE: L.P.1 and LTP are same point.

02/23/2023



P.S. 708 *David L Jackson*

02/03/2023

	WELL #:	<u>Hendrickson N-9HU</u>	WELL PLAT
	DISTRICT:	<u>Franklin</u>	PAGE 2 OF 4
	COUNTY:	<u>Marshall</u>	DATE: <u>12/07/2022</u>
	STATE:	<u>WV</u>	
	API #:	<u>47-051-</u>	

**HENDRICKSON LEASE  
WELL N-9HU  
370.6670± ACRES**

Parcels Within Unit Boundary				
Tag	Number	Tax Map - Parcel	Surface Owner	Acres
A	S1	05-24-1	LINDA L PICKERING HENDRICKSON	175
B	S2	05-17-8	ROGER H HALL JR	257.50
C	S74	05-24-2	ROY FRIEND YOHO	316.80
D	S73	05-17-6	ALPINE FARM, LLC	249.07
E	S72	05-17-7	ALPINE FARM, LLC	10.8
F	S71	05-17-4	ALPINE FARM, LLC	212
G	S5	05-17-2	HOMER COLBY & BELLE YOHO	104.08
H	S56	05-17-3	SOUTHERN COUNTRY FARMS, INC	190.132
I	S69	05-17-3.1	WILBUR L RIDDLE, ET UX	10.148
J	S68	05-17-1.6	LOLA M SLAUGHTER	6.347
K	S67	05-17-1.5	DONNIE R & LOLA M SLAUGHTER	5.607
L	S65	05-17-1.2	DONNIE R & LOLA M SLAUGHTER	5.073
M	S52	05-17-15	GLEN A GUNTO	10.220
N	S53	05-16-15.1	GLEN A GUNTO	10.170
O	S54	05-17-16	GLEN A GUNTO	9.702
P	S10	05-16-13	SOUTHERN COUNTRY FARMS, INC	11.054
Q	S109	05-18-13.9	ROY & RENEE BUTLER (LIFE)	9.603
R	S26	05-16-21	JAMES M RUCKMAN, ET UX	60.75
S	S105	05-16-19	BETHANY REDO & ROBERT RAHM	129.16
T	S47	05-16-25	JOHN SWIERKOS	79.04
U	S46	05-16-6	JOHN SWIERKOS	134.05
V	S45	05-16-4	JOHN SWIERKOS	0.96
W	S44	05-16-5	JOHN SWIERKOS	52.07
X	S39	05-16-3	BETHA L KLUG	71

Adjoining Parcels Ownership Table				
Number	Tax Map - Parcel	Surface Owner	Acres	
S40	05-16-3.2	JIMMY SR & SHELLY OSTRANDER (LIFE)	1.435	
S41	05-10-15	TERRY A & JODI L HARDING	120.805	
S42	05-10-15.1	DONALD T MILLER	2.99	02/23/2023
S43	05-10-14	JOHN SWIERKOS	100	
S48	05-16-23.3	GREG & CHRISTINA RIDDLE	1	
S49	05-16-24	ALAN M BEYSER, ET UX	1.726	
S50	05-16-23.2	ALAN M BEYSER, ET UX	1.083	
S51	05-18-15.2	BRANDON A RICKMAN	4.171	
S55	05-16-16	SOUTHERN COUNTRY FARMS, INC	9.75	
S57	05-18-60	MICHAEL & WHITNEY NEFF	6.297	
S58	05-18-13.12	CHARLES S NICE	5.969	
S59	05-17-1	SOUTHERN COUNTRY FARMS, INC	5.030	
S60	05-17-1.7	ROY & RENEE BUTLER	5.22	
S61	05-17-13	ROY & RENEE BUTLER	5.439	
S62	05-17-14	SOUTHERN COUNTRY FARMS, INC	7.314	
S63	05-17-1.4	DONNIE R & LOLA M SLAUGHTER	8.844	
S64	05-17-1.1	DONNIE R & LOLA M SLAUGHTER	8.076	
S66	05-17-1.3	JODY & MICHELLE ANDERSON	5	
S70	05-18-36	RUTH MULLIGAN, EST	2.003	
S75	05-24-3.2	TH EXPLORATION II, LLC	49	
S76	05-24-4	TERRY E SIMMS, ET UX	84.05	
S77	05-25-21	TERRY E SIMMS, ET UX	7	
S78	05-24-5	ROBERT C FRANCIS, ET UX (LIFE)	145.78	
S79	05-23-7	TERRY E SIMMS, ET UX	123.097	
S80	05-17-11.1	RANDY W FRANCIS, ET UX	67	
S81	05-17-11	KENNETH N CORLEY, ET UX	120	
S82	05-17-9.3	JAMES A CORLEY, ET UX	12.478	
S83	05-17-9.2	JERI J WHITE	7.136	
S84	05-17-9.1	JERI J WHITE	1	
S85	05-17-10	JAMES A CORLEY, ET UX	92.61	
S86	05-17-10.4	DEXTON MCKINNEY	2.01	
S87	05-18-19	ROGER D WHITE, JR	10	
S88	05-18-42	ROGER HOWARD HALL, JR	2.383	
S89	05-18-48	MARVIN DEAN ROBERTS ET UX (LAND CONTRACT- BRAD & BRIDGET WILLIAMS)	2.920	
S90	05-18-13.7	VICTOR W JR & JESSICA L WOODS	5.255	
S91	05-18-18	DARLENE T GODDALL	3	
S92	05-18-57	MARVIN D ROBERTS	2.228	
S93	05-18-61	ROGER D WHITE	2.884	
S94	05-18-52	ROGER HALL	2.536	
S95	05-18-25	FREDERICK L & DEBBIE L SIZEMORE	2.521	
S96	05-18-40	CORY A HOLT	2.237	
S97	05-18-14	MICHAEL FINCHAM & KEZIA WINTERS	6.386	
S98	05-18-37	BROOK SCHWING & BRADY DISHMAN	2.064	
S99	05-18-45	MICHAEL S FINCHAM & KEZIA M WINTERS	2.07	
S100	05-18-50	STEVEN G BERISFORD	2.170	
S101	05-18-11.3	EDWARD BURGE JR. & JULIE BURGE	3	
S102	05-15-10	MARK STANLEY RUCKMAN	153.75	
S103	05-16-22.1	HEATHER A BURG	1.465	
S104	05-15-9	CNX LAND RESOURCES, INC	81.98	
S106	5-16-17	RICHARD D & JULIA M REPASKY, & BRIAN L TESLOVICH & CARA C DAVIS	55.34	
S107	5-16-18	JOHN SWIERKOS	10	
S108	05-18-13.4	RENEE D STREIGHT BUTLER (LIFE)	9.938	
S110	5-24-5.2	JAMES D WATKINS, ET UX	3.151	
S111	05-24-5.1	JAMES D WATKINS, ET UX	4.60	
S112	05-23-7.1	RANDY W & JESSICA L FRANCIS	0.549	
S113	05-23-7.2	FORELLA LOU WEIGAND	6.35	
S114	05-17-10.1	JAMES A & JILL C CORLEY	4.51	
S115	05-18-51	ROGER HALL	2.505	
S116	05-18-43	ROY E & RENEE BUTLER	2.532	
S117	05-18-44	RENEE STREIGHT BUTLER	2.133	
S118	05-18-41	CORY A HOLT	2.308	
S119	05-18-46	DALE W & PATRICIA GARDNER HRS	2.080	
S120	05-18-47	RYAN L & MICHELLE A AUTHEMENT	2.010	
S121	05-18-13.5	WESLEY BRYAN	1.023	

Adjoining Parcels Ownership Table				
Tag	Number	Tax Map - Parcel	Surface Owner	Acres
	S3	05-17-9.4	VICKI L BOWEN HRS.	60.3
	S4	05-17-9	LLOYD RICHARD OLIVER, ET UX	61.6
	S6	05-17-10.2	GARY L YOHO	2.6
	S7	05-17-10.3	JAMES A & JILL C CORLEY	37.39
	S8	05-18-35	MARY ANDERSON	2.635
	S9	05-18-58	KEVIN W ROBERTS	2.435
	S11	05-18-49	TANNER M BUTLER	2.023
	S12	05-18-53.1	MICHAEL & WHITNEY NEFF	6.283
	S13	05-18-53	MICHAEL & WHITNEY NEFF	2.0
	S14	05-18-13.11	LINDA L MOORE	3.156
	S15	05-18-26	LINDA L MOORE	2.624
	S16	05-18-27	LINDA L MOORE	2.447
	S17	05-18-27.2	LINDA L MOORE	3.009
	S18	05-18-27.1	MICHAEL D MOORE	2.003
	S19	05-18-39	MICHAEL D MOORE	2.001
	S20	05-18-38	MICHAEL D MOORE	2.231
	S21	05-18-13.2	STEVEN G BERISFORD	6.023
	S22	05-18-28.1	GARY LITTON	5.696
	S23	05-18-28	CHAD ELMER HARRISON, CRYSTAL GALE HARRISON, & GARY LEE LITTON	6.36
	S24	05-18-55	WILLIAM E O'HARA	3.202
	S25	05-18-56	WILLIAM E O'HARA	3.965
	S27	05-18-22	JAMES M RUCKMAN, ET UX	54.605
	S28	05-16-23	THE MARSHALL COUNTY COAL RESOURCES	45.048
	S29	05-16-23.5	THE MARSHALL COUNTY COAL RESOURCES	15.09
	S30	05-16-23.4	MICHAEL R & BRENDA K BRYAN	3
	S31	05-16-23.1	RAY E MINOR, ET UX	2
	S32	05-15-8	XCL MIDSTREAM OPERATING, LLC	77.11
	S33	05-15-7	XCL MIDSTREAM OPERATING, LLC	4.5
	S34	05-16-1	FREDONIA CHRISTIAN CHURCH	0.50
	S35	05-16-2	FREDONIA CHRISTIAN CHURCH CEMETERY	0.19
	S36	05-16-3.1	DENNIS JACKSON, ET UX	0.27



P.S.  
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*David L Jackson*

02/03/2023



**TUG HILL  
OPERATING**

OPERATOR'S  
WELL #: Hendrickson N-9HU  
DISTRICT: Franklin  
COUNTY: Marshall  
STATE: WV  
API #: 47-051-

WELL PLAT  
PAGE 3 OF 4  
DATE: 12/07/2022



form 9966

**HENDRICKSON LEASE  
WELL N-9HU  
370.6670± ACRES**

02/23/2023

Lease ID	TMP	Tag	Grantor, Lessor, Etc.	Deed Book/Page	
10*14138	5-24-1	A	LINDA AND DONALD HENDRICKSON	666	528
10*14460	5-17-8	B	GERTRUD GODDARD, H G WELLS AIF, ET AL	735	515
10*14024	5-24-2	C	ROY FRIEND YOHO AND DARLENE J YOHO, ET AL	665	508
10*14114	5-17-6	D	ELI & FANNIE MAE WENGERD	671	323
10*14125	5-17-7	E	SHIBEN ESTATES INC ATTN J MARLN WITT	695	460
10*14125	5-17-4	F	SHIBEN ESTATES INC ATTN J MARLN WITT	695	460
10*14425	5-17-2	G	SHARON E POTTS, ET AL	731	143
10*14099	5-17-3	H	SOUTHERN COUNTRY FARMS INC	666	489
10*14099	5-17-3.1	I	SOUTHERN COUNTRY FARMS INC	666	489
10*14099	5-17-1.6	J	SOUTHERN COUNTRY FARMS INC	666	489
10*14099	5-17-1.5	K	SOUTHERN COUNTRY FARMS INC	666	489
10*17643	5-17-1.2	L	DONALD R SLAUGHTER AND LOLA SLAUGHTER	940	445
10*14099	5-17-15	M	SOUTHERN COUNTRY FARMS INC, ET AL	666	489
10*14099	5-16-15.1	N	SOUTHERN COUNTRY FARMS INC, ET AL	666	489
10*14099	5-17-16	O	SOUTHERN COUNTRY FARMS INC	666	489
10*14914	5-18-13	P	CHESTNUT HOLDINGS INC, ET AL	827	548
10*14914	5-18-13.9	Q	CHESTNUT HOLDINGS INC, ET AL	827	548
10*19338	5-16-21	R	JAMES M. RUCKMAN KIMBERLY L. RUCKMAN	741	72
10*18280	5-16-19	S	DEBRA L RICHEY AND JAMES F RICHEY SR, ET AL	929	108
10*21468	5-16-25	T	JOHN A SWIERKOS ZACHARY SWIERKOS POA	953	317
10*21468	5-16-6	U	JOHN A SWIERKOS ZACHARY SWIERKOS POA	953	317
10*21468	5-16-4	V	JOHN A SWIERKOS ZACHARY SWIERKOS POA	953	317
10*14919	5-16-5	W	CHESTNUT HOLDINGS INC	836	117
10*19340	5-16-3	X	DONNA V YOHO	665	407



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*David L Jackson*

02/03/2023



**TUG HILL  
OPERATING**

OPERATOR'S  
WELL #: Hendrickson N-9HU  
DISTRICT: Franklin  
COUNTY: Marshall  
STATE: WV  
API #: 47-051-

WELL PLAT  
PAGE 4 OF 4  
DATE: 12/07/2022

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

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

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

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
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\*See attached pages

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Office of Oil and Gas  
DEC 12 2022  
WV Department of  
Environmental Protection

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

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

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

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

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

Lease ID	TMP	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	led Book/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
10*14138	5-24-1	A	LINDA AND DONALD HENDRICKSON	TRIENERGY, INC.	1/8+	666 528	N/A	TriEnergy Inc to AB Resources LLC: 20/348	AB Resources LLC to Chief Exploration & Development LLC and Radler 2000 Limited Partnership: 21/491	Chief Expl & Development LLC and Radler 2000 Ltd Partnership to Enerplus Resources (USA) Corporation: 685/643	AB Resources, LLC, Chief Expl & Development, LLC and Radler 2000 to Gastar Exploration USA, Inc & Atinum Marcellus I LLC: 24/39	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	TH Exploration II, LLC to TH Exploration II, LLC: 40/552	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14460	5-17-8	B	GERTRUD GODDARD, H G WELLS AIF, ET AL	GASTAR EXPLORATION USA INC	1/8+	735 515	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 26/183	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-001	5-17-8	B	RONALD GODDARD	CHESAPEAKE APPALACHIA LLC	1/8+	690 611	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-002	5-17-8	B	FRANCIS R GODDARD	CHESAPEAKE APPALACHIA LLC	1/8+	689 175	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-003	5-17-8	B	WAYNE GODDARD	CHESAPEAKE APPALACHIA LLC	1/8+	690 610	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-004	5-17-8	B	MARTHA BAILEY	CHESAPEAKE APPALACHIA LLC	1/8+	695 366	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-005	5-17-8	B	PAULETTE F PARKER	CHESAPEAKE APPALACHIA LLC	1/8+	695 368	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-006	5-17-8	B	JUDY PROCK	CHESAPEAKE APPALACHIA LLC	1/8+	722 339	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67

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JAN 26 2023  
WV Department of Environmental Protection

Lease ID	TMP	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Led Book/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
1288082-007	5-17-8	B	BRUCE GODDARD, SR.	CHESAPEAKE APPALACHIA LLC	1/8+	732 489	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-008	5-17-8	B	RONALD W. GODDARD	CHESAPEAKE APPALACHIA LLC	1/8+	695 223	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-009	5-17-8	B	CLIFFORD GODDARD	CHESAPEAKE APPALACHIA LLC	1/8+	694 473	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-010	5-17-8	B	WANDA SUE SAYERS	CHESAPEAKE APPALACHIA LLC	1/8+	695 531	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-011	5-17-8	B	LINDA LEE COX	CHESAPEAKE APPALACHIA LLC	1/8+	696 613	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-012	5-17-8	B	KENNETH ALAN GODDARD	CHESAPEAKE APPALACHIA LLC	1/8+	696 611	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-013	5-17-8	B	HARRY C CRONE	CHESAPEAKE APPALACHIA LLC	1/8+	696 607	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67

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Lease ID	TMP	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	ed Book/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
1288082-014	5-17-8	B	JERRY J CRONE	CHESAPEAKE APPALACHIA LLC	1/8+	696 621	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gatar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gatar Exploration USA, Inc to Gatar Exploration Inc: 21/41	Gatar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-015	5-17-8	B	DONALD P CRONE	CHESAPEAKE APPALACHIA LLC	1/8+	698 216	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gatar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gatar Exploration USA, Inc to Gatar Exploration Inc: 21/41	Gatar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-016	5-17-8	B	RICHARD P CRONE	CHESAPEAKE APPALACHIA LLC	1/8+	696 596	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gatar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gatar Exploration USA, Inc to Gatar Exploration Inc: 21/41	Gatar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-017	5-17-8	B	BRIAN D CRONE	CHESAPEAKE APPALACHIA LLC	1/8+	696 609	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gatar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gatar Exploration USA, Inc to Gatar Exploration Inc: 21/41	Gatar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-018	5-17-8	B	PAUL D CRONE	CHESAPEAKE APPALACHIA LLC	1/8+	698 234	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gatar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gatar Exploration USA, Inc to Gatar Exploration Inc: 21/41	Gatar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-019	5-17-8	B	BOBBY D CRONE	CHESAPEAKE APPALACHIA LLC	1/8+	698 232	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gatar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gatar Exploration USA, Inc to Gatar Exploration Inc: 21/41	Gatar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1288082-020	5-17-8	B	KAREN L CAMPBELL	CHESAPEAKE APPALACHIA LLC	1/8+	698 609	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Stmt bet/ Gatar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gatar Exploration USA, Inc to Gatar Exploration Inc: 21/41	Gatar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67

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1288082-021	5-17-8	B	EDWARD F SOLTIS REVOCABLE TRUST	CHESAPEAKE APPALACHIA LLC	1/8+	700 325	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/338	Memo of Operating Agrmt & Fin Strmt bet/ Gstar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14024	5-24-2	C	ROY FRIEND YOHO AND DARLENE J YOHO	GASTAR EXPLORATION USA INC	1/8+	665 508	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 23/353	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14027	5-24-2	C	HILDA R CONNER RUNYAN	GASTAR EXPLORATION USA INC	1/8+	697 89	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 23/353	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14028	5-24-2	C	WILDA L CLARK	GASTAR EXPLORATION USA INC	1/8+	697 83	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 23/353	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14029	5-24-2	C	MARY MAXINE CLARKE	GASTAR EXPLORATION USA INC	1/8+	697 85	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 23/353	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14425	5-17-2	G	SHARON E POTTS, ET AL	GASTAR EXPLORATION USA INC	1/8+	731 143	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 735/263	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14426	5-17-2	G	LOIS BURNS	GASTAR EXPLORATION USA INC	1/8+	731 172	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 735/263	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14427	5-17-2	G	ROSE EDGE	GASTAR EXPLORATION USA INC	1/8+	731 130	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 735/263	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14428	5-17-2	G	THOMAS RAY GATTS	GASTAR EXPLORATION USA INC	1/8+	731 138	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 735/263	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14429	5-17-2	G	SHERLEY R STOWE	GASTAR EXPLORATION USA INC	1/8+	731 178	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 735/263	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14430	5-17-2	G	MARIANN VIRGINIA MUNN	GASTAR EXPLORATION USA INC	1/8+	731 134	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 735/263	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14431	5-17-2	G	PATRICIA A LAMBERT	GASTAR EXPLORATION USA INC	1/8+	731 168	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 735/263	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14432	5-17-2	G	AMYSUE G BAHL	GASTAR EXPLORATION USA INC	1/8+	731 136	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 735/263	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14433	5-17-2	G	SANDRA J HARMON AND WALTER D HARMON	GASTAR EXPLORATION USA INC	1/8+	731 176	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 735/263	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14434	5-17-2	G	THE PYETT TRUST	GASTAR EXPLORATION USA INC	1/8+	731 132	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 735/263	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14435	5-17-2	G	GARY LEVERNE YOHO	GASTAR EXPLORATION USA INC	1/8+	732 626	N/A	N/A	N/A	N/A	N/A	Gstar Exploration USA Inc to Atinum Appalachia I LLC: 26/183	Cert. of Merger Gstar Exploration USA, Inc to Gstar Exploration Inc: 21/41	Gstar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67

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10*14436	5-17-2	G	STANLEY EUGENE STOWE	GASTAR EXPLORATION USA INC	1/8+	732 633	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/183	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14437	5-17-2	G	RICHARD LEMOYNE YOHO	GASTAR EXPLORATION USA INC	1/8+	734 132	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/183	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14438	5-17-2	G	NINA K ALTHOFF AND RONALD D ALTHOFF	GASTAR EXPLORATION USA INC	1/8+	736 175	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/183	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14439	5-17-2	G	CAROLE J LAMBERT	GASTAR EXPLORATION USA INC	1/8+	737 227	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/183	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14440	5-17-2	G	DALE F RADCLIFF	GASTAR EXPLORATION USA INC	1/8+	734 460	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/183	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14441	5-17-2	G	CONNIE LEE KNAPP AKA CONNIE KRESS KNAPP	GASTAR EXPLORATION USA INC	1/8+	734 453	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/183	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14442	5-17-2	G	OLAN TERRELL COFFIELD TRUST	GASTAR EXPLORATION USA INC	1/8+	741 631	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/639	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14443	5-17-2	G	E LEMOYNE COFFIELD TRUST	GASTAR EXPLORATION USA INC	1/8+	741 635	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/639	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14444	5-17-2	G	THOMAS S YOHO	GASTAR EXPLORATION USA INC	1/8+	741 629	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/639	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14445	5-17-2	G	NOEL S YOHO	GASTAR EXPLORATION USA INC	1/8+	741 633	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/639	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14446	5-17-2	G	JENNIFER ANN YOHO	GASTAR EXPLORATION USA INC	1/8+	741 641	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/639	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14447	5-17-2	G	JANE ELLEN MARCUM	GASTAR EXPLORATION USA INC	1/8+	741 637	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/639	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14448	5-17-2	G	JODI LYNN PAULEY	GASTAR EXPLORATION USA INC	1/8+	741 639	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/639	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14449	5-17-2	G	CHRISTA JO DAVIES	GASTAR EXPLORATION USA INC	1/8+	743 76	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/639	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14450	5-17-2	G	MARY ANN STURGILL	GASTAR EXPLORATION USA INC	1/8+	748 319	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 26/639	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*39503	5-17-2	G	UNKNOWN HEIRS OF EVA LONTAAN PATTERSON	TH EXPLORATION LLC	1/8+	1124 568	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1-256200-001	5-17-2	G	CONRAD A AND PHYLLIS J FLOUHOUSE	CHESAPEAKE APPALACHIA LLC	1/8+	678 581	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 26/183	Memo of Operating Agrmt & Fin Stmt bet/ Gastar Exploration USA Inc, Atinum Marcellus I, LLC, Chesapeake Appalachia, LLC & Statoil USA Onshore Prop Inc: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II, LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67

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10*14099	5-17-3	H	SOUTHERN COUNTRY FARMS INC	GASTAR EXPLORATION USA INC	1/8+	666	489	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 23/353	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14099	5-17-3.1	I	SOUTHERN COUNTRY FARMS INC	GASTAR EXPLORATION USA INC	1/8+	666	489	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 23/353	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14099	5-17-1.6	J	SOUTHERN COUNTRY FARMS INC	GASTAR EXPLORATION USA INC	1/8+	666	489	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 23/353	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14099	5-16-15.1	N	SOUTHERN COUNTRY FARMS INC, ET AL	GASTAR EXPLORATION USA INC	1/8+	666	489	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 23/353	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*14914	5-16-15.1	N	CHESTNUT HOLDINGS INC	GASTAR EXPLORATION USA INC	1/8+	827	548	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration Inc to Atinum Appalachia I LLC: 32/428	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*17812	5-16-15.1	N	POTOMAC MINERAL GROUP LLC	TH EXPLORATION LLC	1/8+	940	437	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*17826	5-16-15.1	N	ALLDALE MINERALS II LP	TH EXPLORATION LLC	1/8+	940	439	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21460	5-16-15.1	N	MAGGY D ASTON AND ROBERT H RICHARDS	TH EXPLORATION LLC	1/8+	954	125	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21463	5-16-15.1	N	MOLLY D ASTON & HOWARD PRIOR	TH EXPLORATION LLC	1/8+	954	131	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*14099	5-17-16	O	SOUTHERN COUNTRY FARMS INC	GASTAR EXPLORATION USA INC	1/8+	666	489	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Appalachia I LLC: 23/353	Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*18280	5-16-19	S	DEBRA L RICHEY AND JAMES F RICHEY SR, ET AL	TH EXPLORATION LLC	1/8+	929	108	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19129	5-16-19	S	VERLA FLORENCE SHUTLER	CHEVRON USA INC	1/8+	761	366	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19130	5-16-19	S	FRANCES O HALL	CHEVRON USA INC	1/8+	763	641	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19152	5-16-19	S	BETTY J PARRIOTT	CHEVRON USA INC	1/8+	772	192	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19211	5-16-19	S	PATRICIA F PARRIOTT	CHEVRON USA INC	1/8+	784	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*21017	5-16-19	S	CATHERINE R KLUG PAUL FOX - POWER OF ATTORNEY	TH EXPLORATION LLC	1/8+	938	299	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21917	5-16-19	S	ROBERT W RAHM AND BETHANY A RAHM	FOSSIL CREEK OHIO, LLC	1/8+	827	142	N/A	N/A	N/A	N/A	N/A	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/105	Fossil Creek Ohio LLC to Gulfport Energy Corporation: Correction Assignment 34/398	Gulfport Energy Corp. & Fossil Creek Ohio LLC to American Petroleum Partners Operating LLC: 36/588	American Petroleum Partners Operating LLC to TH Exploration LLC: 41/224
10*22533	5-16-19	S	HARRY LEROY AND NANCY S PARRIOTT	NOBLE ENERGY INC	1/8+	829	153	N/A	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 33/574	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 38/297	HG Energy II Appalachia LLC to TH Exploration LLC: 41/388
10*22534	5-16-19	S	DEBORAH D MERCER AND CALVIN P MERCER	NOBLE ENERGY INC	1/8+	828	639	N/A	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 33/574	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 38/297	HG Energy II Appalachia LLC to TH Exploration LLC: 41/388
10*22535	5-16-19	S	TRUDY B SAMPSON AND DANNY SAMPSON	NOBLE ENERGY INC	1/8+	828	637	N/A	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 33/574	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 38/297	HG Energy II Appalachia LLC to TH Exploration LLC: 41/388
10*22536	5-16-19	S	TIMOTHY SCOTT AND AMY C LEMASTERS	NOBLE ENERGY INC	1/8+	829	630	N/A	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 33/574	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 38/297	HG Energy II Appalachia LLC to TH Exploration LLC: 41/388
10*22537	5-16-19	S	BRIAN EDWIN LEMASTERS AND BEVERLY J LEMASTERS	NOBLE ENERGY INC	1/8+	831	44	N/A	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 33/574	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 38/297	HG Energy II Appalachia LLC to TH Exploration LLC: 41/388



Lease ID	TMP	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Led Book/Page		Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*22538	5-16-19	S	RANDY K PARRIOTT	NOBLE ENERGY INC	1/8+	836	455	N/A	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 33/574	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 98/297	HG Energy II Appalachia LLC to TH Exploration LLC: 91/398
10*25566	5-16-19	S	H3 LLC MICHAEL E HOEFT MANAGING MEMBER	TH EXPLORATION LLC	1/8+	1034	628	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21468	5-16-25	T	JOHN A SWIERKOS ZACHARY SWIERKOS POA	TH EXPLORATION LLC	1/8+	953	317	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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 WV Department of  
 Environmental Protection

TH EXPLORATION LLC  
NORTH ROCK  
1320 S UNIVERSITY  
SUITE 500  
FORT WORTH TX 76107

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02/23/2023

BOOK 0048 PAGE 0067

Execution Version

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Environmental Protection

STATE OF WEST VIRGINIA     §  
   §  
COUNTY OF MARSHALL       §

**ASSIGNMENT, BILL OF SALE AND CONVEYANCE**

THIS ASSIGNMENT, BILL OF SALE AND CONVEYANCE (this "*Assignment*"), dated effective as of 7:00 A.M., local time, where the respective Assets are located, on July 1, 2020 (the "*Effective Time*"), is between Atinum Marcellus I, LLC, a Delaware limited liability company ("*Assignor*"), whose mailing address is One Riverway, Suite 710, Houston, TX 77056-1988, and TH Exploration II, LLC, a Texas limited liability company, whose mailing address is 1320 S. University Drive, Suite 500, Fort Worth, Texas 76107 ("*Assignee*"). Assignor and Assignee are each, individually, referred to herein as a "*Party*" and, collectively, as the "*Parties*."

Capitalized terms used but not defined herein shall have the respective meanings set forth in that certain Asset Purchase Agreement dated as of November 13, 2020, by and among Assignor and Assignee (the "*Purchase Agreement*").

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

For Ten Dollars (\$10.00) and other good and valuable consideration (the receipt and sufficiency of which are hereby acknowledged), Assignor does hereby forever GRANT, BARGAIN, SELL, CONVEY, ASSIGN, TRANSFER, SET OVER AND DELIVER unto Assignee, and Assignee does hereby acquire, the undivided interests in the Leases (as defined below) set forth on Exhibit A-1, and all other of Assignor's right, title and interest in and to the interests and properties described in subsections (a) through (k) of this Section 1 (without duplication) (such right, title and interest, less and except the Excluded Assets, collectively, the "*Assets*"):

(a) The oil and gas leases, mineral leases and Royalties located in the Covered Counties (which Covered Counties include, for the avoidance of doubt, the county in which this Assignment is filed of record), including those described on Exhibit A-1 together with any and all other right, title and interest in and to the leasehold estates created thereby, subject to the terms, conditions, covenants and obligations set forth in such leases or other instrument creating such rights or interests or on Exhibit A-1 (such leases, Royalties, and mineral interests, collectively, the "*Leases*"), together with any related interest in the lands covered by the Leases or lands unitized, pooled, communitized or consolidated therewith (the "*Lands*");

(b) All of the oil and/or gas wells identified on Exhibit A-2 hereto (the "*Wells*"), and any other oil, gas, or other wells located on any of the Leases or the Lands, in each case, whether producing, non-producing, shut-in, temporarily or permanently abandoned or otherwise;

(c) All rights, titles and interests arising under any unitization, pooling and/or communitization agreements, declarations or designations for drilling, spacing and/or production units related to any of the Leases, Wells or Lands, including the units described on Exhibit A-4;

02/03/2023

MICHAEL MORAN  
BRIGHTON RESOURCES  
5951 ELLSWORTH AVENUE, #1  
PITTSBURGH PA 15232-1707

02/23/2023  
BOOK 0040 PAGE 0127  
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STATE OF WEST VIRGINIA §  
COUNTY OF MARSHALL §

Marshall County  
Jan Pest, Clerk  
Instrument 1428356  
08/16/2017 @ 12:08:49 PM  
ASSIGNMENTS  
Book 40 @ Page 127  
Pages Recorded 25  
Recording Cost \$ 33.00

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "Assignment") is made and entered into this 1 day of August, 2017 (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 the 1st day of August, 2017 (the "Acreage Trade Agreement"). Capitalized terms used but not defined herein and defined in the Acreage Trade Agreement shall have the meanings given to such terms in the Acreage Trade Agreement.

WITNESSETH:

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

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, except that Assignor excepts and reserves from this Assignment the following:

A. 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, and

B. As to each of the Leases and all oil, gas, and associated hydrocarbons produced, saved and sold thereunder, an overriding royalty interest equal to the difference between 82% and the

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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 29<sup>th</sup> day of March, 2018 (the "Effective Date"), by and between HG ENERGY II APPALACHIA, LLC, (hereinafter "Assignor") and TH EXPLORATION, LLC (hereinafter "Assignee") pursuant to the terms of that certain Exchange Agreement between the Assignor and the Assignee dated November 1<sup>st</sup>, 2017 (the "Exchange Agreement"). Capitalized terms used but not defined herein and defined in the Exchange Agreement shall have the meanings given to such terms in the Exchange Agreement.

WITNESSETH:

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

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

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

1. Assignment. Assignor does hereby grant, bargain, sell, convey, deliver, assign, set over and transfer, as of the Effective Date, to Assignee, its respective successors and assigns, forever, all of Assignor's right, title and interest in and to the Leases, and the lands covered thereby, together with all rights incident thereto and appurtenances thereon.

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

2. Special Warranty. Assignor represents and warrants that Assignor has not conveyed or otherwise encumbered (other than Permitted Encumbrances) its interest in the Leases since the time that Assignor obtained its interests in the Leases. Assignor does

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STATE OF WEST VIRGINIA §  
§  
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Marshall County  
Jan Fest. Clerk  
Instrument 1436500  
02/14/2018 @ 01:32:11 PM  
ASSIGNMENTS  
Book 41 @ Page 224  
Pages Recorded 7  
Recording Cost \$ 13.00

ASSIGNMENT AND CONVEYANCE

**THIS ASSIGNMENT AND CONVEYANCE** (the "**Assignment**") is made and entered into this 5<sup>th</sup> day of February, 2018, and made effective December 12, 2017 (the "**Effective Date**"), by and between AMERICAN PETROLEUM PARTNERS OPERATING, LLC, (hereinafter "**Assignor**") and TH EXPLORATION, LLC (hereinafter "**Assignee**") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated December 12, 2017 (the "**Acreage Trade Agreement**"). Capitalized terms used but not defined herein and defined in the Acreage Trade Agreement shall have the meanings given to such terms in the Acreage Trade Agreement.

WITNESSETH:

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

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

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

1. **Assignment.** Assignor does hereby grant, bargain, sell, convey, deliver, assign, set over and transfer, as of the Effective Date, to Assignee, its respective successors and assigns, forever, all of Assignor's right, title and interest in and to the Leases, and the lands covered thereby, together with all rights incident thereto and appurtenances thereon.

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

2. **Special Warranty.** Assignor represents and warrants that Assignor has not conveyed or otherwise encumbered (other than Permitted Encumbrances) its interest in the

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TUG HILL

4705102481 02/23/2023

December 8, 2022

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

RE: Hendrickson N-9HU

Subject: Proposed Voluntary Pooling and Unitization

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Environmental Protection

Dear Susan:

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

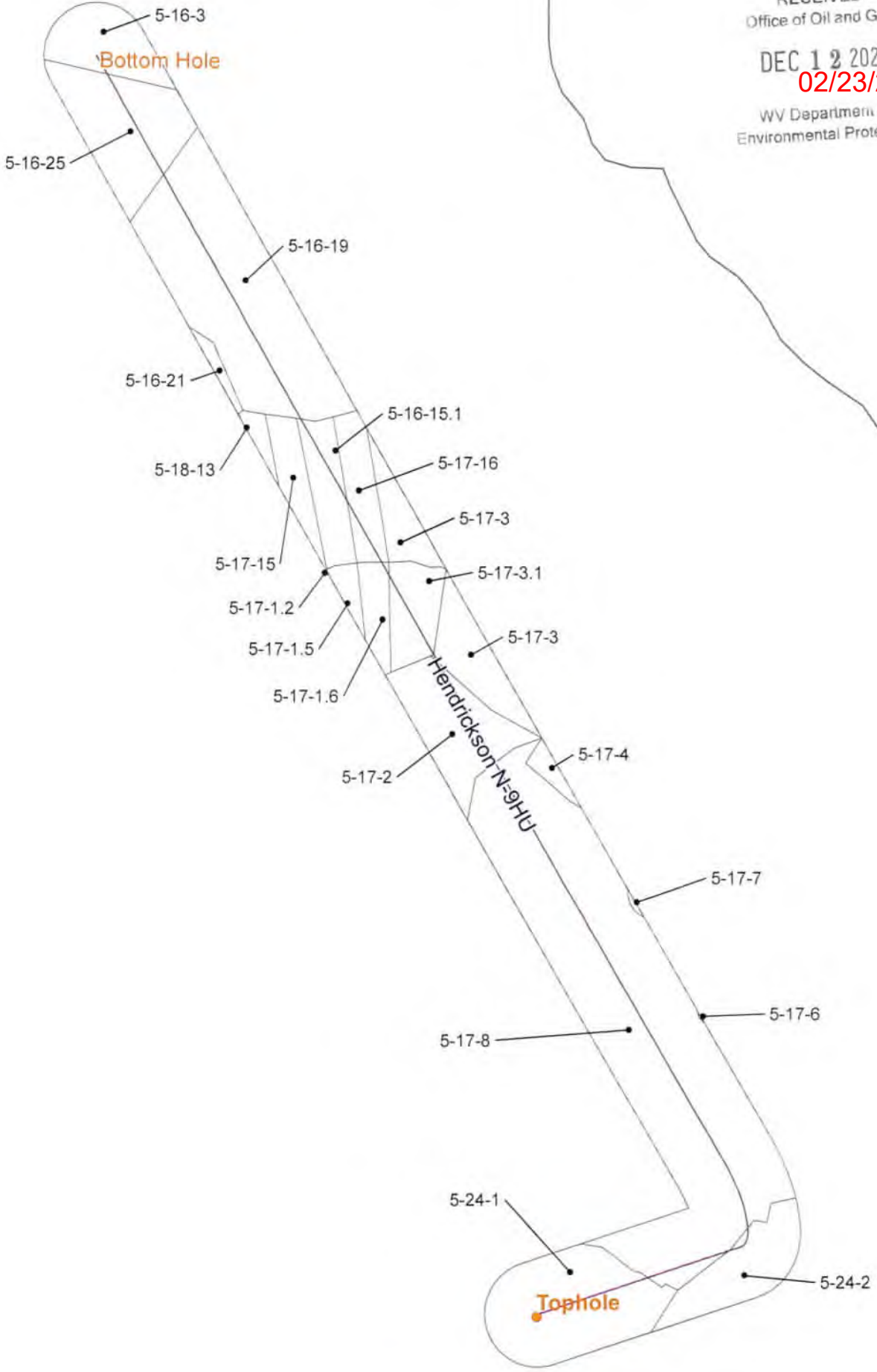
If your office has any questions or concerns regarding the contents of this letter, please do not hesitate to contact me directly at 724-749-8388, or by email at [amorris@tug-hillop.com](mailto:amorris@tug-hillop.com).

Sincerely,

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

Hendrickson N-9HU

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**CONFIDENTIAL**

0 16,000 32,000 64,000 Feet

**TUG HILL OPERATING**

- Utica Well
- ▨ Force Pool
- 500' Buffer

Hendrickson N-9HU  
Operators within 500 Feet of Well Borehole



02/03/2023

**Offset Operators within 500'  
Hendrickson N - 9HU**

COUNTY	DISTRICT	TMP	OWNER	ADDRESS
Marshall	Franklin	5-16-3	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107 02/23/2023
Marshall	Franklin	5-16-3	TH EXPLORATION, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-16-15.1	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-16-15.1	TH EXPLORATION, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-16-19	TH EXPLORATION, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-16-21	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-16-21	TH EXPLORATION, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-16-25	TH EXPLORATION, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-17-1.2	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-17-1.2	TH EXPLORATION, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-17-1.5	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-17-1.6	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-17-2	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-17-2	SOUTHWESTERN ENERGY COMPANY	10000 Energy Drive Spring, TX 77389
Marshall	Franklin	5-17-2	EQUINOR USA ONSHORE PROPERTIES INC	2107 Citywest Blvd. Suite 100 Houston, TX 77042
Marshall	Franklin	5-17-3	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-17-3.1	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-17-4	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107 02/09/2023
Marshall	Franklin	5-17-6	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107



COUNTY	DISTRICT	TMP	OWNER	ADDRESS
Marshall	Franklin	5-17-7	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-17-8	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-17-8	SOUTHWESTERN ENERGY COMPANY	10000 Energy Drive Spring, TX 77389
Marshall	Franklin	5-17-8	EQUINOR USA ONSHORE PROPERTIES INC	2107 Citywest Blvd. Suite 100 Houston, TX 77042
Marshall	Franklin	5-17-15	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-17-15	TH EXPLORATION, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-17-16	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-18-13	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-18-13	TH EXPLORATION, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-24-1	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-24-2	TH EXPLORATION II, LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107

02/23/2023

02/03/2023

CERTIFICATE OF CONSENT AND EASEMENT

I, the undersigned, for valuable consideration, the receipt and sufficiency of which is hereby acknowledged, being all the owners of the surface of that certain lot, tract or parcel of land located in Franklin District, Marshall 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 28 day of Dec., 2018.

Linda L. Hendrickson  
Linda L. Hendrickson

Donald R. Hendrickson  
Donald R. Hendrickson

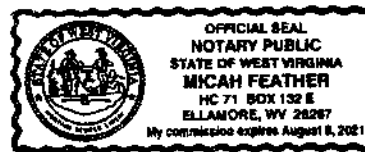
ACKNOWLEDGMENT

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

On this the 28 day of December 2018, before me, a notary public, the undersigned authority, personally appeared Linda L. Hendrickson, 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: August 8, 2021  
Signature/Notary Public: [Signature]  
Name/Notary Public (print): Micah Feather



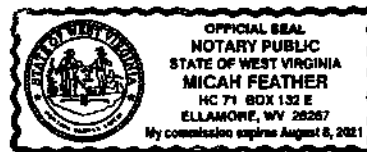
ACKNOWLEDGMENT

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

On this the 28 day of December 2018, before me, a notary public, the undersigned authority, personally appeared Donald R. Hendrickson, 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: August 8, 2021  
Signature/Notary Public: [Signature]  
Name/Notary Public (print): Micah Feather

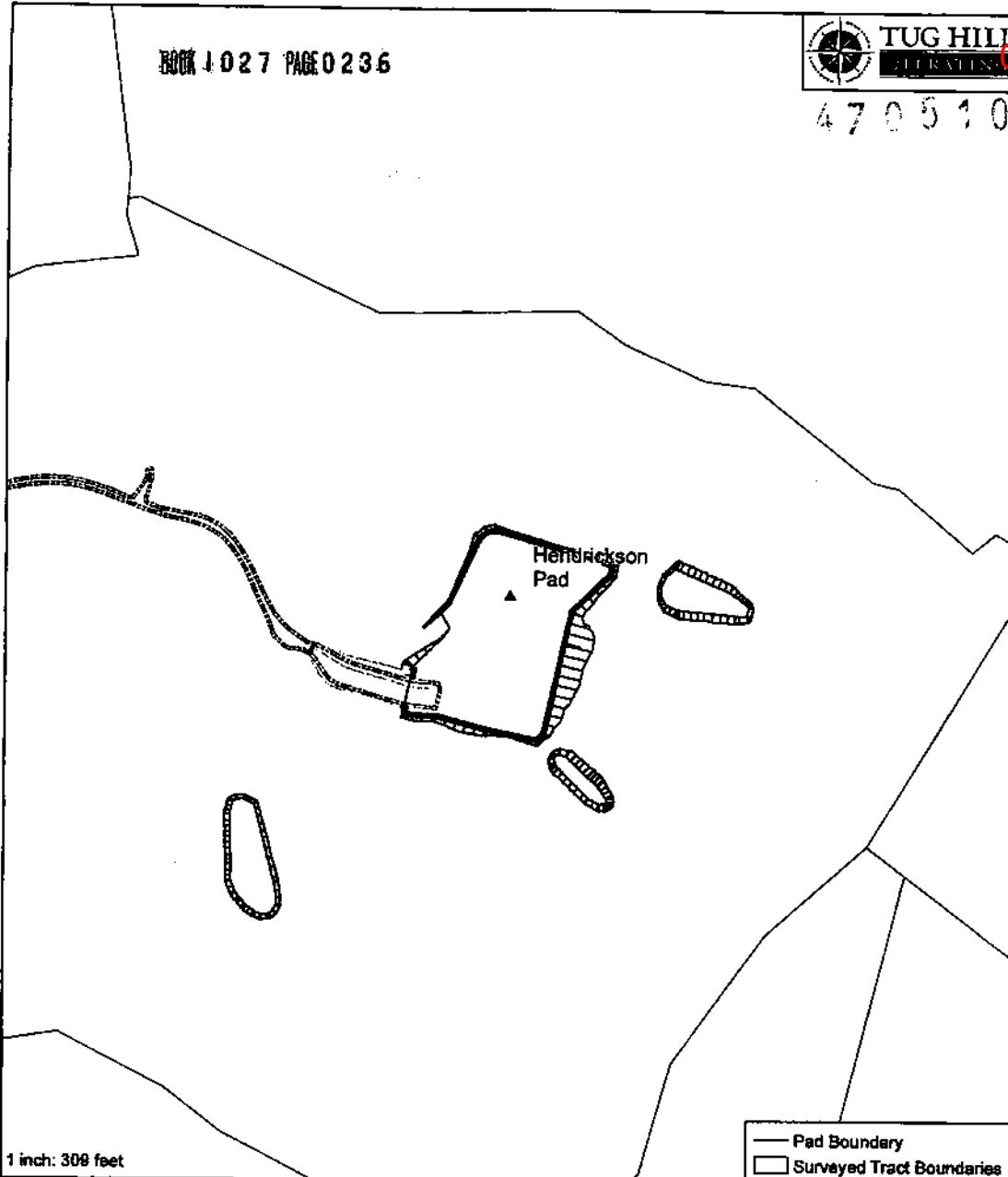


This instrument prepared by:  
WV Oil and Gas Conservation Commission  
601 57<sup>th</sup> Street  
Charleston, WV 25304



02/23/2023

4705102481



1 inch: 308 feet

— Pad Boundary  
 □ Surveyed Tract Boundaries

0 90 180 280  
 Feet

N

THIS SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE SURVEYING ACT OF 1968 AND THE SURVEYING REGULATIONS OF THE WEST VIRGINIA BOARD OF SURVEYING AND MAPPING. THE SURVEY WAS CONDUCTED USING A TOTAL STATION AND A GPS RECEIVER. THE SURVEY WAS CONTROLLED BY THE NATIONAL TRIPLET SYSTEM (NAD 83) DATUM. THE SURVEY WAS CONDUCTED ON 12/28/2018. THE SURVEY WAS CONDUCTED BY TUG HILL SURVEYING, INC. THE SURVEY WAS CONDUCTED IN MARSHALL COUNTY, WEST VIRGINIA. THE SURVEY WAS CONDUCTED FOR THE PURPOSE OF SURVEYING A PAD AND TRACTS. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE SURVEYING ACT OF 1968 AND THE SURVEYING REGULATIONS OF THE WEST VIRGINIA BOARD OF SURVEYING AND MAPPING. THE SURVEY WAS CONDUCTED USING A TOTAL STATION AND A GPS RECEIVER. THE SURVEY WAS CONTROLLED BY THE NATIONAL TRIPLET SYSTEM (NAD 83) DATUM. THE SURVEY WAS CONDUCTED ON 12/28/2018. THE SURVEY WAS CONDUCTED BY TUG HILL SURVEYING, INC. THE SURVEY WAS CONDUCTED FOR THE PURPOSE OF SURVEYING A PAD AND TRACTS.

"Plat"  
 Hendrickson  
 Marshall County, WV

Date: December 28, 2018  
 Name: Donald R. Hendrickson  
 Name: Jonda Hendrickson



Case: 1321-2018  
 PCS: AND 1 863 UTM Zone 17N Feet US

Marshall County  
 Jan Pest, Clerk  
 Instrument 1449438  
 01/04/2019 @ 03:31:23 PM  
 RIGHT OF WAY W/O CONSIDERATION  
 Book 1027 @ Page 236  
 Pages Recorded 2  
 Recording Cost \$ 11.00

STATE OF WEST VIRGINIA, MARSHALL COUNTY, SCT.:

I, JAN PEST, Clerk of the County Commission of said County, do hereby certify that the annexed writing, bearing date on the 28<sup>th</sup> day of December, 2018, was presented for and by me, admitted to record in my office upon the above certificate as to the parties therein named this 4<sup>th</sup> day of January, 2019 at 3:31 o'clock P. M.

TESTE: Jan Pest Clerk

02/03/2023



TUG HILL

4705102481 02/23/2023

December 8, 2022

WV Department of Environmental Protection  
Office of Oil & Gas  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304  
Attention: Charles T. Brewer

RE: Hendrickson N-9HU

Subject: Road Crossing Letter

RECEIVED  
Office of Oil and Gas

DEC 12 2022

WV Department of  
Environmental Protection

Dear Taylor:

Tug Hill Operating, LLC will not be drilling, extracting or producing any minerals under any WV County or State Routes in the area reflected on the Hendrickson N-9HU well plat.

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

Sincerely,

Amy L. Morris  
Permitting Specialist – Appalachia Region

DEC 12 2022

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

WV Department of  
Environmental Protection

Date of Notice Certification: 12/08/2022

API No. 47- 051  
Operator's Well No. Hendrickson N-9HU  
Well Pad Name: Hendrickson

**Notice has been given:**

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>521,594.33</u>
County:	<u>Marshall</u>		Northing:	<u>4,399,468.08</u>
District:	<u>Franklin</u>	Public Road Access:		<u>CR 76</u>
Quadrangle:	<u>Wileyville 7.5</u>	Generally used farm name:		<u>Linda L. Hendrickson</u>
Watershed:	<u>HUC 10 - Middle Fish Creek</u>			

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:	
*PLEASE CHECK ALL THAT APPLY	
<input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	<input type="checkbox"/> RECEIVED/ NOT REQUIRED
<input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED	<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)	<input checked="" type="checkbox"/> RECEIVED/ NOT REQUIRED
<input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION	<input checked="" type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 5. PUBLIC NOTICE	<input checked="" type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION	<input checked="" type="checkbox"/> RECEIVED

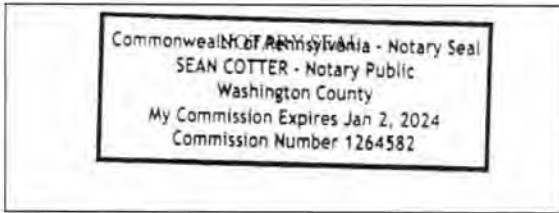
**Required Attachments:**

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

**Certification of Notice is hereby given:**

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

Well Operator:	<u>Tug Hill Operating, LLC</u>	Address:	<u>380 Southpointe Boulevard, Plaza II, Suite 200</u>
By:	<u>Amy L. Morris <i>Amy L. Morris</i></u>		<u>Canonsburg, PA 15317</u>
Its:	<u>Permitting Specialist - Appalachia</u>	Facsimile:	<u></u>
Telephone:	<u>304-376-0111</u>	Email:	<u>amorris@tug-hillop.com</u>



Subscribed and sworn before me this 8 day of December.

*[Signature]* Notary Public

My Commission Expires 1/2/2024

**Oil and Gas Privacy Notice:**

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

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Office of Oil and Gas

DEC 12 2022

WV Department of  
Environmental Protection

WW-6A  
(9-13)

API NO. 47-051-02232023 1  
OPERATOR WELL NO. Hendrickson N-9HU  
Well Pad Name: Hendrickson

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.

RECEIVED  
Office of Oil and Gas

Date of Notice: 12/7/2022 Date Permit Application Filed: 12/8/2022

DEC 12 2022

Notice of:

- PERMIT FOR ANY WELL WORK       CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

WV Department of Environmental Protection

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: Linda L. Pickering Hendrickson & Donald Ray Hendrickson  
Address: 10 Susquehanna Road (Access Road and Well Pad)  
Wellsburg, WV 26070

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

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

Name: Terry E. Simms & Deborah L. Simms  
Address: 7175 Rines Ridge Road  
Proctor, WV 26055

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Impoundments or Pits)

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

COAL OWNER OR LESSEE

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

COAL OPERATOR  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

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

Name: none within 2000'  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

\*Please attach additional forms if necessary

02/03/2023

WW-6A  
(8-13)

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Office of Oil and Gas

DEC 1 2 2022

API NO. 47- 051

6705102481  
02/23/2023

OPERATOR WELL NO. Hendrickson N-9HU

Well Pad Name: Hendrickson

WV Department of  
Environmental Protection

**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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://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

02/03/2023



WW-6A  
(8-13)

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API NO. 47-051 02/23/2023  
OPERATOR WELL NO. Hendrickson N-9HU  
Well Pad Name: Hendrickson

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 57<sup>th</sup> 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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Office of Oil and Gas

DEC 12 2022

WV Department of  
Environmental Protection

02/03/2023

**Time Limits and Methods for Filing Comments.**

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

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

**Comment Requirements**

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

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

**Permit Denial or Condition**

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

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

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Office of the Chief State Engineer  
DEC 12 2022  
WV Department of  
Environmental Protection

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)

4705102481  
API NO. 47-051 - 02/23/2023  
OPERATOR WELL NO. Hendrickson N-9HU  
Well Pad Name: Hendrickson

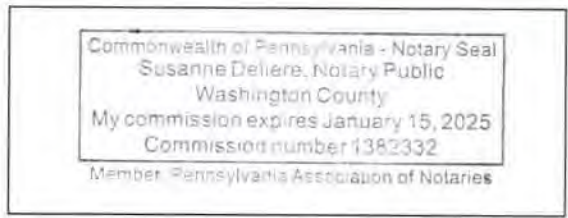
**Notice is hereby given by:**

Well Operator: Tug Hill Operating, LLC  
Telephone: 724-749-8388  
Email: amorris@tug-hilltop.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](mailto:depprivacyofficer@wv.gov).



Subscribed and sworn before me this 7<sup>th</sup> day of December, 2022  
Susanne Deliere Notary Public  
My Commission Expires 1/15/2025

DE  
WV Dep  
Environmental Protection

02/03/2023

4705102481

RECEIVED  
Office of Oil and Gas 02/23/2023

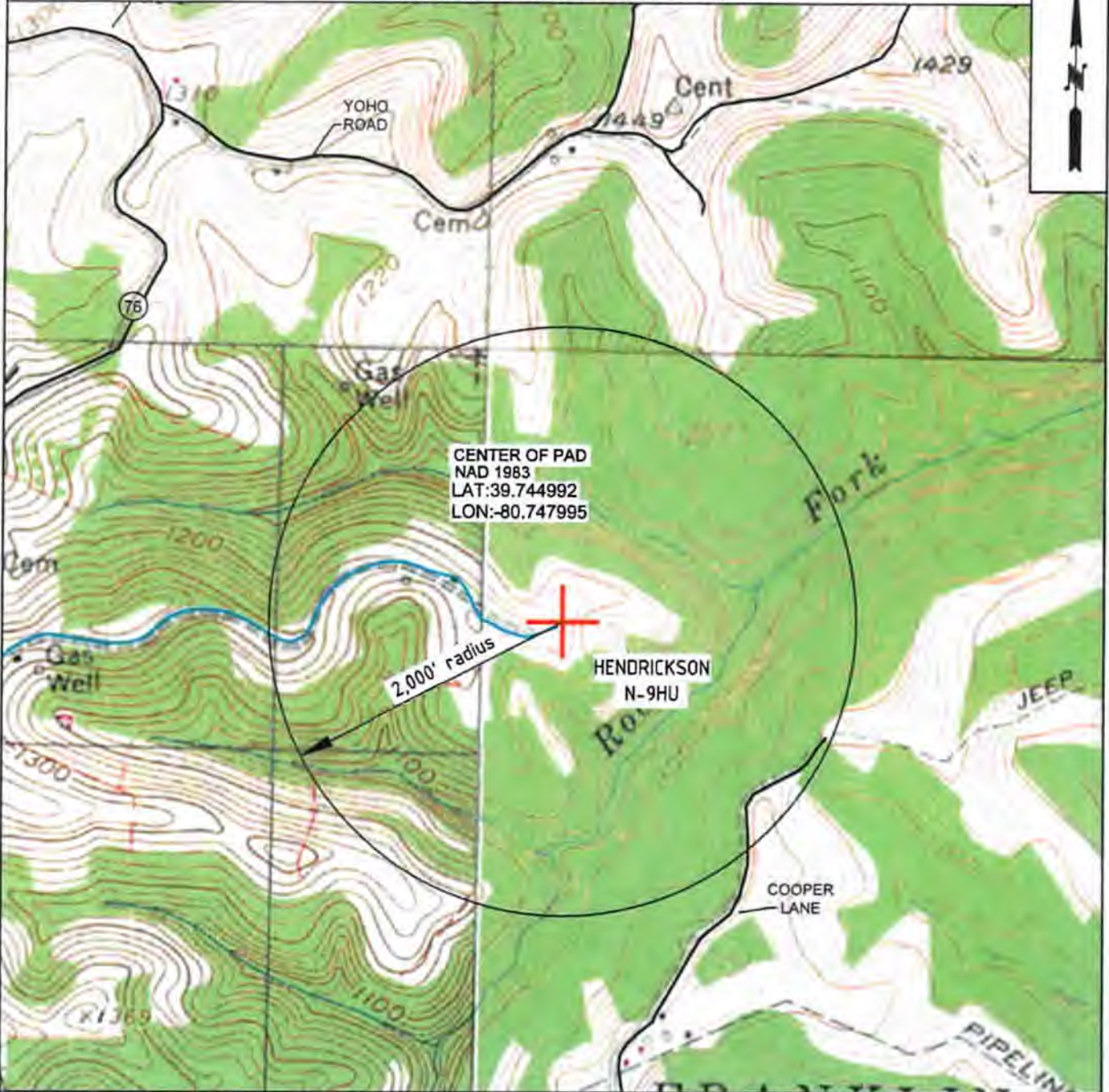
DEC 12 2022


WW-6A

# PROPOSED HENDRICKSON N-9HU

WV Department of Environmental Protection  
**SUPPLEMENT PG 1**

THERE APPEAR TO BE NO (0) RESIDENCES, BUSINESSES, CHURCHES, SCHOOLS,  
OR EMERGENCY FACILITIES WITHIN 2,000'.



 <b>TUG HILL OPERATING</b>	OPERATOR	494510851	TOPO SECTION	LEASE NAME
	TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317		WILEYVILLE 7.5'	HENDRICKSON
			SCALE:	DATE:
			1" = 1000'	DATE: 11-30-2022

02/03/2023



4705102401

**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:** 10/12/2022 **Date Permit Application Filed:** 11/01/2022

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Office of Oil and Gas

DEC 12 2022

WV Department of  
Environmental Protection

**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: Linda L. Pickering Hendrickson & Donald Ray Hendrickson  
Address: 10 Susquehanna Road (Access Road and Well Pad)  
Wellsburg, WV 26070

Name: Terry E. Simms & Deborah L. Simms (Access Road)  
Address: 7175 Rinas Ridge Road  
Proctor, WV 26055

**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>521,594.33</u>
County:	<u>Marshall</u>		Northing:	<u>4,399,468.08</u>
District:	<u>Franklin</u>	Public Road Access:	<u>Co. Rt. 76</u>	
Quadrangle:	<u>Wileyville 7.5'</u>	Generally used farm name:	<u>Linda L. Hendrickson</u>	
Watershed:	<u>Rocky Fork of Fish Creek</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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://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-hill.com  
Facsimile: \_\_\_\_\_

Authorized Representative: Daren Brown  
Address: 5098 Washington Street W, Suite 407  
Charleston, WV 25313-1561  
Telephone: 877-467-3525  
Email: ct-statecommunications@walterskluer.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](mailto:depprivacyofficer@wv.gov).

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

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

**Date of Notice:** 12/07/2022 **Date Permit Application Filed:** 12/08/2022

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

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  HAND  
DELIVERY

WV Department of  
Environmental Protection

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

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

(at the address listed in the records of the sheriff at the time of notice):

Name: Linda L. Pickering Hendrickson & Donald Ray Hendrickson  
Address: 10 Susquehanna Road (Access Road and Well Pad)  
Wellsburg, WV 26070

Name: Terry E. Simms & Deborah L. Simms (Access Road)  
Address: 7175 Rines Ridge Road  
Proctor, WV 26055

**Notice is hereby given:**

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

State:	West Virginia	UTM NAD 83	Easting:	521,594.33
County:	Marshall		Northing:	4,399,488.08
District:	Franklin	Public Road Access:	Co. Rte. 76	
Quadrangle:	Wileyville 7.5'	Generally used farm name:	Linda L. Hendrickson	
Watershed:	HUC-10 Middle Fish Creek			

**This Notice Shall Include:**

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

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

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

**Oil and Gas Privacy Notice:**

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



4705102481 02/23/2023

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
**Division of Highways**

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

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

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

December 8, 2022

James A. Martin, Chief  
Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

Subject: DOH Permit for the Hendrickson Pad, Marshall County  
Hendrickson N-9HU Well Site

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Office of Oil and Gas  
DEC 12 2022  
WV Department of  
Environmental Protection

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2011-0175 which has been issued to Tug Hill Operating for access to the State Road for a well site located off Marshall County Route 76 SLS MP 0.93.

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

Very Truly Yours,

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

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

02/03/2023





# TUG HILL

## PLANNED ADDITIVES TO BE USED IN FRACTURING OR STIMULATION

Hendrickson 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

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DEC 12 2022

WV Department of  
Environmental Protection

OPERATOR: Tug Hill Operating, LLC WELL NO: Hendrickson N-9HU

PAD NAME: Hendrickson

REVIEWED BY: Amy L. Morris SIGNATURE: *Amy L. Morris*

### WELL RESTRICTIONS CHECKLIST

#### HORIZONTAL 6A WELL

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WV Department of  
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#### Well Restrictions

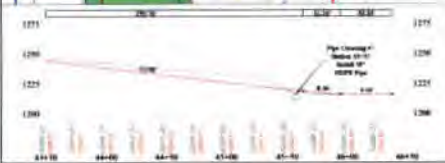
- At Least 100 Feet from Pad and LOD (including any E&S Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland; OR
  - DEP Waiver and Permit Conditions
- At Least 300 Feet from Pad and LOD (including any E&S Control Feature) to any Naturally Producing Trout Stream; OR
  - DEP Waiver 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



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



**APPROVED**  
**WVDEP OOG**  
*[Signature]*  
**10/8/2020**



Well Name	Well Depth	Well Length	Type
W-1	26.1	107.0	Open Access Well
W-2	21.1	107.0	Open Access Well

Well Name	Well Depth	Well Length	Type
W-3	21.1	107.0	Open Access Well
W-4	21.1	107.0	Open Access Well
W-5	21.1	107.0	Open Access Well
W-6	21.1	107.0	Open Access Well
W-7	21.1	107.0	Open Access Well
W-8	21.1	107.0	Open Access Well
W-9	21.1	107.0	Open Access Well
W-10	21.1	107.0	Open Access Well

Symbol	Description
[Red dashed line]	Original Ground 2' Contour
[Blue dashed line]	Original Ground 5' Contour
[Black dashed line]	Original Ground 10' Contour
[Red solid line]	Original Ground 20' Contour
[Blue solid line]	Original Ground 30' Contour
[Black solid line]	Original Ground 40' Contour
[Green solid line]	Original Ground 50' Contour
[Brown solid line]	Original Ground 60' Contour
[Purple solid line]	Original Ground 70' Contour
[Pink solid line]	Original Ground 80' Contour
[Light blue solid line]	Original Ground 90' Contour
[Light green solid line]	Original Ground 100' Contour
[Light purple solid line]	Original Ground 110' Contour
[Light pink solid line]	Original Ground 120' Contour
[Light blue solid line]	Original Ground 130' Contour
[Light green solid line]	Original Ground 140' Contour
[Light purple solid line]	Original Ground 150' Contour
[Light pink solid line]	Original Ground 160' Contour
[Light blue solid line]	Original Ground 170' Contour
[Light green solid line]	Original Ground 180' Contour
[Light purple solid line]	Original Ground 190' Contour
[Light pink solid line]	Original Ground 200' Contour
[Light blue solid line]	Original Ground 210' Contour
[Light green solid line]	Original Ground 220' Contour
[Light purple solid line]	Original Ground 230' Contour
[Light pink solid line]	Original Ground 240' Contour
[Light blue solid line]	Original Ground 250' Contour
[Light green solid line]	Original Ground 260' Contour
[Light purple solid line]	Original Ground 270' Contour
[Light pink solid line]	Original Ground 280' Contour
[Light blue solid line]	Original Ground 290' Contour
[Light green solid line]	Original Ground 300' Contour



**TUG HILL**  
**OPERATING**



THIS DOCUMENT  
 PREPARED FOR  
**TUG HILL**  
 OPERATING



**Hendrickson Well Site**  
 Franklin District  
 Marshall County, WV

Date: 10/15/20  
 Scale: As Shown  
 Drawn By: JG  
 Sheet 11 of 14