



west virginia department of environmental protection

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, July 7, 2021  
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 VAN WINKLE N-19HU  
47-051-02352-00-00

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

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

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

James A. Martin  
Chief

Operator's Well Number: VAN WINKLE N-19HU  
Farm Name: XCL MIDSTREAM OPERATING  
U.S. WELL NUMBER: 47-051-02352-00-00  
Horizontal 6A New Drill  
Date Issued: 7/7/2021



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

June 14, 2021

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

RE: Application for Deep Well Permit – API #47-051-02352

COMPANY: Tug Hill Operating, LLC

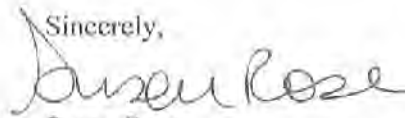
FARM: XCL Midstream Operating, LLC Van Winkle N-1911U

COUNTY: Marshall DISTRICT: Meade QUAD: Glen Easton

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? No.
2. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners? Yes
3. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells: \*\*yes
4. Provided a plat showing that the productive interval of the well meets the requirements of the Rules of the Commission W. Va. C.S.R. § 39-1-4.2.

Sincerely,  
  
Susan Rose  
Administrator

\*\* Old Crow N-20HU 47-051-02191; Old Crow N-21HU 47-051-02335; MND 6 HHS 47-051-01732; MND20EU 47-051-02045; Knob Creek N-12HU 47-051-02268; Knob Creek N-11HU 47-051-02287; Humer 1 47-051-01284; Van Winkle N-16HU 47-051-02349; Van Winkle N-17HU 47-051-02350; Van Winkle N-18HU 47-051-02351; Van Winkle S-23HU 47-051-02356; Van Winkle S-20HU 47-051-02353; Van Winkle S-21HU 47-051-02354; Van Winkle S-22HU 47-051-02355; Pendleton N-9HU 47-051-02245; Heaven Hill 2W-13HU 47-051-01957; Heaven Hill 2W-12HU 47-051-01952; Keith Stern N-131HU 47-051-02265; Keith Stern S-17HU 47-051-02266; Knob Creek N-13HU 47-051-02269; Knob Creek S-16HU 47-051-02290; Knob Creek S-15HU 47-051-02289; Knob Creek S-14HU 47-051-02288

07/09/2021

# PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

## CONDITIONS

---

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

API Number: \_\_\_\_\_

## PERMIT CONDITIONS

11. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to [DEPOOGNotify@wv.gov](mailto:DEPOOGNotify@wv.gov).

07/09/2021

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 Meade Glen Easton 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: Van Winkle N-19HU Well Pad Name: Hunter Pethtel

3) Farm Name/Surface Owner: XcL Midstream Operating, LLC Public Road Access: County Route 74

4) Elevation, current ground: 754' Elevation, proposed post-construction: 754'

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

(b) If Gas Shallow  Deep   
Horizontal

6) Existing Pad: Yes or No Yes

*Bay Dills 6-4-21*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Point Pleasant is the target formation at a depth of 10,986' - 11,105', thickness of 119' and anticipated pressure of approx. 7,500 psi.

8) Proposed Total Vertical Depth: 11,255'

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 22,779'

11) Proposed Horizontal Leg Length: 11,216.59'

12) Approximate Fresh Water Strata Depths: 70; 415'

13) Method to Determine Fresh Water Depths: Offset well reports or noticeable flow at the flowline or when need to start soaping

14) Approximate Saltwater Depths: 870'

15) Approximate Coal Seam Depths: Sewickley Coal - 314' and Pittsburgh Coal - 409'

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

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

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

WW-6B  
(04/15)

API NO. 47- 051 -  
OPERATOR WELL NO. Van Winkle N-19HU  
Well Pad Name: Hunter Pathel

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	20"	NEW	J55	106.5#	515'	515'	883FT^3(CTS)
Coal	13 3/8"	NEW	J55	54.5#	2,225'	2,225'	1575FT^3(CTS)
Intermediate	9 5/8"	NEW	HPP110	47#	9,999'	9,999'	3242FT^3(CTS)
Production	5 1/2"	NEW	P110	23#	22,779'	22,779'	5388FT^3(CTS)
Tubing	2 7/8"	NEW	P110	6.5#		10,620'	
Liners							

*BS 1-28-21*

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

PACKERS

Kind:	N/A			RECEIVED Office of Oil and Gas
Sizes:	N/A			FEB 03 2021
Depths Set:	N/A			WV Department of Environmental Protection

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. Drill curve and lateral per proposed well plan, run and cement production casing. Perform DBL 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 27,250,000 lb. proppant and 490,000 bbl of water. Max rate = 80bpm; max psi = 9,000#.

*Bay Hill 1-21-21*

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 16.63 acres

22) Area to be disturbed for well pad only, less access road (acres): 4.87 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

RECEIVED  
Office of Oil and Gas

FEB 03 2021

WWW.DOH.GOV

\*Note: Attach additional sheets as needed.

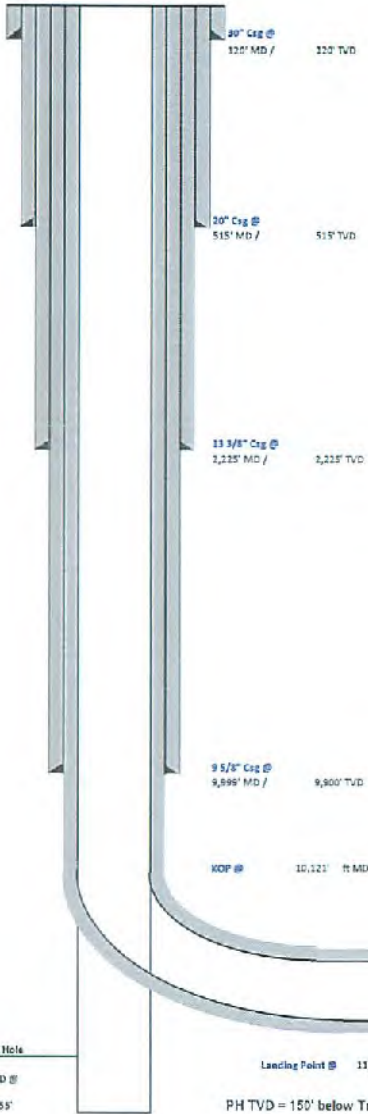


WELL NAME: Van Winkle N-18HU  
 STATE: WV COUNTY: Marshall  
 DISTRICT: Meade  
 DI Elev: 754' GL Dev: 754'  
 TO: 22,779'  
 TH Latitude: 39.781529  
 TH Longitude: -80.726855  
 BH Latitude: 39.810208  
 BH Longitude: -80.768246

FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	415'
Swickley Coal	314'
Pittsburgh Coal	409'
Big Lime	1,630'
Berea	2,323'
Tully	6,540'
Marcellus	6,345'
Onondaga	6,193'
Selina	6,914'
Lockport	7,877'
Utica	10,719'
Point Pleasant	10,986'
Landing Depth	11,056'
Trenton	11,105'
Pilot Hole TD	11,255'

CASING SUMMARY							
Type	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cement
Conductor	36	30	120'	120'	BW	BW	Surface
Surface	26	20	935'	915'	106.5	J55	Surface
Intermediate 1	17 1/2	18 3/8	2,225'	2,225'	54.5	J55	Surface
Intermediate 2	12 1/4	9 5/8	9,909'	9,900'	47	HPP110	Surface
Production	8 1/2	5 1/2	22,779'	10,831'	23	HCP110	Surface

	CEMENT SUMMARY			DRILLING DETAILS	
	Sacks	Class	Density	Fluid Type	Centralizer Notes
Conductor	538	A	15.6	Air	None
Surface	909	A	15.6	Air	3 Centralizers at equal distance
Intermediate 1	1,707	A	15	Air	1 Centralizer every other jt
Intermediate 2	2,702	A	14.5	Air	1 Centralizer every other jt
Production	4,778	A	15	Air / SOBMS	1 every other joint in lateral; 1 per joint in curve; 1 every other jt; to slc



*Bay Stiles 1/21/21*

Pilot Hole  
 PH TD @ 11,255'  
 Landing Point @ 11,605' MD / 11,026' TVD  
 PH TVD = 150' below Trenton Top

Lateral TD @ 22,779' R MD  
 10,831' R TVD

RECEIVED  
 Office of Oil and Gas  
 FEB 03 2021  
 WV Department of Environmental Protection





**Tug Hill Operating, LLC Casing and Cement Program**

**Van Winkle N-19HU**

**Casing**

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	20"	J55	26"	515'	CTS
Intermediate 1	13 3/8"	J55	17 1/2"	2,225'	CTS
Intermediate 2	9 5/8"	HPP110	12 1/4"	9,999'	CTS
Production	5 1/2"	HCP110	8 1/2"	22,779'	CTS

**Cement**

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 15.6 ppg, Y=1.99

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 15.2ppg, Y = 1.18

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection

07/09/2021



Well: Van Winkle N-19 HU (slot H)  
 Site: Van Winkle  
 Project: Marshall County, West Virginia  
 Design: rev3  
 Rig:

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	
2	3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	0.000	0.00	KOP Begin 2'/100' build
3	3200.00	4.00	130.00	3169.84	-4.49	5.35	2.00	130.000	-5.34	Begin 4.00' tangent
4	4002.12	4.00	130.00	4000.00	-40.45	46.21	0.00	0.000	-57.15	Begin 2'/100' drop
5	4202.12	0.00	130.00	4199.84	-44.94	53.55	2.00	180.000	-63.48	Begin vertical hold
6	7002.28	0.00	130.00	7000.00	-44.94	53.55	0.00	130.000	-63.48	Begin 2'/100' build
7	7809.68	15.15	93.23	7796.75	-51.31	166.40	2.00	93.234	-117.37	Begin 15.15' tangent
8	10120.67	15.15	93.23	10016.47	-87.58	808.08	0.00	0.000	-423.77	Begin 6'/100' build/turn
9	11074.79	50.00	342.19	10852.16	284.39	830.70	6.00	-121.782	-95.95	Begin 6'/100' build/turn
10	11605.12	91.00	330.25	11025.99	728.45	627.67	8.00	-17.954	391.29	Begin 91.00' lateral
11	22779.04	91.00	330.25	10831.00	10428.42	-4915.71	0.00	0.000	11528.93	PBHL/TD 22779.03 MD /10831.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
Van Winkle N-19HU PBHL r3 - plan hits target center	10831.00	10428.42	-4915.71	14457726.30	1712238.78	39.81020800	-80.74424600
Van Winkle N-19HU LP r2 - plan misses target center by 0.07ft at 11605.06ft MD, (11026.00 TVD, 728.40 N, 627.70 E)	11026.00	728.37	627.64	14448026.26	1717782.10	39.78352400	-80.72461300

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

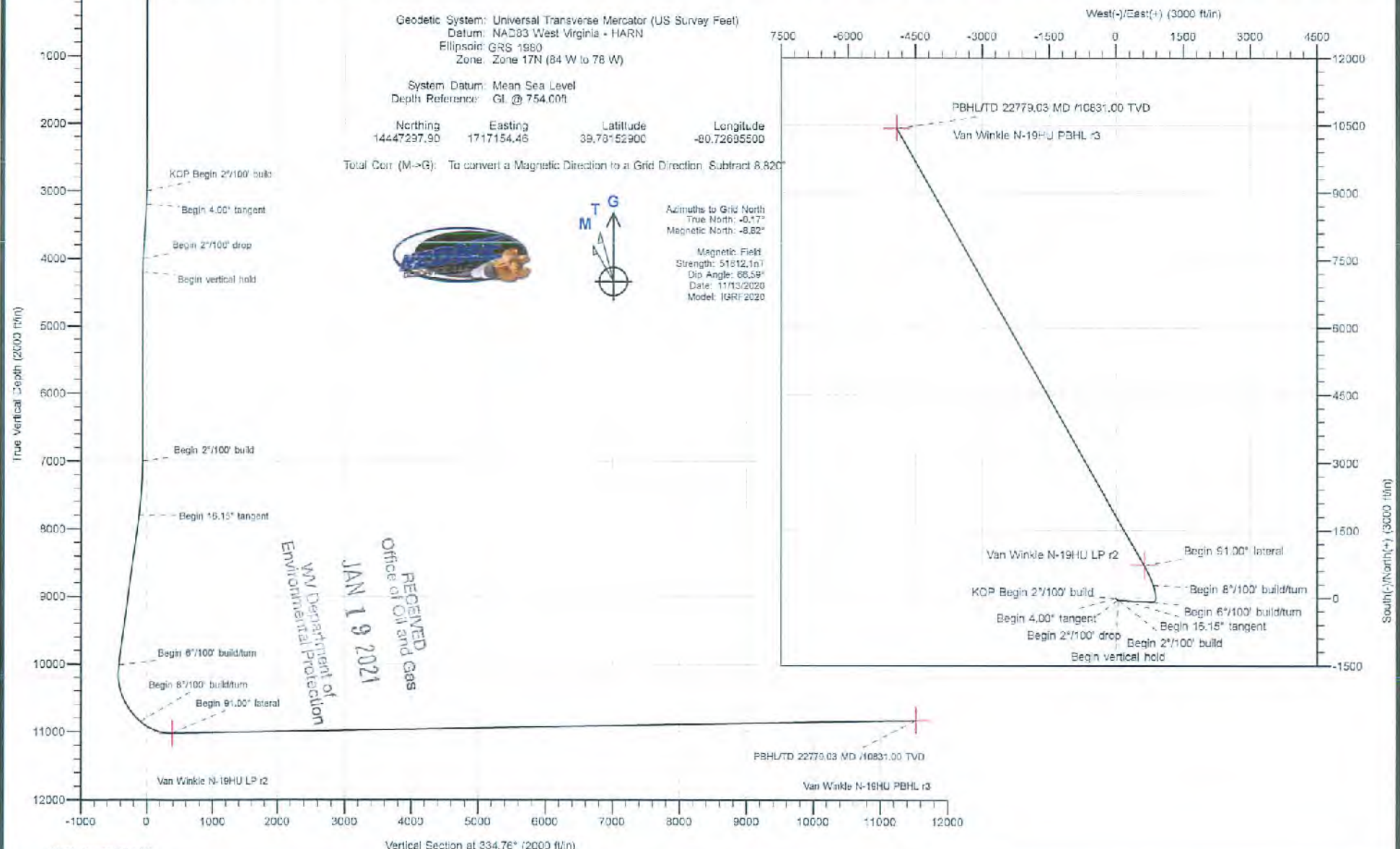
System Datum: Mean Sea Level  
 Depth Reference: GL @ 754.00ft

Northing	Easting	Latitude	Longitude
14447297.90	1717154.46	39.79152900	-80.72695500

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.82°



Azimuths to Grid North  
 True North: -0.17°  
 Magnetic North: -8.82°  
 Magnetic Field  
 Strength: 51812.1nT  
 Dip Angle: 66.59°  
 Date: 11/13/2020  
 Model: IGRF2020



RECEIVED  
 Office of Oil and Gas  
 JAN 19 2021  
 WV Department of  
 Environmental Protection



Planning Report - Geographic

<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Van Winkle N-19 HU (slot H)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL @ 754.00ft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL @ 754.00ft
<b>Site:</b>	Van Winkle	<b>North Reference:</b>	Grid
<b>Well:</b>	Van Winkle N-19 HU (slot H)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev3		

<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>	Van Winkle				
<b>Site Position:</b>		<b>Northing:</b>	14,447,369.50 usft	<b>Latitude:</b>	39.78172533
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,717,188.44 usft	<b>Longitude:</b>	-80.72673327
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "		

<b>Well</b>	Van Winkle N-19 HU (slot H)					
<b>Well Position</b>	+N-S	0.00 ft	<b>Northing:</b>	14,447,297.90 usft	<b>Latitude:</b>	39.78152900
	+E-W	0.00 ft	<b>Easting:</b>	1,717,154.46 usft	<b>Longitude:</b>	-80.72685500
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	754.00 ft
<b>Grid Convergence:</b>		0.175 °				

<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>
	IGRF2020	11/13/2020	-8.646	66.595	51,812.14052401

<b>Design</b>	rev3				
<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	334.76	

<b>Plan Survey Tool Program</b>	<b>Date</b>	1/5/2021			
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	22,779.04 rev3 (Original Hole)	MWD MWD - Standard		

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Van Winkle N-19 HU (slot H)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 754.00ft
Project:	Marshall County, West Virginia	MD Reference:	GL @ 754.00ft
Site:	Van Winkle	North Reference:	Grid
Well:	Van Winkle N-19 HU (slot H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Plan Sections											
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000		
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.000		
3,200.00	4.00	130.00	3,199.84	-4.49	5.35	2.00	2.00	0.00	130.000		
4,002.12	4.00	130.00	4,000.00	-40.45	48.21	0.00	0.00	0.00	0.000		
4,202.12	0.00	130.00	4,199.84	-44.94	53.55	2.00	-2.00	0.00	180.000		
7,002.28	0.00	130.00	7,000.00	-44.94	53.55	0.00	0.00	0.00	130.000		
7,809.68	16.15	93.23	7,796.75	-51.31	166.40	2.00	2.00	-4.55	93.234		
10,120.57	16.15	93.23	10,018.47	-87.58	808.08	0.00	0.00	0.00	0.000		
11,074.79	50.00	342.19	10,852.16	284.39	830.70	6.00	3.55	-11.64	-121.782		
11,605.12	91.00	330.25	11,026.00	728.45	627.67	8.00	7.73	-2.25	-17.854		
22,779.04	91.00	330.25	10,831.00	10,428.42	-4,915.71	0.00	0.00	0.00	0.000	Van Winkle N-19HU F	

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Van Winkle N-19 HU (slot H)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 754.00ft
Project:	Marshall County, West Virginia	MD Reference:	GL @ 754.00ft
Site:	Van Winkle	North Reference:	Grid
Well:	Van Winkle N-19 HU (slot H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department 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	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
100.00	0.00	0.00	100.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
200.00	0.00	0.00	200.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
300.00	0.00	0.00	300.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
400.00	0.00	0.00	400.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
500.00	0.00	0.00	500.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
600.00	0.00	0.00	600.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
700.00	0.00	0.00	700.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
800.00	0.00	0.00	800.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
900.00	0.00	0.00	900.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,447,297.90	1,717,154.46	39.78152900	-80.72685500	
<b>KOP Begin 2°/100' build</b>										
3,100.00	2.00	130.00	3,099.98	-1.12	1.34	14,447,296.78	1,717,155.79	39.78152591	-80.72685025	
3,200.00	4.00	130.00	3,199.84	-4.49	5.35	14,447,293.42	1,717,159.80	39.78151664	-80.72683602	
<b>Begin 4.00° tangent</b>										
3,300.00	4.00	130.00	3,299.59	-8.97	10.69	14,447,288.93	1,717,165.15	39.78150428	-80.72681705	
3,400.00	4.00	130.00	3,399.35	-13.45	16.03	14,447,284.45	1,717,170.49	39.78149192	-80.72679808	
3,500.00	4.00	130.00	3,499.11	-17.94	21.38	14,447,279.97	1,717,175.83	39.78147956	-80.72677911	
3,600.00	4.00	130.00	3,598.86	-22.42	26.72	14,447,275.48	1,717,181.18	39.78146720	-80.72676014	
3,700.00	4.00	130.00	3,698.62	-26.90	32.06	14,447,271.00	1,717,186.52	39.78145485	-80.72674116	
3,800.00	4.00	130.00	3,798.38	-31.39	37.41	14,447,266.51	1,717,191.86	39.78144249	-80.72672219	
3,900.00	4.00	130.00	3,898.13	-35.87	42.75	14,447,262.03	1,717,197.21	39.78143013	-80.72670322	
4,000.00	4.00	130.00	3,997.89	-40.36	48.10	14,447,257.55	1,717,202.55	39.78141777	-80.72668425	
4,002.12	4.00	130.00	4,000.00	-40.45	46.21	14,447,257.45	1,717,202.66	39.78141751	-80.72668385	
<b>Begin 2°/100' drop</b>										
4,100.00	2.04	130.00	4,097.74	-43.77	52.16	14,447,254.14	1,717,206.62	39.78140837	-80.72666982	
4,200.00	0.04	130.00	4,197.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140515	-80.72666487	
4,202.12	0.00	130.00	4,199.84	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487	
<b>Begin vertical hold</b>										
4,300.00	0.00	130.00	4,297.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487	
4,400.00	0.00	130.00	4,397.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487	
4,500.00	0.00	130.00	4,497.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487	
4,600.00	0.00	130.00	4,597.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487	
4,700.00	0.00	130.00	4,697.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487	



Planning Report - Geographic

Database: DB\_Dec2220\_v16  
 Company: Tug Hill Operating LLC  
 Project: Marshall County, West Virginia  
 Site: Van Winkle  
 Well: Van Winkle N-19 HU (slot H)  
 Wellbore: Original Hole  
 Design: rev3

Local Co-ordinate Reference: Well Van Winkle N-19 HU (slot H)  
 TVD Reference: GL @ 754.00ft  
 MD Reference: GL @ 754.00ft  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

RECEIVED  
 Office of Oil and Gas

JAN 19 2021

WV Department 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
4,800.00	0.00	130.00	4,797.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
4,900.00	0.00	130.00	4,897.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
5,000.00	0.00	130.00	4,997.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
5,100.00	0.00	130.00	5,097.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
5,200.00	0.00	130.00	5,197.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
5,300.00	0.00	130.00	5,297.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
5,400.00	0.00	130.00	5,397.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
5,500.00	0.00	130.00	5,497.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
5,600.00	0.00	130.00	5,597.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
5,700.00	0.00	0.00	5,697.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
5,800.00	0.00	130.00	5,797.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
5,900.00	0.00	130.00	5,897.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
6,000.00	0.00	130.00	5,997.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
6,100.00	0.00	130.00	6,097.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
6,200.00	0.00	130.00	6,197.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
6,300.00	0.00	130.00	6,297.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
6,400.00	0.00	130.00	6,397.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
6,500.00	0.00	130.00	6,497.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
6,600.00	0.00	130.00	6,597.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
6,700.00	0.00	130.00	6,697.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
6,800.00	0.00	130.00	6,797.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
6,900.00	0.00	130.00	6,897.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
7,000.00	0.00	130.00	6,997.72	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
7,002.28	0.00	130.00	7,000.00	-44.94	53.55	14,447,252.97	1,717,208.01	39.78140514	-80.72666487
<b>Begin 2°/100' build</b>									
7,100.00	1.95	93.23	7,097.70	-45.03	55.22	14,447,252.87	1,717,209.67	39.78140487	-80.72665895
7,200.00	3.95	93.23	7,197.56	-45.32	60.36	14,447,252.58	1,717,214.82	39.78140403	-80.72664053
7,300.00	5.95	93.23	7,297.19	-45.81	68.99	14,447,252.09	1,717,223.44	39.78140262	-80.72660995
7,400.00	7.95	93.23	7,396.45	-46.49	81.07	14,447,251.41	1,717,235.53	39.78140064	-80.72656693
7,500.00	9.95	93.23	7,495.22	-47.37	96.61	14,447,250.53	1,717,251.07	39.78139810	-80.72651163
7,600.00	11.95	93.23	7,593.39	-48.44	115.58	14,447,249.46	1,717,270.04	39.78138500	-80.72644411
7,700.00	13.95	93.23	7,690.84	-49.71	137.97	14,447,248.20	1,717,292.42	39.78138134	-80.72636447
7,800.00	15.95	93.23	7,787.45	-51.16	163.73	14,447,246.74	1,717,318.18	39.78137712	-80.72627278
7,809.68	16.15	93.23	7,796.75	-51.31	166.40	14,447,246.59	1,717,320.86	39.78138668	-80.72626327
<b>Begin 16.15° tangent</b>									
7,900.00	16.15	93.23	7,883.51	-52.73	191.48	14,447,245.17	1,717,345.94	39.78138256	-80.72617402
8,000.00	16.15	93.23	7,979.57	-54.30	219.25	14,447,243.60	1,717,373.70	39.78137804	-80.72607520
8,100.00	16.15	93.23	8,075.62	-55.87	247.02	14,447,242.03	1,717,401.47	39.78137350	-80.72597638
8,200.00	16.15	93.23	8,171.88	-57.44	274.78	14,447,240.46	1,717,429.24	39.78136895	-80.72587756
8,300.00	16.15	93.23	8,267.73	-59.01	302.55	14,447,238.89	1,717,457.01	39.78136441	-80.72577874
8,400.00	16.15	93.23	8,363.78	-60.58	330.32	14,447,237.33	1,717,484.77	39.78135987	-80.72567992
8,500.00	16.15	93.23	8,459.84	-62.15	358.09	14,447,235.76	1,717,512.54	39.78135532	-80.72558110
8,600.00	16.15	93.23	8,555.89	-63.72	385.85	14,447,234.19	1,717,540.31	39.78135078	-80.72548228
8,700.00	16.15	93.23	8,651.95	-65.29	413.62	14,447,232.62	1,717,568.08	39.78134624	-80.72538346
8,800.00	16.15	93.23	8,748.00	-66.85	441.39	14,447,231.05	1,717,595.84	39.78134169	-80.72528465
8,900.00	16.15	93.23	8,844.06	-68.42	469.16	14,447,229.48	1,717,623.61	39.78133715	-80.72518583
9,000.00	16.15	93.23	8,940.11	-69.99	496.92	14,447,227.91	1,717,651.38	39.78133261	-80.72508701
9,100.00	16.15	93.23	9,036.17	-71.55	524.69	14,447,226.34	1,717,679.15	39.78132806	-80.72498819
9,200.00	16.15	93.23	9,132.22	-73.13	552.46	14,447,224.77	1,717,706.91	39.78132352	-80.72488937
9,300.00	16.15	93.23	9,228.28	-74.70	580.23	14,447,223.20	1,717,734.68	39.78131898	-80.72479055
9,400.00	16.15	93.23	9,324.33	-76.27	607.99	14,447,221.63	1,717,762.45	39.78131443	-80.72469173
9,500.00	16.15	93.23	9,420.39	-77.84	635.76	14,447,220.06	1,717,790.22	39.78130989	-80.72459291
9,600.00	16.15	93.23	9,516.44	-79.41	663.53	14,447,218.49	1,717,817.99	39.78130534	-80.72449409
9,700.00	16.15	93.23	9,612.50	-80.98	691.30	14,447,216.93	1,717,845.75	39.78130080	-80.72439527



Planning Report - Geographic

Database: DB\_Dec2220\_v16  
 Company: Tug Hill Operating LLC  
 Project: Marshall County, West Virginia  
 Site: Van Winkle  
 Well: Van Winkle N-19 HU (slot H)  
 Wellbore: Original Hole  
 Design: rev3

Local Co-ordinate Reference: Well Van Winkle N-19 HU (slot H)  
 TVD Reference: GL @ 754.00ft  
 MD Reference: GL @ 754.00ft  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

RECEIVED  
 Office of Oil and Gas  
 JAN 19 2021

WV Department 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
9,800.00	16.15	93.23	9,708.55	-82.55	719.07	14,447,215.38	1,717,873.52	39.78129626	-80.72429646
9,900.00	16.15	93.23	9,804.60	-84.12	746.83	14,447,213.79	1,717,901.29	39.78129171	-80.72419764
10,000.00	16.15	93.23	9,900.66	-85.69	774.80	14,447,212.22	1,717,929.06	39.78128717	-80.72409882
10,100.00	16.15	93.23	9,996.71	-87.25	802.37	14,447,210.65	1,717,956.82	39.78128262	-80.72400000
10,120.57	16.15	93.23	10,016.47	-87.58	808.08	14,447,210.33	1,717,962.54	39.78128159	-80.72397967
<b>Begin 6"/100' build/tum</b>									
10,200.00	14.21	76.52	10,093.16	-85.93	828.60	14,447,211.88	1,717,983.06	39.78128605	-80.72390661
10,300.00	13.83	51.62	10,190.27	-75.63	849.93	14,447,222.27	1,718,004.38	39.78131414	-80.72383059
10,400.00	15.85	29.38	10,287.01	-56.29	866.01	14,447,241.61	1,718,020.47	39.78136712	-80.72377312
10,500.00	18.54	13.69	10,382.32	-28.11	876.68	14,447,269.79	1,718,031.13	39.78144441	-80.72373484
10,600.00	24.15	3.28	10,475.14	8.59	881.81	14,447,306.49	1,718,036.27	39.78154516	-80.72371617
10,700.00	29.24	356.18	10,564.48	53.42	881.36	14,447,351.32	1,718,035.81	39.78166828	-80.72371730
10,800.00	34.60	351.07	10,649.35	105.86	875.31	14,447,403.78	1,718,029.77	39.78181240	-80.72373824
10,900.00	40.12	347.19	10,728.81	165.40	863.75	14,447,463.30	1,718,018.21	39.78197596	-80.72377874
11,000.00	45.75	344.12	10,802.00	231.33	846.80	14,447,529.23	1,718,001.25	39.78215715	-80.72383836
11,074.78	50.00	342.19	10,852.16	284.39	830.70	14,447,582.29	1,717,985.15	39.78230302	-80.72389508
<b>Begin 8"/100' build/tum</b>									
11,100.00	51.92	341.41	10,868.04	302.99	824.58	14,447,600.89	1,717,979.04	39.78235415	-80.72391665
11,200.00	59.59	338.65	10,924.27	380.58	796.29	14,447,678.49	1,717,950.74	39.78256748	-80.72401652
11,300.00	67.31	336.29	10,968.94	463.12	761.98	14,447,761.02	1,717,916.44	39.78279442	-80.72413772
11,400.00	75.06	334.19	11,001.17	548.98	722.34	14,447,848.89	1,717,876.79	39.78303058	-80.72427789
11,500.00	82.83	332.24	11,020.34	636.52	678.12	14,447,934.42	1,717,832.58	39.78327133	-80.72444311
11,600.00	90.60	330.35	11,026.07	724.01	630.20	14,448,021.91	1,717,784.88	39.78351201	-80.72480392
11,605.12	91.00	330.25	11,026.00	728.45	627.67	14,448,028.35	1,717,782.12	39.78352424	-80.72461290
<b>Begin 91.00° lateral</b>									
11,700.00	91.00	330.25	11,024.34	810.82	580.60	14,448,108.72	1,717,735.05	39.78375083	-80.72477955
11,800.00	91.00	330.25	11,022.59	897.63	530.99	14,448,195.53	1,717,685.44	39.78398965	-80.72495519
11,900.00	91.00	330.25	11,020.85	984.43	481.38	14,448,282.34	1,717,635.83	39.78422847	-80.72513083
12,000.00	91.00	330.25	11,019.10	1,071.24	431.77	14,448,369.14	1,717,586.22	39.78446729	-80.72530647
12,100.00	91.00	330.25	11,017.36	1,158.05	382.16	14,448,455.95	1,717,536.61	39.78470611	-80.72548211
12,200.00	91.00	330.25	11,015.61	1,244.86	332.55	14,448,542.76	1,717,487.00	39.78494492	-80.72565775
12,300.00	91.00	330.25	11,013.87	1,331.67	282.94	14,448,629.57	1,717,437.39	39.78518374	-80.72583340
12,400.00	91.00	330.25	11,012.12	1,418.48	233.33	14,448,716.38	1,717,387.78	39.78542256	-80.72600904
12,500.00	91.00	330.25	11,010.38	1,505.29	183.72	14,448,803.19	1,717,338.17	39.78566138	-80.72618489
12,600.00	91.00	330.25	11,008.63	1,592.10	134.11	14,448,890.00	1,717,288.56	39.78590019	-80.72636034
12,700.00	91.00	330.25	11,006.89	1,678.91	84.50	14,448,976.81	1,717,238.95	39.78613901	-80.72653599
12,800.00	91.00	330.25	11,005.14	1,765.72	34.89	14,449,063.62	1,717,189.34	39.78637782	-80.72671164
12,900.00	91.00	330.25	11,003.40	1,852.53	-14.72	14,449,150.42	1,717,139.73	39.78661664	-80.72688729
13,000.00	91.00	330.25	11,001.65	1,939.33	-64.33	14,449,237.23	1,717,090.12	39.78685546	-80.72706295
13,100.00	91.00	330.25	10,999.91	2,026.14	-113.94	14,449,324.04	1,717,040.51	39.78709427	-80.72723860
13,200.00	91.00	330.25	10,998.16	2,112.95	-163.55	14,449,410.85	1,716,990.90	39.78733309	-80.72741426
13,300.00	91.00	330.25	10,996.42	2,199.76	-213.16	14,449,497.66	1,716,941.29	39.78757190	-80.72758991
13,400.00	91.00	330.25	10,994.67	2,286.57	-262.77	14,449,584.47	1,716,891.68	39.78781071	-80.72776557
13,500.00	91.00	330.25	10,992.93	2,373.38	-312.38	14,449,671.28	1,716,842.07	39.78804953	-80.72794123
13,600.00	91.00	330.25	10,991.18	2,460.19	-361.99	14,449,758.09	1,716,792.46	39.78828834	-80.72811689
13,700.00	91.00	330.25	10,989.44	2,547.00	-411.60	14,449,844.90	1,716,742.86	39.78852716	-80.72829255
13,800.00	91.00	330.25	10,987.69	2,633.81	-461.21	14,449,931.70	1,716,693.25	39.78876597	-80.72846822
13,900.00	91.00	330.25	10,985.95	2,720.62	-510.82	14,450,018.51	1,716,643.64	39.78900478	-80.72864388
14,000.00	91.00	330.25	10,984.20	2,807.42	-560.43	14,450,105.32	1,716,594.03	39.78924360	-80.72881955
14,100.00	91.00	330.25	10,982.46	2,894.23	-610.04	14,450,192.13	1,716,544.42	39.78948241	-80.72899521
14,200.00	91.00	330.25	10,980.71	2,981.04	-659.65	14,450,278.94	1,716,494.81	39.78972122	-80.72917088
14,300.00	91.00	330.25	10,978.97	3,067.85	-709.26	14,450,365.75	1,716,445.20	39.78996003	-80.72934655
14,400.00	91.00	330.25	10,977.22	3,154.66	-758.87	14,450,452.56	1,716,395.59	39.79019884	-80.72952222
14,500.00	91.00	330.25	10,975.48	3,241.47	-808.48	14,450,539.37	1,716,345.98	39.79043766	-80.72969789



Planning Report - Geographic

Database: DB\_Dec2220\_v16  
 Company: Tug Hill Operating LLC  
 Project: Marshall County, West Virginia  
 Site: Van Winkle  
 Well: Van Winkle N-19 HU (slot H)  
 Wellbore: Original Hole  
 Design: rev3

Local Co-ordinate Reference: Well Van Winkle N-19 HU (slot H)  
 TVD Reference: GL @ 754.00ft  
 MD Reference: GL @ 754.00ft  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

RECEIVED  
 Office of Oil and Gas

JAN 19 2021

WV Department 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
14,600.00	91.00	330.25	10,973.73	3,326.26	-658.09	14,450,626.18	1,716,296.37	39.79067647	-80.72987356
14,700.00	91.00	330.25	10,971.99	3,415.09	-907.70	14,450,712.98	1,716,246.76	39.79091528	-80.73004924
14,800.00	91.00	330.25	10,970.24	3,501.90	-957.31	14,450,799.79	1,716,197.15	39.79115409	-80.73022491
14,900.00	91.00	330.25	10,968.50	3,588.71	-1,006.92	14,450,886.60	1,716,147.54	39.79139290	-80.73040059
15,000.00	91.00	330.25	10,966.75	3,675.52	-1,056.53	14,450,973.41	1,716,097.93	39.79163171	-80.73057627
15,100.00	91.00	330.25	10,965.01	3,762.32	-1,106.14	14,451,060.22	1,716,048.32	39.79187052	-80.73075194
15,200.00	91.00	330.25	10,963.26	3,849.13	-1,155.75	14,451,147.03	1,715,998.71	39.79210933	-80.73092762
15,300.00	91.00	330.25	10,961.52	3,935.94	-1,205.36	14,451,233.84	1,715,949.10	39.79234814	-80.73110331
15,400.00	91.00	330.25	10,959.77	4,022.75	-1,254.97	14,451,320.65	1,715,899.49	39.79258695	-80.73127899
15,500.00	91.00	330.25	10,958.03	4,109.56	-1,304.58	14,451,407.45	1,715,849.88	39.79282575	-80.73145467
15,600.00	91.00	330.25	10,956.28	4,196.37	-1,354.19	14,451,494.26	1,715,800.27	39.79306456	-80.73163038
15,700.00	91.00	330.25	10,954.54	4,283.18	-1,403.80	14,451,581.07	1,715,750.66	39.79330337	-80.73180604
15,800.00	91.00	330.25	10,952.79	4,369.99	-1,453.41	14,451,667.88	1,715,701.05	39.79354218	-80.73198173
15,900.00	91.00	330.25	10,951.05	4,456.80	-1,503.02	14,451,754.69	1,715,651.44	39.79378099	-80.73215742
16,000.00	91.00	330.25	10,949.30	4,543.61	-1,552.63	14,451,841.50	1,715,601.83	39.79401979	-80.73233311
16,100.00	91.00	330.25	10,947.56	4,630.41	-1,602.24	14,451,928.31	1,715,552.22	39.79425860	-80.73250880
16,200.00	91.00	330.25	10,945.81	4,717.22	-1,651.85	14,452,015.12	1,715,502.61	39.79449741	-80.73268449
16,300.00	91.00	330.25	10,944.07	4,804.03	-1,701.46	14,452,101.93	1,715,453.00	39.79473621	-80.73286018
16,400.00	91.00	330.25	10,942.32	4,890.84	-1,751.07	14,452,188.73	1,715,403.39	39.79497502	-80.73303588
16,500.00	91.00	330.25	10,940.58	4,977.65	-1,800.68	14,452,275.54	1,715,353.78	39.79521383	-80.73321157
16,600.00	91.00	330.25	10,938.83	5,064.46	-1,850.29	14,452,362.35	1,715,304.17	39.79545263	-80.73338727
16,700.00	91.00	330.25	10,937.08	5,151.27	-1,899.90	14,452,449.16	1,715,254.56	39.79569144	-80.73356297
16,800.00	91.00	330.25	10,935.34	5,238.08	-1,949.51	14,452,535.97	1,715,204.95	39.79593024	-80.73373867
16,900.00	91.00	330.25	10,933.59	5,324.89	-1,999.12	14,452,622.78	1,715,155.34	39.79616905	-80.73391437
17,000.00	91.00	330.25	10,931.85	5,411.70	-2,048.73	14,452,709.59	1,715,105.73	39.79640785	-80.73409007
17,100.00	91.00	330.25	10,930.10	5,498.51	-2,098.34	14,452,796.40	1,715,056.12	39.79664666	-80.73426577
17,200.00	91.00	330.25	10,928.36	5,585.31	-2,147.95	14,452,883.21	1,715,006.51	39.79688546	-80.73444148
17,300.00	91.00	330.25	10,926.61	5,672.12	-2,197.56	14,452,970.01	1,714,956.90	39.79712426	-80.73461718
17,400.00	91.00	330.25	10,924.87	5,758.93	-2,247.17	14,453,056.82	1,714,907.29	39.79736307	-80.73479289
17,500.00	91.00	330.25	10,923.12	5,845.74	-2,296.78	14,453,143.63	1,714,857.68	39.79760187	-80.73496860
17,600.00	91.00	330.25	10,921.38	5,932.55	-2,346.39	14,453,230.44	1,714,808.07	39.79784067	-80.73514431
17,700.00	91.00	330.25	10,919.63	6,019.36	-2,396.00	14,453,317.25	1,714,758.46	39.79807948	-80.73532002
17,800.00	91.00	330.25	10,917.89	6,106.17	-2,445.61	14,453,404.06	1,714,708.85	39.79831828	-80.73549573
17,900.00	91.00	330.25	10,916.14	6,192.98	-2,495.22	14,453,490.87	1,714,659.24	39.79855708	-80.73567144
18,000.00	91.00	330.25	10,914.40	6,279.79	-2,544.83	14,453,577.68	1,714,609.63	39.79879588	-80.73584715
18,100.00	91.00	330.25	10,912.65	6,366.60	-2,594.44	14,453,664.49	1,714,560.02	39.79903468	-80.73602287
18,200.00	91.00	330.25	10,910.91	6,453.40	-2,644.05	14,453,751.29	1,714,510.41	39.79927349	-80.73619859
18,300.00	91.00	330.25	10,909.16	6,540.21	-2,693.66	14,453,838.10	1,714,460.80	39.79951229	-80.73637430
18,400.00	91.00	330.25	10,907.42	6,627.02	-2,743.27	14,453,924.91	1,714,411.19	39.79975109	-80.73655002
18,500.00	91.00	330.25	10,905.67	6,713.83	-2,792.88	14,454,011.72	1,714,361.58	39.79998989	-80.73672574
18,600.00	91.00	330.25	10,903.93	6,800.64	-2,842.49	14,454,098.53	1,714,311.97	39.80022869	-80.73690146
18,700.00	91.00	330.25	10,902.18	6,887.45	-2,892.10	14,454,185.34	1,714,262.36	39.80046749	-80.73707718
18,800.00	91.00	330.25	10,900.44	6,974.26	-2,941.71	14,454,272.15	1,714,212.75	39.80070629	-80.73725291
18,900.00	91.00	330.25	10,898.69	7,061.07	-2,991.32	14,454,358.96	1,714,163.14	39.80094509	-80.73742863
19,000.00	91.00	330.25	10,896.95	7,147.88	-3,040.93	14,454,445.77	1,714,113.53	39.80118389	-80.73760436
19,100.00	91.00	330.25	10,895.20	7,234.69	-3,090.54	14,454,532.57	1,714,063.92	39.80142269	-80.73778009
19,200.00	91.00	330.25	10,893.46	7,321.50	-3,140.15	14,454,619.38	1,714,014.31	39.80166146	-80.73795581
19,300.00	91.00	330.25	10,891.71	7,408.30	-3,189.76	14,454,706.19	1,713,964.70	39.80190026	-80.73813154
19,400.00	91.00	330.25	10,889.97	7,495.11	-3,239.37	14,454,793.00	1,713,915.09	39.80213908	-80.73830727
19,500.00	91.00	330.25	10,888.22	7,581.92	-3,288.98	14,454,879.81	1,713,865.49	39.80237788	-80.73848301
19,600.00	91.00	330.25	10,886.48	7,668.73	-3,338.59	14,454,966.62	1,713,815.88	39.80261668	-80.73865874
19,700.00	91.00	330.25	10,884.73	7,755.54	-3,388.20	14,455,053.43	1,713,766.27	39.80285547	-80.73883447
19,800.00	91.00	330.25	10,882.99	7,842.35	-3,437.81	14,455,140.24	1,713,716.66	39.80309427	-80.73901021
19,900.00	91.00	330.25	10,881.24	7,929.16	-3,487.42	14,455,227.05	1,713,667.05	39.80333307	-80.73918595
20,000.00	91.00	330.25	10,879.50	8,015.97	-3,537.03	14,455,313.85	1,713,617.44	39.80357186	-80.73936169





Planning Report - Geographic

Database:	DB_Dec2220_v18	Local Co-ordinate Reference:	Well Van Winkle N-19 HU (slot H)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 754.00ft
Project:	Marshall County, West Virginia	MD Reference:	GL @ 754.00ft
Site:	Van Winkle	North Reference:	Grid
Well:	Van Winkle N-19 HU (slot H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

RECEIVED  
Office of Oil and Gas

JAN 19 2021

WV Department 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	
20,100.00	91.00	330.25	10,877.75	8,102.78	-3,586.84	14,455,400.66	1,713,587.83	39.80381066	-80.73953742	
20,200.00	91.00	330.25	10,876.01	8,189.59	-3,636.25	14,455,487.47	1,713,518.22	39.80404946	-80.73971317	
20,300.00	91.00	330.25	10,874.26	8,276.39	-3,685.66	14,455,574.28	1,713,488.61	39.80428825	-80.73988891	
20,400.00	91.00	330.25	10,872.52	8,363.20	-3,735.47	14,455,661.09	1,713,419.00	39.80452705	-80.74006465	
20,500.00	91.00	330.25	10,870.77	8,450.01	-3,785.08	14,455,747.90	1,713,369.39	39.80476584	-80.74024039	
20,600.00	91.00	330.25	10,869.03	8,536.82	-3,834.69	14,455,834.71	1,713,319.78	39.80500464	-80.74041614	
20,700.00	91.00	330.25	10,867.28	8,623.63	-3,884.30	14,455,921.52	1,713,270.17	39.80524343	-80.74059189	
20,800.00	91.00	330.25	10,865.54	8,710.44	-3,933.91	14,456,008.33	1,713,220.56	39.80548223	-80.74076763	
20,900.00	91.00	330.25	10,863.79	8,797.25	-3,983.52	14,456,095.13	1,713,170.95	39.80572102	-80.74094338	
21,000.00	91.00	330.25	10,862.05	8,884.06	-4,033.13	14,456,181.94	1,713,121.34	39.80595981	-80.74111913	
21,100.00	91.00	330.25	10,860.30	8,970.87	-4,082.74	14,456,268.75	1,713,071.73	39.80619861	-80.74129488	
21,200.00	91.00	330.25	10,858.56	9,057.68	-4,132.35	14,456,355.56	1,713,022.12	39.80643740	-80.74147064	
21,300.00	91.00	330.25	10,856.81	9,144.49	-4,181.96	14,456,442.37	1,712,972.51	39.80667619	-80.74164639	
21,400.00	91.00	330.25	10,855.07	9,231.29	-4,231.57	14,456,529.18	1,712,922.90	39.80691499	-80.74182215	
21,500.00	91.00	330.25	10,853.32	9,318.10	-4,281.18	14,456,615.99	1,712,873.29	39.80715378	-80.74199790	
21,600.00	91.00	330.25	10,851.58	9,404.91	-4,330.79	14,456,702.80	1,712,823.68	39.80739257	-80.74217366	
21,700.00	91.00	330.25	10,849.83	9,491.72	-4,380.40	14,456,789.60	1,712,774.07	39.80763138	-80.74234942	
21,800.00	91.00	330.25	10,848.09	9,578.53	-4,430.01	14,456,876.41	1,712,724.46	39.80787015	-80.74252518	
21,900.00	91.00	330.25	10,846.34	9,665.34	-4,479.62	14,456,963.22	1,712,674.85	39.80810895	-80.74270094	
22,000.00	91.00	330.25	10,844.60	9,752.15	-4,529.23	14,457,050.03	1,712,625.24	39.80834774	-80.74287670	
22,100.00	91.00	330.25	10,842.85	9,838.96	-4,578.84	14,457,136.84	1,712,575.63	39.80858653	-80.74305247	
22,200.00	91.00	330.25	10,841.10	9,925.77	-4,628.45	14,457,223.65	1,712,526.02	39.80882532	-80.74322823	
22,300.00	91.00	330.25	10,839.36	10,012.58	-4,678.06	14,457,310.46	1,712,476.41	39.80906411	-80.74340400	
22,400.00	91.00	330.25	10,837.61	10,099.38	-4,727.67	14,457,397.27	1,712,426.80	39.80930290	-80.74357976	
22,500.00	91.00	330.25	10,835.87	10,186.19	-4,777.28	14,457,484.08	1,712,377.19	39.80954169	-80.74375553	
22,600.00	91.00	330.25	10,834.12	10,273.00	-4,826.89	14,457,570.88	1,712,327.58	39.80978048	-80.74393130	
22,700.00	91.00	330.25	10,832.38	10,359.81	-4,876.50	14,457,657.69	1,712,277.97	39.81001927	-80.74410707	
22,779.03	91.00	330.25	10,831.00	10,428.42	-4,915.70	14,457,726.30	1,712,238.76	39.81020798	-80.74424598	
<b>PBHL/TD 22779.03 MD 110831.00 TVD</b>										
22,779.04	91.00	330.25	10,831.00	10,428.42	-4,915.71	14,457,726.31	1,712,238.76	39.81020800	-80.74424600	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Van Winkle N-19HU PB1 - hit/miss target - Shape - Point	0.00	0.00	10,831.00	10,428.42	-4,915.71	14,457,726.31	1,712,238.76	39.81020800	-80.74424600	
Van Winkle N-19HU LP1 - plan misses target center by 0.07ft at 11605.06ft MD (11026.00 TVD, 726.40 N, 627.70 E) - Point	0.00	0.00	11,026.00	728.37	627.64	14,448,026.27	1,717,782.09	39.78352400	-80.72461300	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
22,779.04	10,831.00	20" Casing	20	24	



Planning Report - Geographic

Database:	DB_Dec2220_v16	Local Co-ordinate Reference:	Well Van Winkle N-19 HU (slot H)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 754.00ft
Project:	Marshall County, West Virginia	MD Reference:	GL @ 754.00ft
Site:	Van Winkle	North Reference:	Grid
Well:	Van Winkle N-19 HU (slot H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
3,000.00	3,000.00	0.00	0.00	KOP Begin 2°/100' build
3,200.00	3,199.84	-4.49	5.35	Begin 4.00° tangent
4,002.12	4,000.00	-40.45	48.21	Begin 2°/100' drop
4,202.12	4,199.84	-44.84	53.55	Begin vertical hold
7,002.28	7,000.00	-44.84	53.55	Begin 2°/100' build
7,809.68	7,796.75	-51.31	186.40	Begin 16.15° tangent
10,120.57	10,016.47	-87.58	808.08	Begin 6°/100' build/turn
11,074.79	10,852.16	284.39	830.70	Begin 8°/100' build/turn
11,605.12	11,026.00	728.45	627.67	Begin 91.00° lateral
22,779.03	10,831.00	10,428.42	-4,915.70	PBHL/TD 22779.03 MD /10831.00 TVD

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection

WW-9  
(4/16)

API Number 47 - 051 -  
Operator's Well No. Van Winkle N-19HU

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Tug Hill Operating, LLC OP Code 494510851  
Watershed (HUC 10) Fish Creek Quadrangle Glen Easton 7.5'

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

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

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

Proposed Disposal Method For Treated Pit Wastes:

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

Will closed loop system be used? If so, describe: Yes - For vertical and horizontal drilling

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

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

Additives to be used in drilling medium? Barite for weight

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

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

-Landfill or offsite name/permit number? Wetzel County Sanitary Landfill (SWF-1021 / WV0109185) and Westmoreland Sanitary Landfill, LLC (SAN1405 / PA DEP EC#1306428)

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

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

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

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

Subscribed and sworn before me this 8 day of JANUARY, 2021

[Signature]

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

My commission expires \_\_\_\_\_

07/09/2021

Tug Hill Operating, LLC

Proposed Revegetation Treatment: Acres Disturbed 16.63 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

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Annual Ryegrass	40	Orchard Grass	12
Spring Oats	96	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: Benny Hill

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

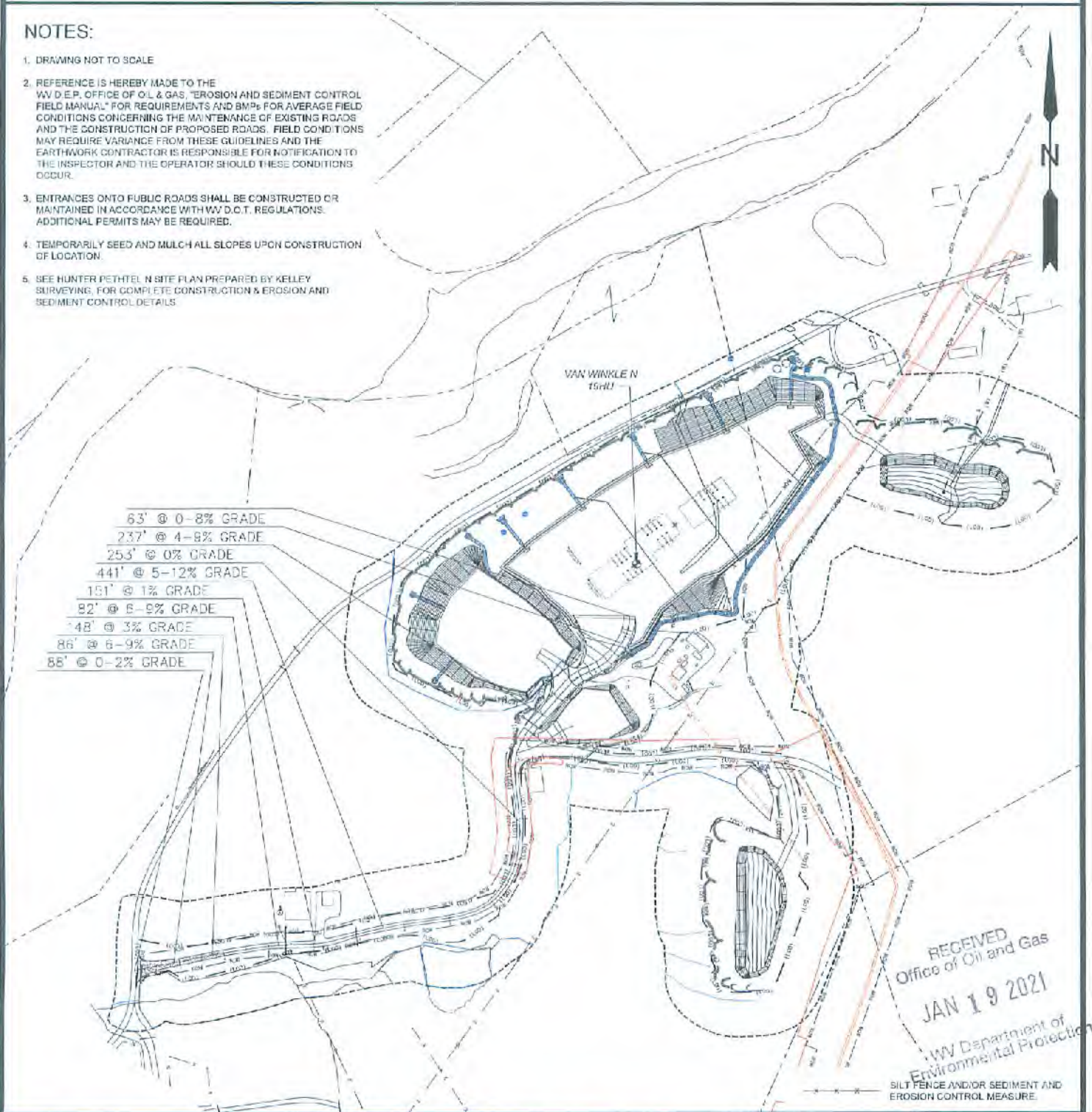
Title: Oil and Gas Inspector Date: 1-21-21

Field Reviewed? (  ) Yes (  ) No

# PROPOSED VAN WINKLE N - 19HU

**NOTES:**

1. DRAWING NOT TO SCALE
2. 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.
3. ENTRANCES ONTO PUBLIC ROADS SHALL BE CONSTRUCTED OR MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATIONS. ADDITIONAL PERMITS MAY BE REQUIRED.
4. TEMPORARILY SEED AND MULCH ALL SLOPES UPON CONSTRUCTION OF LOCATION.
5. SEE HUNTER PETHTEL N SITE PLAN PREPARED BY KELLEY SURVEYING, FOR COMPLETE CONSTRUCTION & EROSION AND SEDIMENT CONTROL DETAILS.



12 Vanhorn Drive | P.O. Box 150 | Greenville, WV 26351 | 304.462.5634  
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952  
 254 East Beckley Bypass | Beckley, WV 25801 | 304.255.9296  
 slsww.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR:	
COUNTY	DISTRICT	TUG HILL OPERATING, LLC	
MARSHALL	MEADE	380 SOUTHPOINTE BLVD	
		SUITE 200	
		CANONSBURG, PA 15317	
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	8952	12/24/2020	NONE

07/09/2021

## 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. IHS 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 (12/04/2020) to have him make maps of the wellbores with his information. DPS utilizes WVGES maps for their mapping seems it as the best publicly available. See attached map he provided.

#### Request maps for:

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

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

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

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection  
Page 1 of 4

Permit well - Van Winkle N-19HU

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
4705101330	Tug Hill Operating	10154' MD, 6151' TVD	Marcellus	Unknown	Yes, existing Marcellus producer. Proper casing and cement should prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well. Tug Hill Operating is considering plugging this well.
4705101284	Tug Hill Operating	6340' TVD	None	None	Yes, existing vertical pilot drilled into Onondaga. Well was not perforated. Proper casing and cement should prevent migration of fluids from new wellbore to existing wellbore.	Well is not producing.
4705101859	EQT Production Company	No Depth/Not Drilled	None	None	No, well is a proposed well. The well was not drilled. This is a canceled permit.	A canceled permit.
4705101860	EQT Production Company	No Depth/Not Drilled	None	None	No, well is a proposed well. The well was not drilled. This is a canceled permit.	A canceled permit.
4705101866	EQT Production Company	No Depth/Not Drilled	None	None	No, well is a proposed well. The well was not drilled. This is a canceled permit.	A canceled permit.
4705101846	EQT Production Company	No Depth/Not Drilled	None	None	No, well is a proposed well. The well was not drilled. This is a canceled permit.	A canceled permit.
4705101847	EQT Production Company	No Depth/Not Drilled	None	None	No, well is a proposed well. The well was not drilled. This is a canceled permit.	A canceled permit.
4705130296	Unknown	Unknown	Unknown	Unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be effected by fracturing in the planned Point Pleasant well. Well is plugged.	Well was plugged 8/30/1949.

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection  
07/09/2021

Location Information: View Map

Table with columns: AM, COUNTY, PERMIT, TALE DISTRICT, QUAD, QUAD\_15, LAY, LAY\_NO, LOW, LOW\_NO, UTM, UTM\_ZONE, UTM\_ZONE\_15, UTM\_ZONE\_15\_NO

There is no Bottom Hole Location data for this well

Owner Information:

Table with columns: AM, CMP\_DT, SUFFIX, STATUS, SURFACE\_OWNER, WELL\_NUM, CO\_NUM, LEASE, LEASE\_NUM, MINERAL\_OWN, OPERATOR, AT\_COMPLETION, PROP\_VD, PROP\_TRGY\_FM, TRF\_LET\_FM

Completion Information:

Table with columns: AM, CMP\_DT, SPUD\_DT, ELEV, DATUM, FIELD, DEEPEST\_FHT, DEEPEST\_FHT\_DEV, INITIAL\_CLASS, FINAL\_CLASS, TYPE, RGS, CMP\_MTHD, TVD, TVD\_NEW, FTG, KOD, O\_BEF, G\_AFF, O\_BEF, O\_AFF, NGL\_BEF, NGL\_AFF, P\_BEF, TL\_BEF, P\_AFF, TL\_AFF, BH\_P\_BEF, BH\_P\_AFF, O\_BSRD\_BY

Pay/Show/Water Information:

Table with columns: AM, CMP\_DT, ACTIVITY, PRODUCT, SECTION, DEPTH\_TOP, FHT\_TOP, DEPTH\_BOT, FHT\_BOT, O\_BEF, G\_AFF, O\_BEF, O\_AFF, WATER\_QNTY

Production Gas Information: (Volumes in Mcf)

Table with columns: AM, PRODUCING\_OPERATOR, PRD\_YEAR, AMO, GAS, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC

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

Table with columns: AM, PRODUCING\_OPERATOR, PRD\_YEAR, AMO, OIL, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC

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

Table with columns: AM, PRODUCING\_OPERATOR, PRD\_YEAR, AMO, NGL, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC

Production Water Information: (Volumes in Gallons)

Table with columns: AM, PRODUCING\_OPERATOR, PRD\_YEAR, AMO, WTR, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC

Stratigraphy Information:

Table with columns: AM, SUFFIX, FHT, FM, QUALITY, DEPTH\_TOP, DEPTH, QUALITY, THICKNESS, THICKNESS, QUALITY, ELEV, DATUM

Wireline (E-Log) Information:

Table with columns: AM, LOG\_TOP, LOG\_BOT, DEEPEST\_FHT, LOGS\_AVAILABLE, SCAN, DIGITIZED, GR\_TOP, GR\_BOT, D\_TOP, D\_BOT, N\_TOP, N\_BOT, T\_TOP, T\_BOT, E\_TOP, E\_BOT, O\_TOP, O\_BOT, INCH2, INCH3, REDUCED, KOP, LOGNO, ELEV\_KB, ELEV\_GL, ELEV\_DF, LOG\_MHSD, FROM

Comment: \*logs: caliper, pe, tension, lt, amplitude, ccl, vdl, bit size.

Downloadable Log Images: We advise you to save the log image file to your PC for viewing. To do so, right-click the .tif image of interest and select the save option. Then you can direct the file to a location of your choice. Please note these images vary in size and some may take several minutes to download, especially if using a 56k or slower dialup connection.

- Quick Reference Guide for Log File Names: For more info about WAGES scanned logs click here
geologic log types:
d density (includes both density compensated density, density, density porosity, grain density, matrix density, etc.)
e photoelectric absorption (PE or Pe, etc.)
g gamma ray
l induction (includes dual induction, neutron induction, deep induction, etc.)
i lithology
m dipmeter
n neutron (includes neutron porosity, sidereal neutron-SWN, etc.)
o other\*
s sonic or velocity
t temperature (includes borehole temperature, BHT, differential temperature, etc.)
z spontaneous potential or potential
mechanical log types:
h cement bond
c caliper
e other\*
p perforation depth control or perforate

\*Other logs may include but are not limited to: such curves as audio bit size, CCL-casing collar locator, continuous meter, checkshot, density gas detector, ground NCTL-nuclear cement top locator, radioactive tracer, tension

There is no Plugging data for this well

There is no Sample data for this well

RECEIVED
Office of Oil and Gas
JAN 19 2021
WV Department of Environmental Protection



Location Information: View Map

Table with columns: AFI, COUNTY, PERMIT, TAD, DISTRICT, QUAD\_75, QUAD\_15, LAT\_DD, LON\_DD, UTM\_E, UTM\_N

Bottom Hole Location Information:

Table with columns: AFI, EP, FLAG, UTM\_E, UTM\_N, LON\_DD, LAT\_DD

Owner Information:

Table with columns: AFI, CMP\_DT, SUFFIX, STATUS, SURFACE\_OWNER, WELL\_NUM, CO\_WUM, LEASE, LEASE\_NUM, MINERAL\_OWN, OPERATOR, AT\_COMPLETION, PROP\_VD, PROP\_TRGT\_FM, TFM\_EST\_FR

Completion Information:

Table with columns: AFI, CMP\_DT, SPUD\_DT, ELEV, DATUM, FIELD, DEEPEST\_FML, DEEPEST\_FMT, INITIAL\_CLASS, FINAL\_CLASS, TYPE, ING, CMP\_MTHD, TVD, TMD, NEW\_FTC, KOD, G\_BEP, G\_AFT, O\_BEF, O\_AFT, NGL\_BEF, NGL\_AFT, P\_BEF, P\_AFT, T1\_AFT, BHP\_BEF, BHP\_AFT, G\_MSRD, BY

Pay/Show Water Information:

Table with columns: AFI, CMP\_DT, ACTIVITY, PRODUCT, SECTION, DEPTH\_TOP, FM\_TOP, DEPTH\_BOT, FM\_BOT, G\_BEF, G\_AFT, O\_BEF, O\_AFT, WATER\_UNITS

Production Gas Information: (Volumes in Mcf)

Table with columns: AFI, PRODUCING\_OPERATOR, PRD\_YEAR, ANN\_GAS, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC

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

Table with columns: AFI, PRODUCING\_OPERATOR, PRD\_YEAR, ANN\_OIL, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC

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

Table with columns: AFI, PRODUCING\_OPERATOR, PRD\_YEAR, ANN\_NGL, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC

Production Water Information: (Volumes in Gallons)

Table with columns: AFI, PRODUCING\_OPERATOR, PRD\_YEAR, ANN\_WTR, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC

Stratigraphy Information:

Table with columns: AFI, SUFFIX, FM, FM\_QUALITY, DEPTH\_TOP, DEPTH\_QUALITY, THICKNESS, THICKNESS\_QUALITY, ELEV, DATUM

Wireline (E-Log) Information:

Table with columns: AFI, LOG\_TOP, LOG\_BOT, DEEPEST\_FML, LOGS\_AVAIL, SCAN, DIGITIZED, GR\_TOP, GR\_BOT, D\_TOP, D\_BOT, N\_TOP, N\_BOT, I\_BOT, T\_TOP, T\_BOT, S\_TOP, S\_BOT, O\_TOP, O\_BOT, INCH2, INCH5, REDUCED, KOP, LOGCMD, ELEV\_KB, ELEV\_GL, ELEV\_DF, LOG\_MSRD\_FROM

Comment: \*logs ROP, tool temp

Downloadable Log Images: We advise you to save the log image file to your PC for viewing. To do so, right-click the .tif image of interest and select the save option.

FILENAME: 4705101330\_5m.mdi.tid.pdf

- Geologic log types:
d density (includes bulk density, compensated density, density porosity, grain density, matrix density, etc.)
e photoelectric absorption (PE or Pe, etc.)
g gamma ray
i induction (includes dual induction, medium induction, deep induction, etc.)
l logging
m dipmeter
n neutron (includes neutron porosity, sidewall neutron-SWN, etc.)
o other
s sonic or velocity
t temperature (includes borehole temperature, BHT, differential temperature, etc.)
z spontaneous potential or potential
Mechanical log types:
b cement bond
c caliper
e other
p perforation depth control or perforate

\*other logs may include, but are not limited to, such curves as audio, bit logs, CCL - casing collar locator, continuous motion, directional survey, gas detector, guard, HCTL - (Holes-in-Cement Top Locator), radioactive tracer, tension

There is no Pluging data for this well

There is no Sample data for this well

RECEIVED
Office of Oil and Gas
JAN 19 2021
WV Department of Environmental Protection

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_76	QUAD_15	LAT_DD	LONG_DD	UTME	UTMN
4705101848	Marshall	1848	Meade	Gen Easton	Cameron	39.781827	-80.726802	523411.3	4403578.3

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LONG_DD	LAT_DD
4705101848	1 - As Proposed	521973.8	4404978.5	-80.743342	39.784481

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
4705101848	--		Cancelled	Deepest W Hunter	SH		Number Petrol		Deepest W Hunter et al	Stone Energy Corporation	6140	MacroGas 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	NGL_AFT	P_BEF	TI_BEF	P_AFT	TI_AFT	BH_P_BEF	BH_P_AFT	G_MSRD_BY
4705101848	--	--	755	Ground Level																									

There is no Pay data for this well

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	AKN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101848	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0

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

API	PRODUCING_OPERATOR	PRD_YEAR	AKN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101848	EQT Production Company	2018	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	AKN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101848	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	AKN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101848	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0

There is no Stratigraphy data for this well

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

There is no Plugging data for this well

There is no Sample data for this well

RECEIVED  
 Office of Oil and Gas  
 JAN 19 2021  
 WV Department of  
 Environmental Protection

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_16	LAT_DD	LONG_DD	UTM_E	UTM_N
4705101847	Marshall	1847	Meade	Glen Estlin	Cameron	39 781755	-80 72947	523422.6	4403570.4

Bottom Hole Location Information:

API	EP_FLAG	UTM_E	UTM_N	LONG_DD	LAT_DD
4705101847	1 As Proposed	523970	4401841.7	-80 720137	39.767065

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
4705101847	J-J	Dwld Oprtd Loc	Cancelled	Dennis W Hunter	4H		Hunter Pethel		Dennis W Hunter et al	Stone Energy Corporation		8250	Mercedus 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_FIG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL_BEF	NGL_AFT	P_BEF	TI_BEF	P_AFT	TI_AFT	BH_P_BEF	BH_P_AFT	G_MSRD_BY
4705101847	J-J	J-J	759	Ground Level																								

There is no Pay data for this well

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANL_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101847	EQT Production Company	2018		0	0	0	0	0	0	0	0	0	0	0	0

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANL_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101847	EQT Production Company	2018		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	ANL_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101847	EQT Production Company	2018		0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANL_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101847	EQT Production Company	2018		0	0	0	0	0	0	0	0	0	0	0	0

There is no Stratigraphy data for this well

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

There is no Plugging data for this well

There is no Sample data for this well

RECEIVED  
 Office of Oil and Gas  
 JAN 19 2021  
 WV Department of  
 Environmental Protection

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_16	LAT_DD	LONG_DD	UTME	UTMN
4705101859	Marshall	1859	Meade	Glen Easton	Cameron	39 78156	-80 726875	523330	4403548.6

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LONG_DD	LAT_DD
4705101859	1	As Proposed	521902.3	4404681.8	-80.744175

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MIXERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FH	TFM_EST_PR
4705101859	---		Cancelled	Deena W Hunter	6H		Hunter Petrel		Deena W Hunter et al	Slope Energy Corporation	6140	Marcellus Fin	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FH	DEEPEST_FMT	DOTAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	WGL_BEF	NGL_AFT	P_BEF	TI_BEF	P_AFT	TI_AFT	BH_P_BEF	BH_P_AFT	G_MSRD_BY
4705101859	---	---	755	Oreond Level																								

Comment: -/- Plat coordinates hard to read, blurry Per WVDEP OOG website, well was cancelled 12/11/2017. No cancellation documents available

There is no Pay data for this well

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101859	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101859	EQT Production Company	2018	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
4705101859	EQT Production Company	2018	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
4705101859	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0

There is no Stratigraphy data for this well

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

There is no Plugging data for this well

There is no Sample data for this well

RECEIVED  
 Office of Oil and Gas  
 JAN 19 2021  
 WV Department of  
 Environmental Protection

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_76	QUAD_16	LAT_DD	LONG_DD	UTIME	UTM_N
4705101880	Marshall	1880	Meade	Glen Easton	Cameron	39 781873	-80 726548	523416	4403561.3

Bottom Hole Location Information:

API	EP_FLAG	UTIME	UTM_N	LONG_DD	LAT_DD
4705101880	1	As Proposed	522074.3	4405230.4	-80.74218 39.796743

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
4705101880	--		Cancelled	Dezora W Hunter	10H		Hunter Petites		Dezora W Hunter et al	Stone Energy Corporation	6140	Marcesha Fin	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	ROG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL_BEF	NGL_AFT	P_BEF	T1_BEF	P_AFT	T1_AFT	BH_P_BEF	BH_P_AFT	G_MSRD_BY
4705101880	--	--	755	Ground Level																								

Comment: -- Per WVDEP OOG website, well was cancelled 12/11/2017. No cancellation documents available.

There is no Pay data for this well

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101880	EDT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101880	EDT Production Company	2018	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
4705101880	EDT Production Company	2018	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
4705101880	EDT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0

There is no Stratigraphy data for this well

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

There is no Plugging data for this well

There is no Sample data for this well

RECEIVED  
 Office of Oil and Gas  
 JAN 19 2021  
 WV Department of Environmental Protection

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_76	QUAD_15	LAT_DD	LOW_DD	UTME	UTMN
4705101866	Marshall	1868	Meads	Glen Easton	Cameron	39 781782	-80 726479	523427 8	4403573 4

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LOW_DD	LAT_DD
4705101866	1	As Proposed	524237 2	4402287 1	-80 717005 39 77017

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRTG_FM	TFM_EST_PR
4705101866	--		Cancelled	Dennis W Hunter	5H		Hunter/Pethel		Dennis W Hunter et al	Stone Energy Corporation	6250	Marcelus Frm	4200

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	NGL_AFT	P_BEF	TI_BEF	P_AFT	TI_AFT	BH_P_BEF	BH_P_AFT	G_MSRD_BY
4705101866	--	--	755	Ground Level																									

Comment: -- Per WVDEP OOG website, well was cancelled 12/11/2017. No cancellation documents available.

There is no Pay data for this well

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101866	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0

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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705101866	EQT Production Company	2018	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
4705101866	EQT Production Company	2018	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
4705101866	EQT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0

There is no Stratigraphy data for this well

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

There is no Plugging data for this well

There is no Sample data for this well

RECEIVED  
 Office of Oil and Gas  
 JAN 19 2021  
 WV Department of  
 Environmental Protection

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_76	QUAD_15	LAT_DD	LONG_DD	UTIME	UTIMN
4705130296	Marshall	30296	Meade	Glen Election	Cameron	39 795854	-80 734275	522664.1	4405132.9

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705130296	--1920		Orphan Loc	Completed	H & T W Crow		1			hittnger, A G			

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	NGL_AFT	P_BEF	TI_BEF	P_AFT	TI_AFT	BH_P_BEF	BH_P_AFT	G_MSRD_BY
4705130296	--1920	--	791	Ground Level				enclassified	enclassified	not available	unknown	unknown																	

There is no Pay data for this well

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

There is no Stratigraphy data for this well

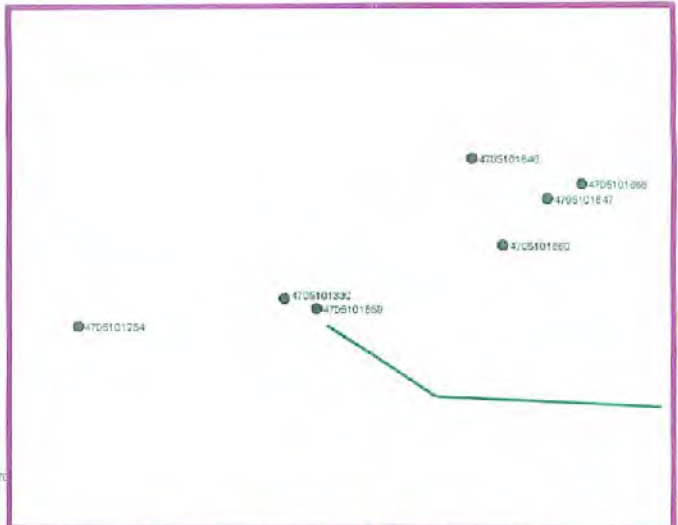
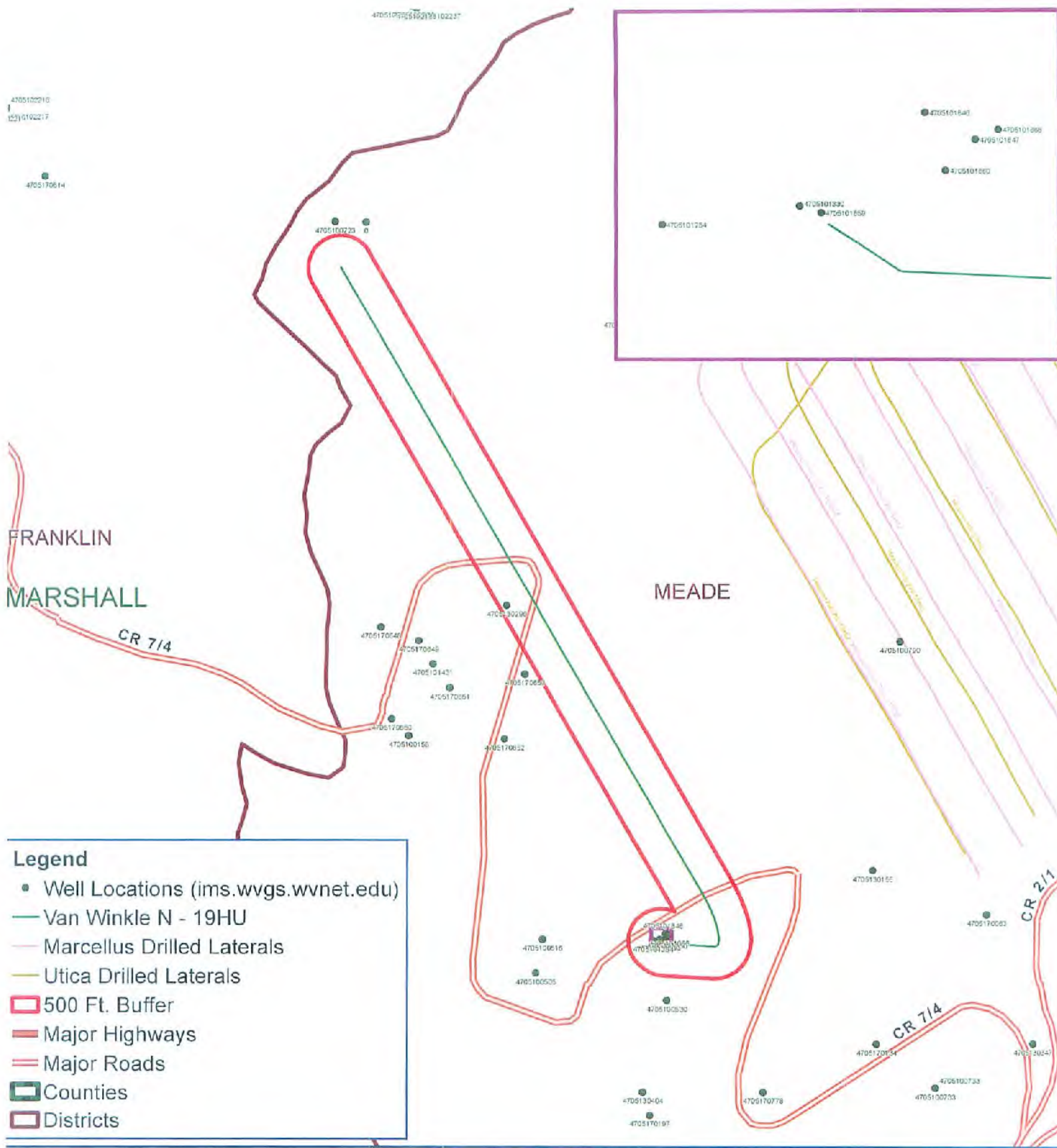
There is no Wireline (E-Log) data for this well

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705130296	8/30/1949	0

There is no Sample data for this well

RECEIVED  
 Office of Oil and Gas  
 JAN 19 2021  
 WV Department of  
 Environmental Protection



- Legend**
- Well Locations (ims.wvgs.wvnet.edu)
  - Van Winkle N - 19HU
  - Marcellus Drilled Laterals
  - Utica Drilled Laterals
  - 500 Ft. Buffer
  - Major Highways
  - Major Roads
  - ▭ Counties
  - ▭ Districts



# Van Winkle N - 19HU Meade District Marshall County, WV



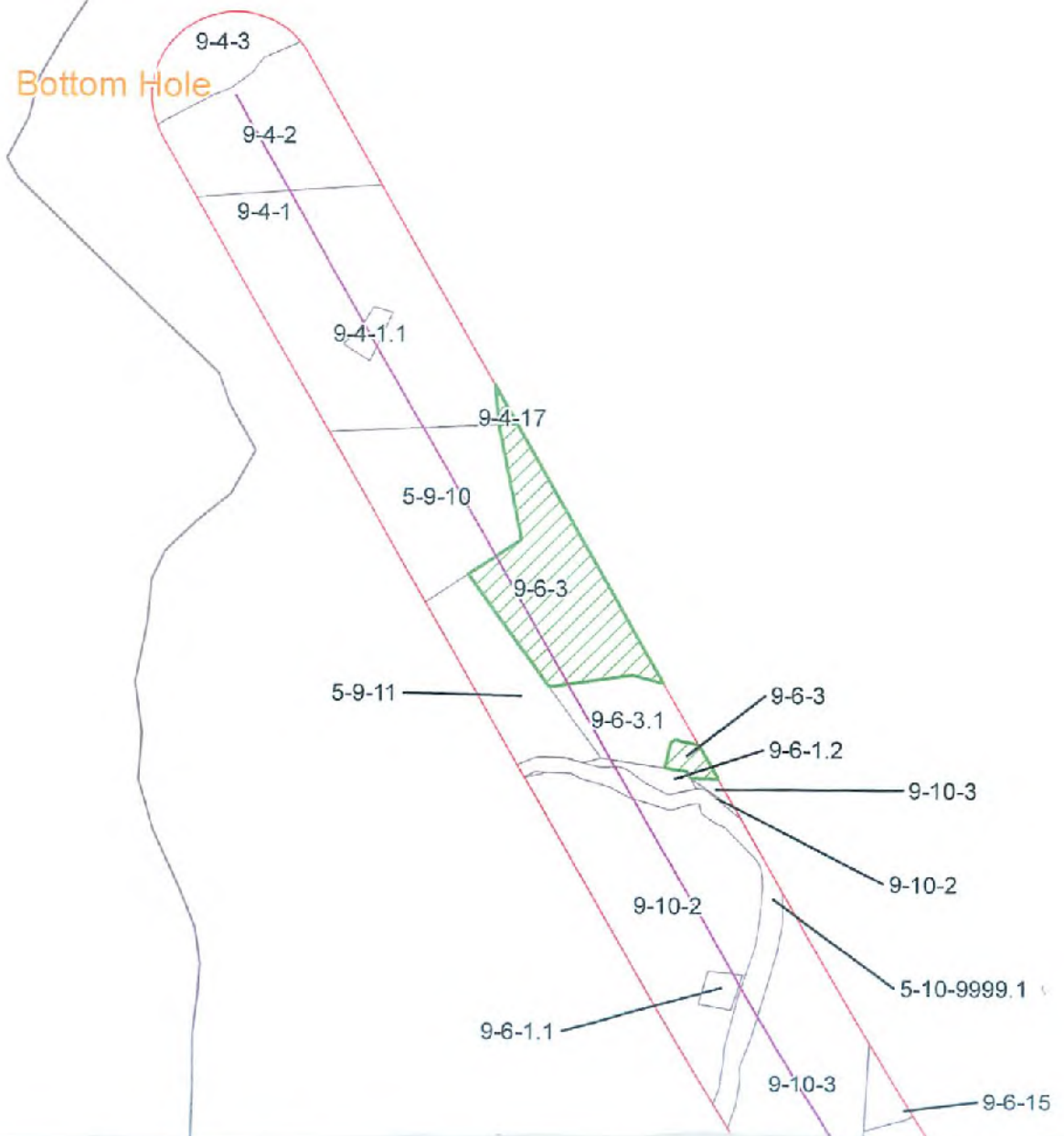
Notes:  
All locations are approximate and are for visualization purposes only.

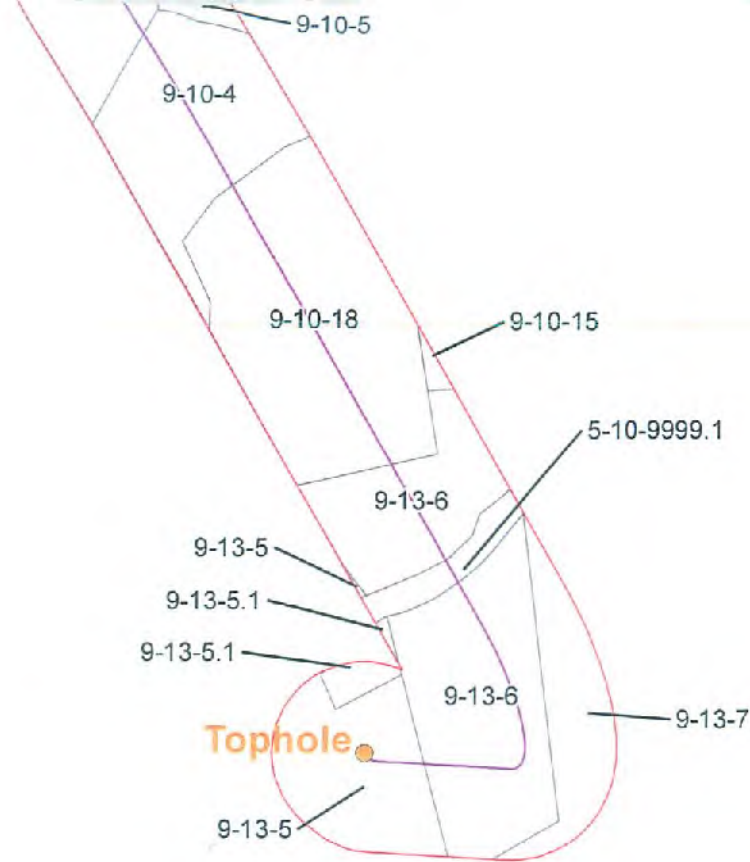
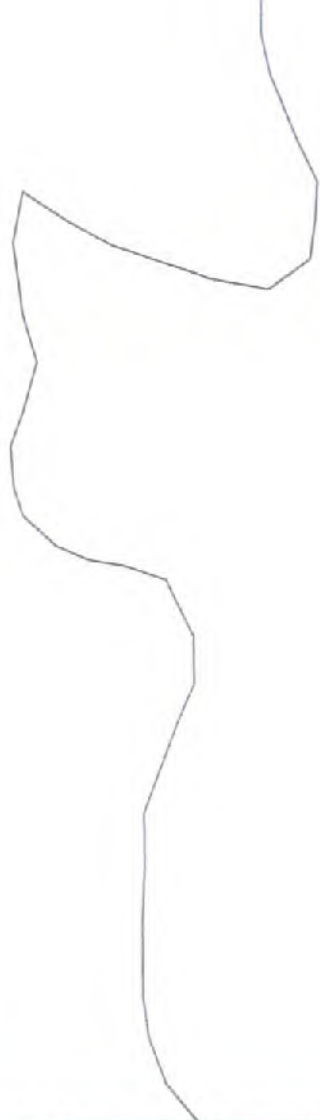
RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection  
Map Prepared by:





Van Winkle N-19HU





Coordinate System: NAD 83 UTM Zone 17N  
 Projection: Transverse Mercator  
 Datum: North American 1983  
 False Easting: 1640419.0557  
 False Northing: 0.0000  
 Central Meridian: -81.0000  
 Scale Factor: 0.9996  
 Latitude Origin: 0.0000  
 Units: Foot US

**CONFIDENTIAL**

-  Utica Well
-  Force Pool
-  500' Buffer

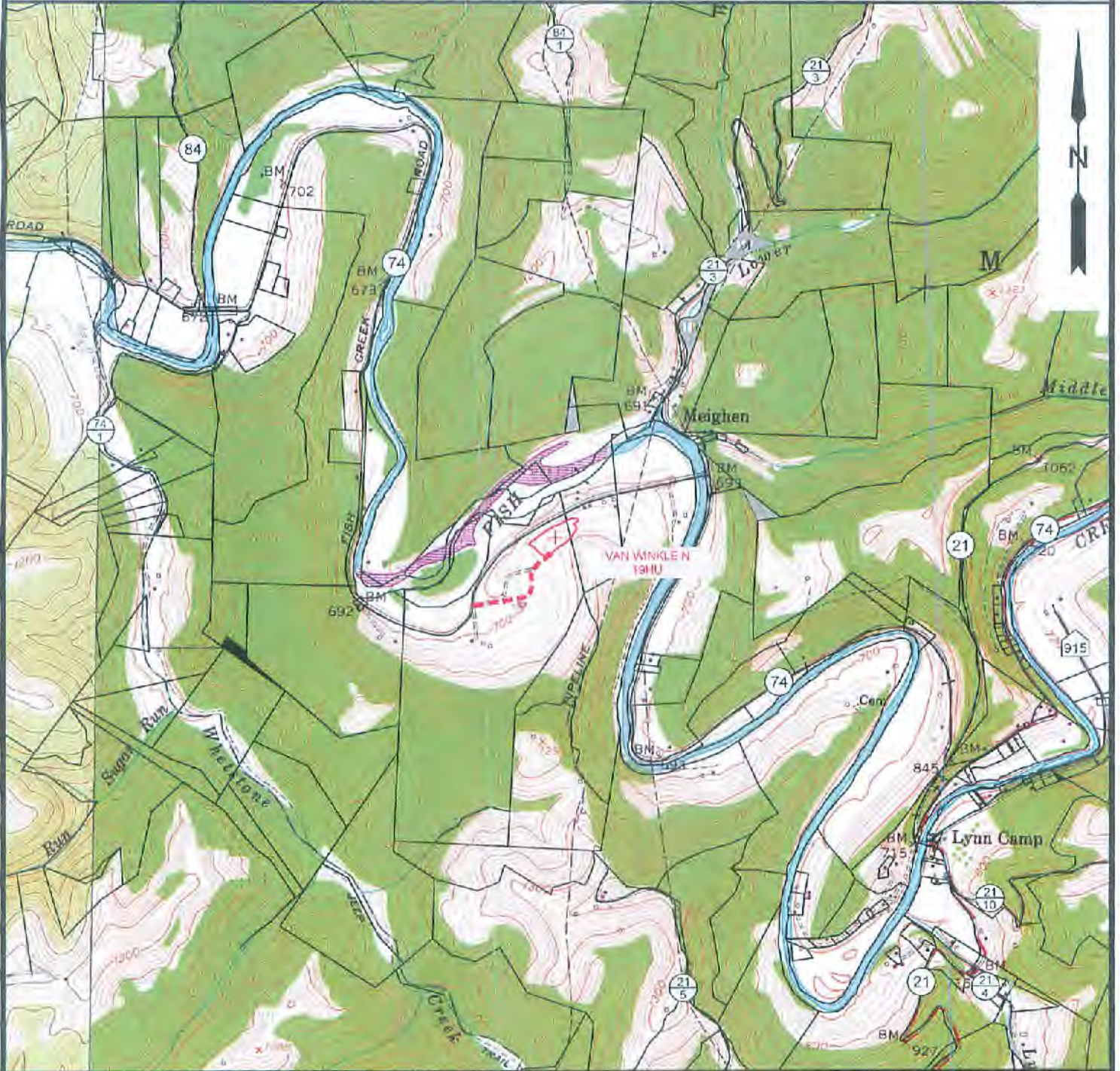
0 11,000 22,000 44,000 Feet



## Van Winkle N-19HU Operators within 500 Feet of Well Borehole



# PROPOSED VAN WINKLE N - 19HU



NOTE: CLOSEST WATER PURVEYOR  
GRANDVIEW - DOOLIN PUBLIC SERVICE DISTRICT  
PROCTOR, WV

LAT: 39.7137712  
LON: -80.8258327  
LOCATED: S 49°13'48" W AT 37,316.19' FROM THE CENTER OF HUNTER PETHTEL N WELL PAD LOCATION.



12 Van Horn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5634  
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952  
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.3296  
sllwv.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR:	
COUNTY	DISTRICT	TUG HILL OPERATING, LLC	
MARSHALL	MEADE	380 SOUTHPOINTE BLVD	
		SUITE 200	
		CANONSBURG, PA 15317	
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	8952	12/24/2020	1" = 2000'



**TUG HILL  
OPERATING**

07/09/2021



# Well Site Safety Plan

## Tug Hill Operating, LLC

*Bay Stiles 1-21-21*  
Well Name: Van Winkle N-19HU

Location: Hunter Pethtel

Marshall County, West Virginia

UTM (meters), NAD83, Zone 17:

Northing: 4,403,545.21

Easting: 523,389.70

January 2021

RECEIVED  
Office of Oil and Gas

FEB 03 2021

WV Department of  
Environmental Protection

07/09/2021



January 15, 2021

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

RE: Van Winkle N-19HU

Subject: Proposed Voluntary Pooling and Unitization

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, with the exception of the following tract which we intend to force pool.

9-6-3

9-4-17

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-hilop.com](mailto:amorris@tug-hilop.com).

Sincerely,

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

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection

**HUNTER PETHTEL LEASE  
UTICA UNIT - 351.42 AC±  
VAN WINKLE N 19HU WELL  
TUG HILL OPERATING**

T.H. LATITUDE 39°47'30"  
B.H. LATITUDE 39°50'00"

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
NAD'83 S.P.C.(FT) N. 469,126.94 E. 1,623,717.51  
NAD'83 GEO. LAT-(N) 39.781529 LONG-(W) 80.726855  
NAD'83 UTM (M) N. 4,403,545.21 E. 523,369.70  
**LANDING POINT**  
NAD'83 S.P.C.(FT) N. 469,845.0 E. 1,624,357.6  
NAD'83 GEO. LAT-(N) 39.783524 LONG-(W) 80.724613  
NAD'83 UTM (M) N. 4,403,767.2 E. 523,581.0  
**BOTTOM HOLE**  
NAD'83 S.P.C.(FT) N. 479,639.6 E. 1,618,975.2  
NAD'83 GEO. LAT-(N) 39.810208 LONG-(W) 80.744246  
NAD'83 UTM (M) N. 4,406,723.8 E. 521,891.4

T.H. LONGITUDE 80°42'30"  
B.H. LONGITUDE 80°42'30"

TAG	SURFACE OWNER	PARCEL	ACRES
A	MARY VIRGINIA PETHTEL (LIFE)	9-13-6	66.36
B	XCL MIDSTREAM OPERATING, LLC	9-13-5	190.12
C	MICHAEL WALKER, & JOSEPH BLAKE	9-13-5.1	3.26
D	MARY VIRGINIA PETHTEL (LIFE)	9-13-7	96.00
E	STATE OF WEST VIRGINIA (FISH CREEK)	N/A	N/A
F	JOSEPH MICHAEL BONENE	9-10-15	44.00
G	COBLENTZ BROS. INC.	9-10-18	67.88
H	KENNETH W. MASON EST.	9-10-4	67.00
I	JOHN E. & JANET E. KELLEY, ET AL	9-10-19	113.08
J	KENNETH W. MASON EST.	9-10-5	51.62
K	WILLIAM N. ROLPE	9-10-3	52.00
L	J. F. CROW ESTATE, ET AL	9-6-15	35.25
M	KIMBERLY A. STEWART	9-6-1.1	100.00
N	CAROL VAN SCYOC	9-10-2	206.988
O	CONSOLIDATION COAL COMPANY	9-6-1.2	2,222
P	WILLIAM N. ROLPE	9-6-3	110.09
Q	CONSOLIDATION COAL COMPANY	9-6-3.1	10.00
R	WILLIAM F. RULONG, ET AL	5-9-11	56.00
S	ROBERT GREGORY MCGUIRE, ET UX	5-9-10	139.60
T	MICHAEL E. MCCARDLE, ET UX	9-4-17	65.791
U	ROBERT GREGORY MCGUIRE, ET UX	9-4-1	76.75
V	KRAIG & JOYCE RULONG	9-4-1.1	1.00
W	ROBERT GREGORY MCGUIRE, ET UX	9-4-2	43.233

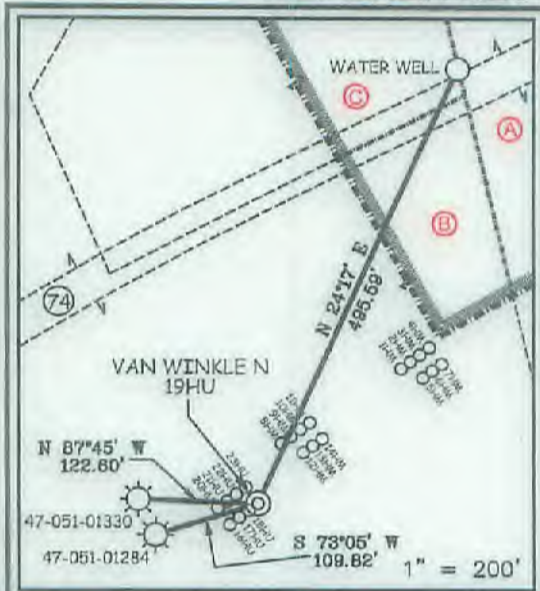
PARCEL	SURFACE ADJOINER	ACRES
5-10-5	WILLIAM F. RULONG, ET AL	22.5
5-10-7	WILLIAM F. RULONG, ET AL	22.872
5-10-8	WILLIAM F. RULONG, ET AL	70.6672
9-10-2.1	SHERRY VAN SCYOC YOCUM & BLAINE VAN SCYOC	5.00
9-10-2.2	WALTER J. FEGAT, JR., ET UX	5.00
9-13-24	ROBERT N. & NANCY R. MCCARDLE	50.64
9-13-25	ROBERT N. & NANCY R. MCCARDLE	48.00
9-13-26	ROBERT N. & NANCY R. MCCARDLE	9.02



**NOTES ON SURVEY**

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'.
- BASED ON WV DOT COUNTY ROUTE 74 IS A 40' STRIP OF LAND ACQUIRED IN NUMEROUS DEEDS.
- PROPOSED LATERAL OR TOP HOLE OF VAN WINKLE N-19HU IS WITHIN 3000' OF TOP HOLES OR LATERALS OF:  
PROPOSED VAN WINKLE N-16HU,  
PROPOSED VAN WINKLE N-17HU,  
PROPOSED VAN WINKLE N-18HU,  
PROPOSED VAN WINKLE S-20HU,  
PROPOSED VAN WINKLE S-21HU,  
PROPOSED VAN WINKLE S-22HU,  
PROPOSED VAN WINKLE S-23HU,  
KNOB CREEK N-11HU (47-051-02287),  
KNOB CREEK N-12HU (47-051-02268).

**REFERENCES**



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.662.5634  
1412 Kanawha Boulevard, East | Charleston, WV 25304 | 304.346.3952  
254 East Beckley Bypass | Beckley, WV 26201 | 304.255.5290  
slsww.com

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 REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.



P.S. 849 *C. Victor Moyers*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
DATE JANUARY 14, 20 21  
REVISED FEBRUARY 25, 2021  
OPERATORS WELL NO. VAN WINKLE N 19HU  
API WELL NO. 47 - 051 - 02352 **Deep**  
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8952P19HUR.dwg  
VAN WINKLE N 19HU-REV3  
HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'

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

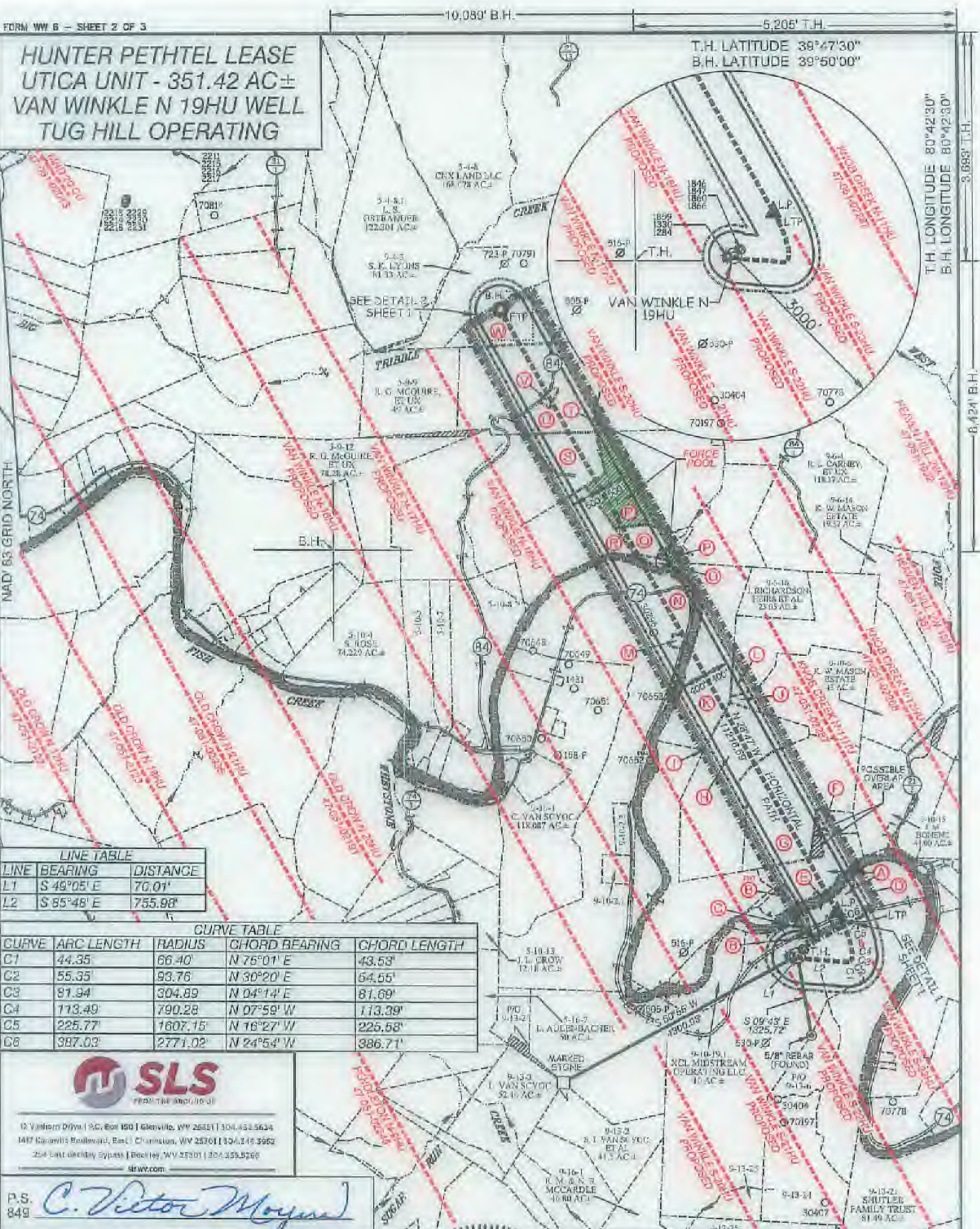
WELL TYPE: OIL  GAS  INJECTION  WASTE DISPOSAL  IF "GAS" PRODUCTION  STORAGE  DEEP  SHALLOW   
LOCATION: GROUND: 756.10' ELEVATION PROPOSED: 753.50' WATERSHED FISH CREEK (HUC 10)  
DISTRICT MEADE COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'  
SURFACE OWNER XCL MIDSTREAM OPERATING, LLC ACREAGE 190.12 ±  
ROYALTY OWNER DENNIS HUNTER, ET AL - SEE WV-6A1 ACREAGE 190.12 ±  
PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  PLUG AND ABANDON  CLEAN OUT AND REPLUG  OTHER   
PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_ TARGET FORMATION POINT PLEASANT ESTIMATED DEPTH TVD: 11,255' / TMD: 22,779'

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DIANNA STAMPER  
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5400 D BIG TYLER ROAD  
FORT WORTH, TX 76107 CHARLESTON, WV 25313

COUNTY NAME PERMIT

07/09/2021

**HUNTER PETHTEL LEASE  
UTICA UNIT - 351.42 AC±  
VAN WINKLE N 19HU WELL  
TUG HILL OPERATING**



**LINE TABLE**

LINE	BEARING	DISTANCE
L1	S 49°05' E	70.01'
L2	S 85°48' E	755.98'

**CURVE TABLE**

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	44.35'	66.40'	N 75°01' E	43.53'
C2	55.35'	93.76'	N 30°20' E	64.55'
C3	81.94'	304.89'	N 04°14' E	81.69'
C4	113.49'	790.28'	N 07°59' W	113.39'
C5	225.77'	1607.15'	N 16°27' W	225.58'
C6	387.03'	2771.02'	N 24°54' W	386.71'



12 Vidler Drive, P.O. Box 150 | Glenville, WV 26031 | 304.453.5634  
1417 Canawhis Boulevard, Basl | Charleston, WV 25301 | 304.345.3952  
254 East Barclay Bypass | Beckley, WV 25801 | 304.259.5296  
sls.wv.com

P.S. 849 *C. Victor Moyers*

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD83 S.P.C.(FT)	N. 469,126.94	E. 1,629,717.51
NAD83 GEO.	LAT-(N) 39.761529	LONG-(W) 80.726855
NAD83 UTM (M)	N. 4,403,645.21	E. 523,839.70
<b>LANDING POINT</b>		
NAD83 S.P.C.(FT)	N. 469,845.0	E. 1,624,357.6
NAD83 GEO.	LAT-(N) 39.783524	LONG-(W) 80.724613
NAD83 UTM (M)	N. 4,403,757.2	E. 523,591.0
<b>BOTTOM HOLE</b>		
NAD83 S.P.C.(FT)	N. 479,639.6	E. 1,618,975.2
NAD83 GEO.	LAT-(N) 39.810206	LONG-(W) 80.744246
NAD83 UTM (M)	N. 4,409,723.9	E. 521,891.4

SCALE 1" = 2000' FILE NO. 8952P19HUR.dwg  
VAN WINKLE N 19HU-REV3  
DATE JANUARY 14, 2021  
REVISED FEBRUARY 25, 2021  
OPERATORS WELL NO. VAN WINKLE N 19HU  
API WELL 47-051-02352 Dep  
NO. STATE COUNTY PERMIT



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

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

**LEGEND**

UNIT BOUNDARY	
LEASED TRACTS INSIDE UNIT BOUNDARY	
SURFACE LINE	
PROPOSED UTICA WELL LATERAL	
400' OFFSET LINE	
500' OFFSET LINE	
TIE LINE	
FORCE POOL TRACT	
CREEK	
ROAD	
PROPOSED FIRST TAKE POINT	
PROPOSED LAST TAKE POINT	
COUNTY ROUTE	
PROPOSED WELL	
EXISTING WELL	
PERMITTED WELL	
SURFACE OWNER (SEE TABLE)	
LEASE # (SEE ADDITIONAL SHEETS)	

07/09/2021

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

DESIGNATED AGENT DIANNA STAMPER  
CT CORPORATION SYSTEM  
ADDRESS 5400 D BIG TYLER ROAD  
CHARLESTON, WV 25313

**HUNTER PETHTEL LEASE  
UTICA UNIT - 351.42 AC±  
VAN WINKLE N 19HU WELL  
TUG HILL OPERATING**



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26031 | 304.462.5534  
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952  
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.3295  
slswv.com

NO.	Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Deed Book/Page	
1	10*31303	9-13-6	A	MARY V & FRANK E PETHTEL, ET AL	668	525
2	10*31312	9-13-5	B	DENNIS W & KATHYA HUNTER	668	155
3	10*31312	9-13-5.1	C	DENNIS W & KATHYA HUNTER	668	155
4	10*31303	9-13-7	D	MARY V & FRANK E PETHTEL, ET AL	668	525
5	10*23458	Fish Creek	E	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	1019	373
6	10*47051.117.1	9-10-15	F	JOSEPH MICHAEL BONENE	876	79
7	10*17383	9-10-18	G	JACQUES ROY, ET AL	919	631
8	10*19749	9-10-4	H	JOHN CAIVERT, ET AL	944	428
9	10*31384	9-10-19	I	JOHN F KELLEY AND JANETE KELLEY	693	6
10	10*15504	9-10-5	J	JAMES MASON ET AL	692	461
11	10*23561	9-10-3	K	VINCENT PATRELLO AND AMANDA PATRELLO, ET AL	988	97
12	10*15510	9-6-15	L	ELAINE PHELPS ET VIR, ET AL	718	326
13	10*19894	9-6-1.1	M	CAROLL VANSYOC	941	392
14	10*19894	9-10-2	N	CAROLL VANSYOC	941	392
15	10*23214	9-6-1.2	O	CNX GAS COMPANY LLC	976	310
16	10*18839	9-6-3	P	MARGARET DARLENE DUTTON, ET AL	937	607
17	10*18839	9-6-3.1	Q	MARGARET DARLENE DUTTON, ET AL	937	607
18	10*16726	5-9-11	R	EMILY K RULONG AND WILLIAM F RULONG SR	941	441
19	10*47051.144.0	5-9-10	S	ROBERT G & TERRI L MCGUIRE	857	581
20	**	9-4-17	T	MICHAEL E. MCCARDIE ET UX		
21	10*29855	9-4-1	U	ROBERT G & TERRI L MCGUIRE	1101	307
22	10*29855	9-4-1.1	V	ROBERT G & TERRI L MCGUIRE	1101	307
23	10*29855	9-4-2	W	ROBERT G & TERRI L MCGUIRE	1101	307

FILE NO. 8852P19HUR.dwg  
VAN WINKLE N 19HU-REV3

DATE JANUARY 14, 20 21

REVISED FEBRUARY 25, 2021

OPERATORS WELL NO. VAN WINKLE N 19HU

API WELL NO. 47 — 051 — 02352 *Deep*  
STATE COUNTY PERMIT



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



P.S.  
849

*C. Victor Moyers*

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

DESIGNATED AGENT DIANNA STAMPER  
ADDRESS CT CORPORATION SYSTEM  
5400 D BIG TYLER ROAD  
CHARLESTON, WV 25313

COUNTY NAME

PERMIT

07/09/2021



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

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

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

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

\*See attached pages

*\*Co-tenancy utilization – At least 7 mineral owners in tract. At least 75% of the royalty owners have executed a lease on the tract. The interests of the remaining co-tenants were acquired pursuant to the Co-tenancy Modernization and Majority Protection Act.*

**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 *AmyL.Morris*  
 Its: Permitting Specialist - Appalachia Region

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Bo	Page	Assignment	Assignment	Assignment	Assignment
10*31303	9-13-6	A	MARY V & FRANK E PETHTEL	CENTRAL MICHIGAN EXPLORATION LLC	1/8+	668	525	N/A	Central Michigan Exploration LLC to Stone Energy Corporation: AB 21/288 & 21/356	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31304	9-13-6	A	MARY V & FRANK E PETHTEL	CENTRAL MICHIGAN EXPLORATION LLC	1/8+	675	171	N/A	Central Michigan Exploration LLC to Stone Energy Corporation: AB 21/288 & 21/356	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31306	9-13-6	A	RICHARD CUNNINGHAM	STONE ENERGY CORPORATION	1/8+	859	595	N/A	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31307	9-13-6	A	LINDA DANLEY	STONE ENERGY CORPORATION	1/8+	859	593	N/A	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31308	9-13-6	A	SUZY WALKER	STONE ENERGY CORPORATION	1/8+	859	591	N/A	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31312	9-13-5	B	DENNIS W & KATHY A HUNTER	CENTRAL MICHIGAN EXPLORATION LLC	1/8+	668	155	N/A	Central Michigan Exploration LLC to Stone Energy Corporation: AB 21/288 & 21/356	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*23458	Fish Creek	E	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	TH EXPLORATION LLC	1/8+	1019	373	N/A	N/A	N/A	N/A
10*17383	9-10-18	G	JACQUES ROY	TH EXPLORATION LLC	1/8+	919	631	N/A	N/A	N/A	N/A
10*17385	9-10-18	G	GABRIEL ARTHUR KRAUSE ROY	TH EXPLORATION LLC	1/8+	919	633	N/A	N/A	N/A	N/A
10*17386	9-10-18	G	LYNNE MERYL KRAUSE	TH EXPLORATION LLC	1/8+	919	629	N/A	N/A	N/A	N/A
10*17387	9-10-18	G	JACINTHE KRAUSE-ROY	TH EXPLORATION LLC	1/8+	919	636	N/A	N/A	N/A	N/A
10*19749	9-10-4	H	JOHN CALVERT	TH EXPLORATION LLC	1/8+	944	428	N/A	N/A	N/A	N/A
10*19750	9-10-4	H	DELORES J MYERS	TH EXPLORATION LLC	1/8+	944	430	N/A	N/A	N/A	N/A
10*19824	9-10-4	H	ROBERT BRADLEY HIGGINS	TH EXPLORATION LLC	1/8+	946	57	N/A	N/A	N/A	N/A
10*19972	9-10-4	H	ALBERT J WARSINKY AIF ELLEN K NYLES	TH EXPLORATION LLC	1/8+	948	209	N/A	N/A	N/A	N/A
10*27947	9-10-4	H	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1063	568	N/A	N/A	N/A	N/A
10*29814	9-10-4	H	DAVID P WARSINSKY	TH EXPLORATION LLC	1/8+	1101	29	N/A	N/A	N/A	N/A
10*29816	9-10-4	H	ELLEN K NYLES	TH EXPLORATION LLC	1/8+	1101	31	N/A	N/A	N/A	N/A
10*23561	9-10-3	K	VINCENT PATRELLO AND AMANDA PATRELLO	TH EXPLORATION LLC	1/8+	988	97	N/A	N/A	N/A	N/A
10*23562	9-10-3	K	WILLIAM B ROUPE AND KATHERINE A ROUPE	TH EXPLORATION LLC	1/8+	988	94	N/A	N/A	N/A	N/A
10*23563	9-10-3	K	WILLIAM N ROUPE AND VIRGINIA A ROUPE	TH EXPLORATION LLC	1/8+	1009	317	N/A	N/A	N/A	N/A
10*23564	9-10-3	K	CHRISTOPHER A ROUPE AND KARI S ROUPE	TH EXPLORATION LLC	1/8+	988	100	N/A	N/A	N/A	N/A
10*19894	9-6-1.1	M	CAROL L VANSYOC	TH EXPLORATION LLC	1/8+	941	392	N/A	N/A	N/A	N/A
10*19894	9-10-2	N	CAROL L VANSYOC	TH EXPLORATION LLC	1/8+	941	392	N/A	N/A	N/A	N/A
10*23214	9-6-1.2	O	CNX GAS COMPANY LLC	TH EXPLORATION LLC	1/8+	976	340	N/A	N/A	N/A	N/A
10*18839	9-6-3	P	MARGARET DARLENE DUTTON	TH EXPLORATION LLC	1/8+	937	607	N/A	N/A	N/A	N/A
10*18840	9-6-3	P	JAY HAROLD DUTTON AND JANICE L DUTTON	TH EXPLORATION LLC	1/8+	937	609	N/A	N/A	N/A	N/A

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Bo	Page	Assignment	Assignment	Assignment	Assignment
10*18841	9-6-3	P	THEODORE FRANCIS DUTTON AND PHYLLIS JEAN DUTTON	TH EXPLORATION LLC	1/8+	937	612	N/A	N/A	N/A	N/A
10*19000	9-6-3	P	ANITA STANLEY	CHEVRON USA INC	1/8+	790	99	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19013	9-6-3	P	BARBARA L MCGAHA	CHEVRON USA INC	1/8+	787	400	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19014	9-6-3	P	BETTY L ELMER	CHEVRON USA INC	1/8+	803	240	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19015	9-6-3	P	BETTY L STARKEY	CHEVRON USA INC	1/8+	788	384	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19016	9-6-3	P	BRENDA WOOD	CHEVRON USA INC	1/8+	818	151	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19019	9-6-3	P	BRENT LEE STARKEY	CHEVRON USA INC	1/8+	789	357	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19020	9-6-3	P	CALLENE M PETERSON	CHEVRON USA INC	1/8+	789	342	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19022	9-6-3	P	CARALOTTA J GIBSON	CHEVRON USA INC	1/8+	792	251	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19021	9-6-3	P	CATHERINE GRIFFIN	CHEVRON USA INC	1/8+	889	13	N/A	N/A	N/A	
10*19023	9-6-3	P	CATHERINE HUMMEL	CHEVRON USA INC	1/8+	797	602	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19024	9-6-3	P	CHARLES D DERROW II	CHEVRON USA INC	1/8+	781	230	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19025	9-6-3	P	CHARLES M STARKEY TRUST THELMA B STARKEY, SOLE TRUSTEE	CHEVRON USA INC	1/8+	800	223	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19028	9-6-3	P	CHRISTIE S MITCHELL	CHEVRON USA INC	1/8+	781	277	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19062	9-6-3	P	CHRISTOPHER A ROUPE AND KARI S ROUPE	CHEVRON USA INC	1/8+	1026	33	N/A	N/A	N/A	Chevron USA Inc to TH Exploration II LLC & TH Exploration LLC: 43/95
10*19064	9-6-3	P	DALE ADORIN SALSBERY	CHEVRON USA INC	1/8+	791	66	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19194	9-6-3	P	DARLENE K ALBORN	CHEVRON USA INC	1/8+	803	573	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19195	9-6-3	P	DAVID DERROW	CHEVRON USA INC	1/8+	781	237	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19196	9-6-3	P	DEBBIE MAE MOORE	CHEVRON USA INC	1/8+	792	234	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19197	9-6-3	P	DELLA J COVERDALE TOM COVERDALE	CHEVRON USA INC	1/8+	790	213	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19198	9-6-3	P	DURWOOD WRIGHT BY CATHERINE HUMMEL AIF	CHEVRON USA INC	1/8+	796	191	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19199	9-6-3	P	ELAINE M KENNER JACK KENNER	CHEVRON USA INC	1/8+	792	256	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19200	9-6-3	P	ELLEN G KIRKBRIDE	CHEVRON USA INC	1/8+	804	615	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Bo	Page	Assignment	Assignment	Assignment	Assignment
10*19208	9-6-3	P	ELMER DEAN EVANS	CHEVRON USA INC	1/8+	805	8	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19215	9-6-3	P	ETHEL E STARKEY	CHEVRON USA INC	1/8+	790	203	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19262	9-6-3	P	FORREST STARKEY DODA STARKEY	CHEVRON USA INC	1/8+	790	110	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19263	9-6-3	P	GINGER L SALSBERY	CHEVRON USA INC	1/8+	790	198	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19264	9-6-3	P	HOWARD E SPEAR AIF PATTIE S MADRID	CHEVRON USA INC	1/8+	788	219	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19265	9-6-3	P	JAMES F CARMICHAEL	CHEVRON USA INC	1/8+	793	366	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19266	9-6-3	P	JAMES W DERROW	CHEVRON USA INC	1/8+	781	223	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19267	9-6-3	P	JANICE M HIXSON AND HARRY C HIXSON	CHEVRON USA INC	1/8+	790	208	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19268	9-6-3	P	JEFFREY D ROBINSON AND NANCY J ROBINSON	CHEVRON USA INC	1/8+	976	253	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 45/92
10*19269	9-6-3	P	JO ANN HYNDMAN ROBERT HYNDMAN	CHEVRON USA INC	1/8+	800	203	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19270	9-6-3	P	JODIE R MORRIS JOHN MORRIS	CHEVRON USA INC	1/8+	790	188	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19271	9-6-3	P	JODY KORN	CHEVRON USA INC	1/8+	818	137	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19272	9-6-3	P	JOHN LINDSEY DERROW	CHEVRON USA INC	1/8+	795	351	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19273	9-6-3	P	JOHN M SALSBERY	CHEVRON USA INC	1/8+	792	218	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19274	9-6-3	P	JOSEPH R DERROW	CHEVRON USA INC	1/8+	786	350	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19276	9-6-3	P	KATHLEEN A KELLEY	CHEVRON USA INC	1/8+	781	300	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19277	9-6-3	P	KENNETH D MCMECHEN	CHEVRON USA INC	1/8+	789	337	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19278	9-6-3	P	KENNETH M MCCARDLE AND DELORES MCCARDLE	CHEVRON USA INC	1/8+	789	154	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19279	9-6-3	P	LINDA D MAYO RONALD A MAYO	CHEVRON USA INC	1/8+	789	501	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19280	9-6-3	P	MARK A ROBINSON	CHEVRON USA INC	1/8+	986	517	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 45/92
10*19281	9-6-3	P	MARLENE F WAGMILLER	CHEVRON USA INC	1/8+	803	567	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19282	9-6-3	P	MAUREEN C COOPER	CHEVRON USA INC	1/8+	790	218	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Bo	Page	Assignment	Assignment	Assignment	Assignment
10*19283	9-6-3	P	MICHAEL E DERROW JR	CHEVRON USA INC	1/8+	786	146	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19284	9-6-3	P	RANDY D ROBINSON	CHEVRON USA INC	1/8+	976	256	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 45/92
10*19285	9-6-3	P	REGINA F HAUGHT DANIEL HAUGHT	CHEVRON USA INC	1/8+	792	174	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19286	9-6-3	P	REGINA KAY ST GEORGE AND FRED ST GEOGRE	CHEVRON USA INC	1/8+	788	379	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19287	9-6-3	P	REXENA A CUNNINGHAM	CHEVRON USA INC	1/8+	790	157	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19288	9-6-3	P	RICHARD CECIL LUTISHIA CECIL	CHEVRON USA INC	1/8+	795	399	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19290	9-6-3	P	SAMUEL W DERROW	CHEVRON USA INC	1/8+	781	251	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19291	9-6-3	P	SANDRA LEE KNAPSKI JOHN KNAPSKI	CHEVRON USA INC	1/8+	790	193	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19292	9-6-3	P	SARAH SISLEY ROBERT W SISLEY	CHEVRON USA INC	1/8+	789	332	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*21007	9-6-3	P	SANDRA EILEEN WORKMAN RUSH AND JAMES EARL RUSH	TH EXPLORATION LLC	1/8+	951	638	N/A	N/A	N/A	N/A
10*21008	9-6-3	P	DALE EDWARD WORKMAN	TH EXPLORATION LLC	1/8+	949	343	N/A	N/A	N/A	N/A
10*21581	9-6-3	P	DAVID CARMICHAEL	TH EXPLORATION LLC	1/8+	957	402	N/A	N/A	N/A	N/A
10*21582	9-6-3	P	GARY CARMICHAEL	TH EXPLORATION LLC	1/8+	957	393	N/A	N/A	N/A	N/A
10*22327	9-6-3	P	NANCY WHITLATCH	TH EXPLORATION LLC	1/8+	962	551	N/A	N/A	N/A	N/A
10*23915	9-6-3	P	GENERAL RECEIVER OF MARSHALL COUNTY ATTN: BERNIE TWIGG	TH EXPLORATION LLC	1/8+	1011	523	N/A	N/A	N/A	N/A
10*24718	9-6-3	P	DOUGLAS G DERROW	TH EXPLORATION LLC	1/8+	1027	598	N/A	N/A	N/A	N/A
10*24786	9-6-3	P	HADEN W DERROW	TH EXPLORATION LLC	1/8+	1027	600	N/A	N/A	N/A	N/A
10*24788	9-6-3	P	MICHAEL W DERROW	TH EXPLORATION LLC	1/8+	1027	596	N/A	N/A	N/A	N/A
10*24959	9-6-3	P	CODY S DERROW	TH EXPLORATION LLC	1/8+	1028	626	N/A	N/A	N/A	N/A
10*24960	9-6-3	P	CHARLES S DERROW	TH EXPLORATION LLC	1/8+	1028	624	N/A	N/A	N/A	N/A
10*25289	9-6-3	P	SHERRY KAY RISHER	TH EXPLORATION LLC	1/8+	1030	152	N/A	N/A	N/A	N/A
10*25499	9-6-3	P	THOMAS G DERROW AND DOROTHY DERROW	TH EXPLORATION LLC	1/8+	1033	134	N/A	N/A	N/A	N/A
10*26369	9-6-3	P	SUSAN J CARMICHAEL	CHEVRON USA INC	1/8+	793	433	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*26370	9-6-3	P	SUSAN JANE MULLEN AND RICHARD S MULLEN	CHEVRON USA INC	1/8+	789	147	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*26371	9-6-3	P	THOMAS J DERROW	CHEVRON USA INC	1/8+	781	244	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*26372	9-6-3	P	VINCENT PATRELLO AND AMANDA PATRELLO	CHEVRON USA INC	1/8+	1026	37	N/A	N/A	N/A	Chevron USA Inc to TH Exploration II LLC & TH Exploration LLC: 43/95
10*26491	9-6-3	P	MATTHEW ROY FURBEE	TH EXPLORATION LLC	1/8+	1037	438	N/A	N/A	N/A	N/A
10*26739	9-6-3	P	TIMOTHY SEAN GRIFFIN*	TH EXPLORATION LLC	1/8+	1038	187	N/A	N/A	N/A	N/A
10*27160	9-6-3	P	CHRISTOPHER FURBEE AND KATIE FURBEE*	TH EXPLORATION LLC	1/8+	1047	441	N/A	N/A	N/A	N/A
10*28148	9-6-3	P	MADALYN DERROW	TH EXPLORATION LLC	1/8+	1067	320	N/A	N/A	N/A	N/A
10*28333	9-6-3	P	DOUGLAS S SINGER AND TAMMY SINGER	TH EXPLORATION LLC	1/8+	1070	430	N/A	N/A	N/A	N/A

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Bo	Page	Assignment	Assignment	Assignment	Assignment
**	9-6-3	P	SUSAN JANE MULLEN AND RICHARD S MULLEN	CHEVRON USA INC	1/8+	789	147	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	JAMES F CARMICHAEL	CHEVRON USA INC	1/8+	793	366	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	SUSAN J CARMICHAEL	CHEVRON USA INC	1/8+	793	433	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	JOHN LINDSEY DERROW	CHEVRON USA INC	1/8+	795	351	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	CATHERINE HUMMEL	CHEVRON USA INC	1/8+	797	602	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	CATHERINE GRIFFIN	CHEVRON USA INC	1/8+	889	13	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	DURWOOD WRIGHT BY CATHERINE HUMMEL AIF	CHEVRON USA INC	1/8+	796	191	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	BETTY L ELMER	CHEVRON USA INC	1/8+	803	240	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	DARLENE K ALBORN	CHEVRON USA INC	1/8+	803	573	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	MARLENE F WAGMILLER	CHEVRON USA INC	1/8+	803	567	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	ELLEN G KIRKBRIDE	CHEVRON USA INC	1/8+	804	615	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	ELMER DEAN EVANS	CHEVRON USA INC	1/8+	805	8	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	BRENDA WOOD	CHEVRON USA INC	1/8+	818	151	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	JODY KORN	CHEVRON USA INC	1/8+	818	137	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	CHARLES D DERROW II	CHEVRON USA INC	1/8+	781	230	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	DAVID DERROW	CHEVRON USA INC	1/8+	781	237	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	JAMES W DERROW	CHEVRON USA INC	1/8+	781	223	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	THOMAS J DERROW	CHEVRON USA INC	1/8+	781	244	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	SAMUEL W DERROW	CHEVRON USA INC	1/8+	781	251	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	CHRISTIE S MITCHELL	CHEVRON USA INC	1/8+	781	277	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	KATHLEEN A KELLEY	CHEVRON USA INC	1/8+	781	300	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	MICHAEL E DERROW JR	CHEVRON USA INC	1/8+	786	146	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Bo	Page	Assignment	Assignment	Assignment	Assignment
**	9-6-3	P	JOSEPH R DERROW	CHEVRON USA INC	1/8+	786	350	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	BARBARA L MCGAHA	CHEVRON USA INC	1/8+	787	400	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	WILLIAM POLEN	CHEVRON USA INC	1/8+	788	224	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	HOWARD E SPEAR AIF PATTIE S MADRID	CHEVRON USA INC	1/8+	788	219	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	BETTY L STARKEY	CHEVRON USA INC	1/8+	788	384	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	DALE ADORIN SALSBERY	CHEVRON USA INC	1/8+	791	66	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	REGINA KAY ST GEORGE AND FRED ST GEOGRE	CHEVRON USA INC	1/8+	788	379	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	ANITA STANLEY	CHEVRON USA INC	1/8+	790	99	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	LINDA D MAYO RONALD A MAYO	CHEVRON USA INC	1/8+	789	501	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	FORREST STARKEY DODA STARKEY	CHEVRON USA INC	1/8+	790	110	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	JANICE M HIXSON AND HARRY C HIXSON	CHEVRON USA INC	1/8+	790	208	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	JOHN M SALSBERY	CHEVRON USA INC	1/8+	792	218	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	JODIE R MORRIS JOHN MORRIS	CHEVRON USA INC	1/8+	790	188	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	ETHEL E STARKEY	CHEVRON USA INC	1/8+	790	203	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	SANDRA LEE KNAPSKI JOHN KNAPSKI	CHEVRON USA INC	1/8+	790	193	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	GINGER L SALSBERY	CHEVRON USA INC	1/8+	790	198	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	DELLA J COVERDALE TOM COVERDALE	CHEVRON USA INC	1/8+	790	213	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	CALLENE M PETERSON	CHEVRON USA INC	1/8+	789	342	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	BRENT LEE STARKEY	CHEVRON USA INC	1/8+	789	357	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	MAUREEN C COOPER	CHEVRON USA INC	1/8+	790	218	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	KENNETH D MCMECHEN	CHEVRON USA INC	1/8+	789	337	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	SARAH SISLEY ROBERT W SISLEY	CHEVRON USA INC	1/8+	789	332	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Bo	Page	Assignment	Assignment	Assignment	Assignment
**	9-6-3	P	REXENA A CUNNINGHAM	CHEVRON USA INC	1/8+	790	157	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	CARALOTTA J GIBSON	CHEVRON USA INC	1/8+	792	251	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	ELAINE M KENNER JACK KENNER	CHEVRON USA INC	1/8+	792	256	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	DEBBIE MAE MOORE	CHEVRON USA INC	1/8+	792	234	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	REGINA F HAUGHT DANIEL HAUGHT	CHEVRON USA INC	1/8+	792	174	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	RICHARD CECIL LUTISHIA CECIL	CHEVRON USA INC	1/8+	795	399	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	JO ANN HYNDMAN ROBERT HYNDMAN	CHEVRON USA INC	1/8+	800	203	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	CHARLES M STARKEY TRUST THELMA B STARKEY, SOLE TRUSTEE	CHEVRON USA INC	1/8+	800	223	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	WILLIAM N ROUPE AND VIRGINIA A ROUPE	CHEVRON USA INC	1/8+	1026	35	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	VINCENT PATRELLO AND AMANDA PATRELLO	CHEVRON USA INC	1/8+	1026	37	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	WILLIAM B ROUPE AND KATHERINE A ROUPE	CHEVRON USA INC	1/8+	1026	39	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	CHRISTOPHER A ROUPE AND KARI S ROUPE	CHEVRON USA INC	1/8+	1026	33	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	RANDY D ROBINSON	CHEVRON USA INC	1/8+	976	256	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	JEFFREY D ROBINSON AND NANCY J ROBINSON	CHEVRON USA INC	1/8+	976	253	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
**	9-6-3	P	MARK A ROBINSON	CHEVRON USA INC	1/8+	986	517	N/A	N/A	N/A	Chevron USA Inc to EQT AURORA LLC: 47/1
10*18839	9-6-3.1	Q	MARGARET DARLENE DUTTON	TH EXPLORATION LLC	1/8+	937	607	N/A	N/A	N/A	N/A
10*18840	9-6-3.1	Q	JAY HAROLD DUTTON AND JANICE L DUTTON	TH EXPLORATION LLC	1/8+	937	609	N/A	N/A	N/A	N/A
10*18841	9-6-3.1	Q	THEODORE FRANCIS DUTTON AND PHYLLIS JEAN DUTTON	TH EXPLORATION LLC	1/8+	937	612	N/A	N/A	N/A	N/A
10*19000	9-6-3.1	Q	KENNETH M MCCARDLE AND DELORES MCCARDLE	CHEVRON USA INC	1/8+	789	154	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19013	9-6-3.1	Q	SUSAN JANE MULLEN AND RICHARD S MULLEN	CHEVRON USA INC	1/8+	789	147	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19014	9-6-3.1	Q	JAMES F CARMICHAEL	CHEVRON USA INC	1/8+	793	366	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19015	9-6-3.1	Q	SUSAN J CARMICHAEL	CHEVRON USA INC	1/8+	793	433	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19016	9-6-3.1	Q	JOHN LINDSEY DERROW	CHEVRON USA INC	1/8+	795	351	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19019	9-6-3.1	Q	CATHERINE HUMMEL	CHEVRON USA INC	1/8+	797	602	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127



WELL BORE TRACTS

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Bk	Page	Assignment	Assignment	Assignment	Assignment
10*19020	9-6-3.1	Q	DURWOOD WRIGHT BY CATHERINE HUMMEL AIF	CHEVRON USA INC	1/8+	796	191	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19022	9-6-3.1	Q	BETTY L ELMER	CHEVRON USA INC	1/8+	803	240	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19023	9-6-3.1	Q	DARLENE K ALBORN	CHEVRON USA INC	1/8+	803	573	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19024	9-6-3.1	Q	MARLENE F WAGMILLER	CHEVRON USA INC	1/8+	803	567	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19025	9-6-3.1	Q	ELLEN G KIRKBRIDE	CHEVRON USA INC	1/8+	804	615	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19028	9-6-3.1	Q	ELMER DEAN EVANS	CHEVRON USA INC	1/8+	805	8	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19062	9-6-3.1	Q	BRENDA WOOD	CHEVRON USA INC	1/8+	818	151	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19064	9-6-3.1	Q	JODY KORN	CHEVRON USA INC	1/8+	818	137	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19194	9-6-3.1	Q	CHARLES D DERROW II	CHEVRON USA INC	1/8+	781	230	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19195	9-6-3.1	Q	DAVID DERROW	CHEVRON USA INC	1/8+	781	237	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19196	9-6-3.1	Q	JAMES W DERROW	CHEVRON USA INC	1/8+	781	223	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19197	9-6-3.1	Q	THOMAS J DERROW	CHEVRON USA INC	1/8+	781	244	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19198	9-6-3.1	Q	SAMUEL W DERROW	CHEVRON USA INC	1/8+	781	251	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19199	9-6-3.1	Q	CHRISTIE S MITCHELL	CHEVRON USA INC	1/8+	781	277	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19200	9-6-3.1	Q	KATHLEEN A KELLEY	CHEVRON USA INC	1/8+	781	300	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19208	9-6-3.1	Q	MICHAEL E DERROW JR	CHEVRON USA INC	1/8+	786	146	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19215	9-6-3.1	Q	JOSEPH R DERROW	CHEVRON USA INC	1/8+	786	350	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19262	9-6-3.1	Q	BARBARA L MCGAHA	CHEVRON USA INC	1/8+	787	400	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19263	9-6-3.1	Q	WILLIAM POLEN	CHEVRON USA INC	1/8+	788	224	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19264	9-6-3.1	Q	HOWARD E SPEAR AIF PATTIE S MADRID	CHEVRON USA INC	1/8+	788	219	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19265	9-6-3.1	Q	BETTY L STARKEY	CHEVRON USA INC	1/8+	788	384	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19266	9-6-3.1	Q	DALE ADORIN SALSBERY	CHEVRON USA INC	1/8+	791	66	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Bo	Page	Assignment	Assignment	Assignment	Assignment
10*19267	9-6-3.1	Q	REGINA KAY ST GEORGE AND FRED ST GEOGRE	CHEVRON USA INC	1/8+	788	379	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19268	9-6-3.1	Q	ANITA STANLEY	CHEVRON USA INC	1/8+	790	99	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19269	9-6-3.1	Q	LINDA D MAYO RONALD A MAYO	CHEVRON USA INC	1/8+	789	501	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19270	9-6-3.1	Q	FORREST STARKEY DODA STARKEY	CHEVRON USA INC	1/8+	790	110	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19271	9-6-3.1	Q	JANICE M HIXSON AND HARRY C HIXSON	CHEVRON USA INC	1/8+	790	208	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19272	9-6-3.1	Q	JOHN M SALSBERY	CHEVRON USA INC	1/8+	792	218	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19273	9-6-3.1	Q	JODIE R MORRIS JOHN MORRIS	CHEVRON USA INC	1/8+	790	188	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19274	9-6-3.1	Q	ETHEL E STARKEY	CHEVRON USA INC	1/8+	790	203	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19275	9-6-3.1	Q	TRACY M SALSBERY	CHEVRON USA INC	1/8+	791	165	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19276	9-6-3.1	Q	SANDRA LEE KNAPSKI JOHN KNAPSKI	CHEVRON USA INC	1/8+	790	193	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19277	9-6-3.1	Q	GINGER L SALSBERY	CHEVRON USA INC	1/8+	790	198	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19278	9-6-3.1	Q	DELLA J COVERDALE TOM COVERDALE	CHEVRON USA INC	1/8+	790	213	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19279	9-6-3.1	Q	CALLENE M PETERSON	CHEVRON USA INC	1/8+	789	342	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19280	9-6-3.1	Q	BRENT LEE STARKEY	CHEVRON USA INC	1/8+	789	357	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19281	9-6-3.1	Q	MAUREEN C COOPER	CHEVRON USA INC	1/8+	790	218	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19282	9-6-3.1	Q	KENNETH D MCMECHEN	CHEVRON USA INC	1/8+	789	337	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19283	9-6-3.1	Q	SARAH SISLEY ROBERT W SISLEY	CHEVRON USA INC	1/8+	789	332	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19284	9-6-3.1	Q	REXENA A CUNNINGHAM	CHEVRON USA INC	1/8+	790	157	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19285	9-6-3.1	Q	CARALOTTA J GIBSON	CHEVRON USA INC	1/8+	792	251	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19286	9-6-3.1	Q	ELAINE M KENNER JACK KENNER	CHEVRON USA INC	1/8+	792	256	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19287	9-6-3.1	Q	DEBBIE MAE MOORE	CHEVRON USA INC	1/8+	792	234	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19288	9-6-3.1	Q	REGINA F HAUGHT DANIEL HAUGHT	CHEVRON USA INC	1/8+	792	174	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Bo	Page	Assignment	Assignment	Assignment	Assignment
10*19289	9-6-3.1	Q	RUIEANN HORSFALL	CHEVRON USA INC	1/8+	793	447	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19290	9-6-3.1	Q	RICHARD CECIL LUTISHIA CECIL	CHEVRON USA INC	1/8+	795	399	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19291	9-6-3.1	Q	JO ANN HYNDMAN ROBERT HYNDMAN	CHEVRON USA INC	1/8+	800	203	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19292	9-6-3.1	Q	CHARLES M STARKEY TRUST THELMA B STARKEY, SOLE TRUSTEE	CHEVRON USA INC	1/8+	800	223	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*21007	9-6-3.1	Q	SANDRA EILEEN WORKMAN RUSH AND JAMES EARL RUSH	TH EXPLORATION LLC	1/8+	951	638	N/A	N/A	N/A	N/A
10*21008	9-6-3.1	Q	DALE EDWARD WORKMAN	TH EXPLORATION LLC	1/8+	949	343	N/A	N/A	N/A	N/A
10*21581	9-6-3.1	Q	DAVID CARMICHAEL	TH EXPLORATION LLC	1/8+	957	402	N/A	N/A	N/A	N/A
10*21582	9-6-3.1	Q	GARY CARMICHAEL	TH EXPLORATION LLC	1/8+	957	393	N/A	N/A	N/A	N/A
10*22327	9-6-3.1	Q	NANCY WHITLATCH	TH EXPLORATION LLC	1/8+	962	551	N/A	N/A	N/A	N/A
10*23214	9-6-3.1	Q	CNX GAS COMPANY LLC	TH EXPLORATION LLC	1/8+	976	340	N/A	N/A	N/A	N/A
10*23915	9-6-3.1	Q	GENERAL RECEIVER OF MARSHALL COUNTY ATTN: BERNIE TWIGG	TH EXPLORATION LLC	1/8+	1011	523	N/A	N/A	N/A	N/A
10*24718	9-6-3.1	Q	DOUGLAS G DERROW	TH EXPLORATION LLC	1/8+	1027	598	N/A	N/A	N/A	N/A
10*24786	9-6-3.1	Q	HADEN W DERROW	TH EXPLORATION LLC	1/8+	1027	600	N/A	N/A	N/A	N/A
10*24788	9-6-3.1	Q	MICHAEL W DERROW	TH EXPLORATION LLC	1/8+	1027	596	N/A	N/A	N/A	N/A
10*24959	9-6-3.1	Q	CODY S DERROW	TH EXPLORATION LLC	1/8+	1028	626	N/A	N/A	N/A	N/A
10*24960	9-6-3.1	Q	CHARLES S DERROW	TH EXPLORATION LLC	1/8+	1028	624	N/A	N/A	N/A	N/A
10*25289	9-6-3.1	Q	SHERRY KAY RISHER	TH EXPLORATION LLC	1/8+	1030	152	N/A	N/A	N/A	N/A
10*25499	9-6-3.1	Q	THOMAS G DERROW AND DOROTHY DERROW	TH EXPLORATION LLC	1/8+	1033	134	N/A	N/A	N/A	N/A
10*26491	9-6-3.1	Q	MATTHEW ROY FURBEE	TH EXPLORATION LLC	1/8+	1037	438	N/A	N/A	N/A	N/A
10*26739	9-6-3.1	Q	TIMOTHY SEAN GRIFFIN*	TH EXPLORATION LLC	1/8+	1038	187	N/A	N/A	N/A	N/A
10*27160	9-6-3.1	Q	CHRISTOPHER FURBEE AND KATIE FURBEE*	TH EXPLORATION LLC	1/8+	1047	441	N/A	N/A	N/A	N/A
10*28148	9-6-3.1	Q	MADALYN DERROW	TH EXPLORATION LLC	1/8+	1067	320	N/A	N/A	N/A	N/A
10*28333	9-6-3.1	Q	DOUGLAS S SINGER AND TAMMY SINGER	TH EXPLORATION LLC	1/8+	1070	430	N/A	N/A	N/A	N/A
10*28470	9-6-3.1	Q	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1072	157	N/A	N/A	N/A	N/A
10*28566	9-6-3.1	Q	JODY L JAMES	TH EXPLORATION LLC	1/8+	1072	42	N/A	N/A	N/A	N/A
10*28632	9-6-3.1	Q	RANDY D ROBINSON	CHEVRON USA INC	1/8+	976	256	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 45/92
10*28635	9-6-3.1	Q	JEFFREY D ROBINSON AND NANCY J ROBINSON	CHEVRON USA INC	1/8+	976	253	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 45/92
10*28636	9-6-3.1	Q	MARK A ROBINSON	CHEVRON USA INC	1/8+	986	517	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 45/92
10*28941	9-6-3.1	Q	BRANDY R LOVERA AND CHRISTOPHER LOVERA*	TH EXPLORATION LLC	1/8+	1083	58	N/A	N/A	N/A	N/A
10*28943	9-6-3.1	Q	BRIAN L FURBEE*	TH EXPLORATION LLC	1/8+	1083	49	N/A	N/A	N/A	N/A
10*28945	9-6-3.1	Q	GREGORY D FURBEE*	TH EXPLORATION LLC	1/8+	1083	55	N/A	N/A	N/A	N/A
10*28948	9-6-3.1	Q	EDMOND J FURBEE & ESTHER FURBEE*	TH EXPLORATION LLC	1/8+	1083	52	N/A	N/A	N/A	N/A
10*31354	9-6-3.1	Q	THOMAS MICHAEL GRIFFIN	STONE ENERGY CORPORATION	1/8+	870	128	N/A	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 46/172

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Bo	Page	Assignment	Assignment	Assignment	Assignment
10*31358	9-6-3.1	Q	THE DERROW FAMILY IRREVOCABLE TRUST CINDY J FOSTER EXECUTRIX	STONE ENERGY CORPORATION	1/8+	874	500	N/A	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 46/172
10*31375	9-6-3.1	Q	SONDRA S MENENDEZ	STONE ENERGY CORPORATION	1/8+	864	565	N/A	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 46/172
10*31376	9-6-3.1	Q	JOSEPH MARK MENENDEZ	STONE ENERGY CORPORATION	1/8+	868	440	N/A	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 46/172
10*31407	9-6-3.1	Q	RUTH FLINNER	STONE ENERGY CORPORATION	1/8+	870	132	N/A	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 46/172
10*31408	9-6-3.1	Q	VICKY JO GRIFFIN	STONE ENERGY CORPORATION	1/8+	870	134	N/A	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 46/172
10*31409	9-6-3.1	Q	CATHERINE E GRIFFIN	STONE ENERGY CORPORATION	1/8+	870	134	N/A	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 46/172
10*47051.144.0	5-9-10	S	ROBERT G & TERRI L MCGUIRE	TH EXPLORATION LLC	1/8+	867	581	N/A	N/A	N/A	N/A
10*29855	9-4-1	U	ROBERT G & TERRI L MCGUIRE	TH EXPLORATION LLC	1/8+	1101	307	N/A	N/A	N/A	N/A
10*29855	9-4-1.1	V	ROBERT G & TERRI L MCGUIRE	TH EXPLORATION LLC	1/8+	1101	307	N/A	N/A	N/A	N/A
10*29855	9-4-2	W	ROBERT G & TERRI L MCGUIRE	TH EXPLORATION LLC	1/8+	1101	307	N/A	N/A	N/A	N/A

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Bo	Page	Assignment	Assignment	Assignment	Assignment
10*31312	9-13-5.1	C	DENNIS W & KATHY A HUNTER	CENTRAL MICHIGAN EXPLORATION LLC	1/8+	668	155	N/A	Central Michigan Exploration LLC to Stone Energy Corporation: AB 21/288 & 21/356	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31303	9-13-7	D	MARY V & FRANK E PETHTEL	CENTRAL MICHIGAN EXPLORATION LLC	1/8+	668	525	N/A	Central Michigan Exploration LLC to Stone Energy Corp: 21/356	Stone Energy Corp to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31304	9-13-7	D	MARY V & FRANK E PETHTEL	CENTRAL MICHIGAN EXPLORATION LLC	1/8+	675	171	N/A	Central Michigan Exploration LLC to Stone Energy Corp: 21/356	Stone Energy Corp to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31305	9-13-7	D	MARY V & FRANK E PETHTEL	CENTRAL MICHIGAN EXPLORATION LLC	1/8+	677	401	N/A	Central Michigan Exploration LLC to Stone Energy Corp: 21/356	Stone Energy Corp to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31309	9-13-7	D	RICHARD CUNNINGHAM	STONE ENERGY CORPORATION	1/8+	870	122	N/A	N/A	Stone Energy Corp to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31310	9-13-7	D	SUSAN WALKER	STONE ENERGY CORPORATION	1/8+	870	139	N/A	N/A	Stone Energy Corp to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31311	9-13-7	D	LINDA DANLEY	STONE ENERGY CORPORATION	1/8+	870	141	N/A	N/A	Stone Energy Corp to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*47051.117.1	9-10-15	F	JOSEPH MICHAEL BONENE	TH EXPLORATION LLC	1/8+	876	79	N/A	N/A	N/A	N/A
10*31384	9-10-19	I	JOHN E KELLEY AND JANET E KELLEY	STONE ENERGY CORPORATION	1/8+	693	6	N/A	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*15504	9-10-5	J	JAMES MASON ET AL	AB RESOURCES	1/8+	692	461	AB Resources LLC & NPAR LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/490	Chief Exploration & Development LLC, Chief O&G LLC, Radler 2000 LP & Enerplus Resources Corp to Chevron USA Inc: 25/1	AB Resources LLC to Chevron USA Inc: 756/397	Chevron USA Inc to TH Exploration LLC: 36/148
10*15510	9-6-15	L	ELAINE PHELPS ET VIR	TRIENERGY HOLDINGS, LLC	1/8+	718	326	TriEnergy Holdings LLC to NPAR LLC: 24/430	NPAR LLC to Chevron USA Inc: 756/332	TriEnergy Holdings LLC & TriEnergy Inc to Chevron USA Inc: 28/356	Chevron USA Inc to TH Exploration LLC: 36/148
10*15511	9-6-15	L	DAVID E CROW	TRIENERGY HOLDINGS, LLC	1/8+	718	376	TriEnergy Holdings LLC to NPAR LLC: 25/463	NPAR LLC to Chevron USA Inc: 26/269	TriEnergy Holdings LLC & TriEnergy Inc to Chevron USA Inc: 28/356	Chevron USA Inc to TH Exploration LLC: 36/148
10*15512	9-6-15	L	FRANCES COFFEY	TRIENERGY HOLDINGS, LLC	1/8+	718	328	TriEnergy Holdings LLC to NPAR LLC: 24/430	NPAR LLC to Chevron USA Inc: 756/332	TriEnergy Holdings LLC & TriEnergy Inc to Chevron USA Inc: 28/356	Chevron USA Inc to TH Exploration LLC: 36/148

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Bo	Page	Assignment	Assignment	Assignment	Assignment
10*15513	9-6-15	L	KAY KEYES RALPH L KEYES JR AIF	TRIENERGY HOLDINGS, LLC	1/8+	718	330	TriEnergy Holdings LLC to NPAR LLC: 24/430	NPAR LLC to Chevron USA Inc: 756/332	TriEnergy Holdings LLC & TriEnergy Inc to Chevron USA Inc: 28/356	Chevron USA Inc to TH Exploration LLC: 36/148
10*15514	9-6-15	L	L PAUL CROW	TRIENERGY HOLDINGS, LLC	1/8+	718	336	TriEnergy Holdings LLC to NPAR LLC: 24/430	NPAR LLC to Chevron USA Inc: 756/332	TriEnergy Holdings LLC & TriEnergy Inc to Chevron USA Inc: 28/356	Chevron USA Inc to TH Exploration LLC: 36/148
10*15515	9-6-15	L	DESIRE L CROW	TRIENERGY HOLDINGS, LLC	1/8+	718	334	TriEnergy Holdings LLC to NPAR LLC: 24/430	NPAR LLC to Chevron USA Inc: 756/332	TriEnergy Holdings LLC & TriEnergy Inc to Chevron USA Inc: 28/356	Chevron USA Inc to TH Exploration LLC: 36/148
10*15516	9-6-15	L	ROSE MARIE KIELCZEWSKI	TRIENERGY HOLDINGS, LLC	1/8+	718	354	TriEnergy Holdings LLC to NPAR LLC: 24/430	NPAR LLC to Chevron USA Inc: 756/332	TriEnergy Holdings LLC & TriEnergy Inc to Chevron USA Inc: 28/356	Chevron USA Inc to TH Exploration LLC: 36/148
10*15517	9-6-15	L	DIANNE GELLNER & GARY GELLNER	TRIENERGY HOLDINGS, LLC	1/8+	718	345	TriEnergy Holdings LLC to NPAR LLC: 24/430	NPAR LLC to Chevron USA Inc: 756/332	TriEnergy Holdings LLC & TriEnergy Inc to Chevron USA Inc: 28/356	Chevron USA Inc to TH Exploration LLC: 36/148
10*15519	9-6-15	L	JOHN CROW	TRIENERGY HOLDINGS, LLC	1/8+	726	580	TriEnergy Holdings LLC to NPAR LLC: 25/449	NPAR LLC to Chevron USA Inc: 756/332	TriEnergy Holdings LLC & TriEnergy Inc to Chevron USA Inc: 28/356	Chevron USA Inc to TH Exploration LLC: 36/148
10*15520	9-6-15	L	TIMOTHY CROW	TRIENERGY HOLDINGS, LLC	1/8+	726	582	TriEnergy Holdings LLC to NPAR LLC: 25/449	NPAR LLC to Chevron USA Inc: 756/332	TriEnergy Holdings LLC & TriEnergy Inc to Chevron USA Inc: 28/356	Chevron USA Inc to TH Exploration LLC: 36/148
10*47051.123.1	9-6-15	L	LLOYD G BAKER	TH EXPLORATION LLC	1/8+	865	389	N/A	N/A	N/A	N/A
10*47051.123.2	9-6-15	L	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	TH EXPLORATION LLC	1/8+	873	143	N/A	N/A	N/A	N/A
10*18726	5-9-11	R	EMILY K RULONG AND WILLIAM F RULONG SR	TH EXPLORATION LLC	1/8+	941	441	N/A	N/A	N/A	N/A
**	9-4-17	T	MICHAEL E. MCCARDLE ET UX	UNLEASED				**FORCE POOL**			

#### ASSIGNMENT AND BILL OF SALE

This ASSIGNMENT AND BILL OF SALE (this "Assignment") dated as of December 1, 2020 (the "Execution Date"), is made by and between EQT PRODUCTION COMPANY, a Pennsylvania corporation, with an address at 625 Liberty Avenue, Suite 1700, Pittsburgh, Pennsylvania 15222 ("EQT"), and TH EXPLORATION, LLC, a Texas limited liability company, with an address at 1320 S. University Drive, Suite 500, Fort Worth, Texas 76107 ("TH") pursuant to the terms of that certain Acreage Trade Agreement by and among EQT, TH and TH Exploration II, LLC ("TH II"), dated July 8, 2020 (the "Agreement"). EQT and TH may be referred to herein together as the "Parties", and each individually as a "Party".

#### RECITALS

WHEREAS, EQT desires to transfer, convey and assign to TH certain of EQT's oil and gas leasehold interests located in Marshall County, West Virginia set forth on Exhibit A attached hereto and incorporated herein ("EQT Leases") in accordance with this Assignment and the Agreement; and

WHEREAS, TH desires to receive from EQT, all of EQT's right, title and interest in and to the EQT Leases in accordance with this Assignment and the Agreement.

NOW, THEREFORE, for and in consideration of the mutual promises contained herein and in the Agreement, the benefits to be derived by each Party hereunder and under the Agreement, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

#### ARTICLE I DEFINED TERMS

1.1 *Definitions.* Capitalized terms used herein and not otherwise defined throughout this Assignment shall have the meanings given such terms in the Agreement.

#### ARTICLE II ASSIGNMENT OF ASSETS

2.1 *Assignment.* Subject to the terms and conditions of this Assignment and the Agreement, EQT does hereby assign, convey and transfer to TH all of the right, title and interest of EQT in and to the following (collectively for purposes of this Assignment, the "EQT Assets"):

(a) Subject to the conveyance of the Wells Assets from EQT to TH II as described in the Agreement, the EQT Leases and appurtenances thereto (including rights of access and to install facilities), all Hydrocarbons within, produced from, derived from, or sold from the EQT Leases (and all proceeds related thereto), on and after the Valuation Date, and all Surface Contracts including but not limited to those set forth on Exhibit B attached hereto and incorporated herein (the "EQT Surface Contracts") related to the EQT Leases and such Hydrocarbons; and

(b) Copies of deeds, files and all other ownership information directly related to the acquisition, operations and maintenance of the EQT Leases, lease files for the EQT Leases

RECEIVED  
Office of Oil and Gas

JAN 19 2021

WV Department of  
Environmental Protection

07/09/2021

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

RECEIVED  
Office of Oil and Gas

JAN 19 2021

WV Department of  
Environmental Protection



STATE OF WEST VIRGINIA           §  
  §  
COUNTY OF MARSHALL           §

**ASSIGNMENT AND BILL OF SALE**

This ASSIGNMENT AND BILL OF SALE (this "Assignment") dated as of February 7, 2019 (the "Signing Date"), but effective from and after 7:00 a.m., Eastern Standard Time on February 1, 2019 (the "Effective Date"), is made by Chevron U.S.A. Inc., a Pennsylvania corporation, with an address at 700 Cherrington Parkway, Coraopolis, PA 15108 ("Chevron" or "Assignor") to TH Exploration II, LLC and TH Exploration, LLC, Texas limited liability companies, with an address at 1320 S. University Drive, Suite 500, Fort Worth, TX 76107 (collectively "Assignee") and is accepted by Assignee upon the following terms and conditions.

**RECITALS**

- A. Assignor desires to sell, convey, transfer, assign and deliver to Assignee Assignor's Crawford 1 well and certain related assets, including certain leasehold interests, located in Marshall County, West Virginia.
- B. Through an Acreage Trade Agreement to be executed contemporaneously with this Assignment, Assignor desires to transfer, convey and assign to Assignee certain of Assignor's oil and gas leasehold interests located in Marshall County, West Virginia in exchange for the transfer, conveyance and assignment to Assignor by Assignee certain of Assignee's oil and gas leasehold interests located in Marshall County, West Virginia.
- C. In consideration of the mutual promises set out in this Assignment, including execution of the Acreage Trade Agreement, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree to be bound by the terms of this Assignment.

**1. DEFINITIONS**

1.1 **Definitions.** As used in this Assignment, these words and expressions have the following meanings:

"Acreage Trade Agreement" means that certain Acreage Trade Agreement by and between Chevron U.S.A. Inc. and TH Exploration, LLC with an Effective Date of February 1, 2019 to be contemporaneously executed with this Assignment.

"Act" has the meaning given to such term in Section 9.1(C).

"Affiliate" means any legal entity which controls, is controlled by, or is under common control with, another legal entity. An entity is deemed to "control" another if it owns directly or indirectly at least fifty percent of either of the following: (A) the shares entitled to vote at a general election of directors of such

RECEIVED  
Office of Oil and Gas

JAN 19 2021

WV Department of  
Environmental Protection

07/09/2021

STATE OF WEST VIRGINIA §  
 COUNTY OF MARSHALL §

Jan Post  
 MARSHALL County 12:43:01 PM  
 Instrument No 1404876  
 Date Recorded 05/20/2016  
 Document Type ASB  
 Pages Recorded 20  
 Book-Page 36-148  
 Recording Fee \$29.00  
 Additional \$3.00

ASSIGNMENT AND CONVEYANCE

**THIS ASSIGNMENT AND CONVEYANCE** (the "**Assignment**") is made and entered into this 17th day of May, 2016 (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 May 2, 2016 (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", and as depicted in Exhibits "A-1" and "A-2", 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, except that Assignor accepts and reserves from this Assignment the Chevron ORRI previously conveyed to Assignor and as described in that certain Memorandum of Assignment of Oil and Gas Lease Interests dated November 6, 2012 by and between Cornell Holdings Incorporated and Chevron U.S.A. Inc., which is recorded at Book 0028, Page 0239 in the Office of the County Clerk of Marshall County, West Virginia.

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

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

# 217  
 J.P. Post

RECEIVED  
 Office of Oil and Gas

JAN 19 2021

WV Department of  
 Environmental Protection

STATE OF WEST VIRGINIA §  
§  
COUNTY OF MARSHALL §

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "Assignment") is made and entered into this 10<sup>th</sup> day of February, 2020 (the "Effective Date"), by and between CHEVRON U.S.A. INC., a Pennsylvania corporation, with an address at 700 Cherrington Parkway, Coraopolis, PA 15108 (hereinafter "Assignor") and TH EXPLORATION, L.L.C a Pennsylvania corporation, with an address at 700 Cherrington Parkway, Coraopolis, PA 15108 a Texas limited liability company, with an address at 1320 S. University Drive, Suite 500, Fort Worth, TX 76107 (hereinafter "Assignee")

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 exclusions; and

WHEREAS, this Assignment is meant to serve, in part, as a correction to certain prior assignments by and between the parties, as more specifically set forth on Exhibit A.

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. Any portion of the Leases set forth in the column entitled "Less and Except" on Exhibit A.

**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 its interest in the Leases since the time that Assignor obtained its interests in the Leases. Assignor does covenant, promise and agree, to and with the Assignee, its respective successors and assigns, to forever specially warrant and defend the title to the Leases or portions thereof included under this Assignment, unto the Assignee and its respective successors and assigns, against the lawful claims of Assignor, and all persons claiming, or to claim, the same or any part thereof, by, through or under Assignor.

RECEIVED  
Office of Oil and Gas

JAN 19 2021

WV Department of  
Environmental Protection

## ASSIGNMENT AND BILL OF SALE

13 This ASSIGNMENT AND BILL OF SALE (this "*Assignment*") dated as of October 13, 2020 (the "*Execution Date*"), is made by and between EQT PRODUCTION COMPANY, a Pennsylvania corporation, with an address at 625 Liberty Avenue, Suite 1700, Pittsburgh, Pennsylvania 15222 ("*EQT*"), and TH EXPLORATION, LLC, a Texas limited liability company, with an address at 1320 S. University Drive, Suite 500, Fort Worth, Texas 76107 ("*TH*") pursuant to the terms of that certain Acreage Trade Agreement by and among EQT, TH and TH Exploration II, LLC, dated July 8, 2020 (the "*Agreement*"). EQT and TH may be referred to herein together as the "*Parties*", and each individually as a "*Party*".

### RECITALS

WHEREAS, EQT desires to transfer, convey and assign to TH certain of EQT's oil and gas leasehold interests located in Marshall County, West Virginia set forth on Exhibit A attached hereto and incorporated herein ("*EQT Leases*") in accordance with this Assignment and the Agreement; and

WHEREAS, TH desires to receive from EQT, all of EQT's right, title and interest in and to the EQT Leases in accordance with this Assignment and the Agreement.

NOW, THEREFORE, for and in consideration of the mutual promises contained herein and in the Agreement, the benefits to be derived by each Party hereunder and under the Agreement, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

### ARTICLE I DEFINED TERMS

*1.1 Definitions.* Capitalized terms used herein and not otherwise defined throughout this Assignment shall have the meanings given such terms in the Agreement.

### ARTICLE II ASSIGNMENT OF ASSETS

*2.1 Assignment.* Subject to the terms and conditions of this Assignment and the Agreement, EQT does hereby assign, convey and transfer to TH all of the right, title and interest of EQT in and to the following (collectively for purposes of this Assignment, the "*EQT Assets*"):

(a) The EQT Leases and appurtenances thereto (including rights of access and to install facilities), and all Hydrocarbons within, produced from, derived from, or sold from the EQT Leases (and all proceeds related thereto), on and after the Valuation Date; and

(b) Copies of deeds, files and all other ownership information directly related to the acquisition, operations and maintenance of the EQT Leases, lease files for the EQT Leases and all other information directly related to the acquisition, operations, and maintenance of the EQT Leases, and all related ownership, encumbrance or contract records including all abstracts, runsheets, certified title opinions, take-off sheets, surface use agreements, royalty and rental

RECEIVED  
Office of Oil and Gas

JAN 19 2021

WV Department of  
Environmental Protection

07/09/2021

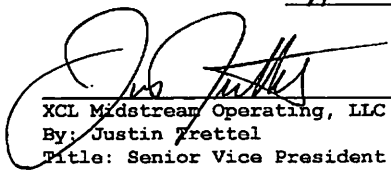
COUNTY	DISTRICT	PARCEL	OWNER	ADDRESS
Marshall	Franklin	5-10-9999.1	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-9-10	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-9-11	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Franklin	5-9-11	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-10-15	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-10-18	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-10-2	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-10-2	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-10-3	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-10-4	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-10-5	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-13-5	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-13-5.1	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-13-6	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-13-7	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107

Marshall	Meade	9-4-1	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-4-1.1	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-4-17	MICHAEL AND TERRI MCCARDLE	11101 Roxbury Road Charles City, VA 23030
Marshall	Meade	9-4-2	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-4-3	EQT PRODUCTION COMPANY	625 Liberty Avenue Suite 1700 Pittsburgh, PA 15222
Marshall	Meade	9-6-1.1	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-6-1.2	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-6-15	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
Marshall	Meade	9-6-3	EQT PRODUCTION COMPANY	625 Liberty Avenue Suite 1700 Pittsburgh, PA 15222
Marshall	Meade	9-6-3.1	TH EXPLORATION, LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107

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 Meade 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 11 day of FEBRUARY, 2021.

  
\_\_\_\_\_  
XCL Midstream Operating, LLC  
By: Justin Trettel  
Title: Senior Vice President

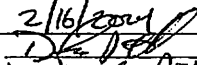
Marshall County  
Jan Pest, Clerk  
Instrument 1475005  
02/18/2021 @ 12:30:42 PM  
RIGHT OF WAY W/O CONSIDERATION  
Book 1104 @ Page 189  
Pages Recorded 2  
Recording Cost \$ 11.00

ACKNOWLEDGMENT

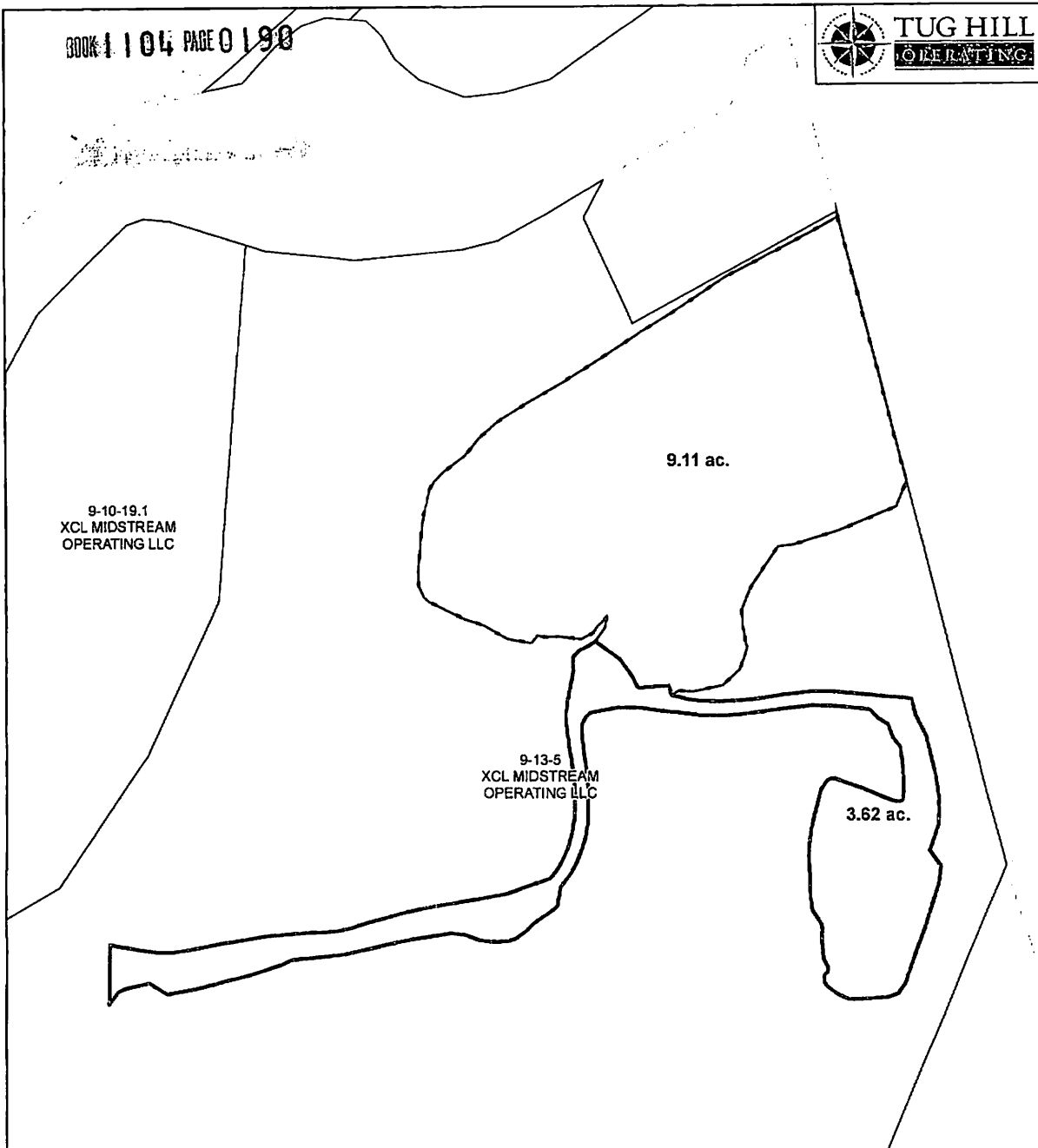
COMMONWEALTH OF PENNSYLVANIA §  
§ SS:  
COUNTY OF WASHINGTON §

On this, the 11 day of FEBRUARY 2021, before me, a notary public, the undersigned authority, personally appeared Justin Trettel, who acknowledged himself to be the Senior Vice President of XcL Midstream Operating, a Delaware limited liability company, and that he as such Senior Vice President being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the limited liability company by himself as Senior Vice President.

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

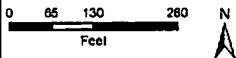
Commonwealth of Pennsylvania - Notary Seal  
David Gabriel Delallo, Notary Public  
Washington County  
My commission expires February 18, 2024  
Commission number 1267492  
Member, Pennsylvania Association of Notaries  
My Commission Expires: 2/18/2024  
Signature/Notary Public:   
Notary Public (print): David G. Delallo

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



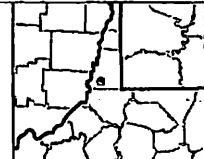
1 inch: 226 feet

Limit of Disturbance - Access Road  
Limit of Disturbance - Pad



NOTICE: THE APPROVED SITE LOCATION FOR THE SERVICE IS BASED ON THE LOCATION OF THE PROPERTY SHOWN ON THIS PLAT. BASED ON THE LOCATION OF THE PROPERTY SHOWN ON THIS PLAT, THE LOCATION OF THE SERVICE IS BASED ON THE LOCATION OF THE PROPERTY SHOWN ON THIS PLAT. THE LOCATION OF THE SERVICE IS BASED ON THE LOCATION OF THE PROPERTY SHOWN ON THIS PLAT. THE LOCATION OF THE SERVICE IS BASED ON THE LOCATION OF THE PROPERTY SHOWN ON THIS PLAT.

"Plat"  
XCL MIDSTREAM OPERATING LLC  
Marshall County, WV  
Date: \_\_\_\_\_  
Name: \_\_\_\_\_  
Name: \_\_\_\_\_



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 11<sup>th</sup> day of February, 2021, was presented for and by me, admitted to record in my office upon the above certificate as to the parties therein named this 18<sup>th</sup> day of February, 2021 at 12:30 o'clock P M.

TESTE: Jan Pest Clerk





January 15, 2021

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

RE: Van Winkle N-19HU

Subject: Marshall County Route 84 and 74 Road Crossing Letter

Dear Wade:

Tug Hill Operating, LLC (THO) hereby submits this letter as confirmation that THO has obtained the right to drill, extract and produce the minerals under Marshall County Route 84 and 74 in the area reflected on the Van Winkle N-19HU well plat. THO has conducted a full title search in the relevant Court House to confirm its ownership under said County Routes and is not currently aware of any recorded document that would suggest an ownership other than THO.

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

Sincerely,

Amy Morris  
Permit Specialist – Appalachia Region  
Cell 304-376-0111  
Email: [amiller@tug-hilop.com](mailto:amiller@tug-hilop.com)

RECEIVED  
Office of Oil and Gas

JAN 19 2021

WV Department of  
Environmental Protection

07/09/2021

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

Date of Notice Certification: 01/15/2021

API No. 47- 051

Operator's Well No. Van Winkle N-19HU

Well Pad Name: Hunter Peltiel

Notice has been given:

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

State:	West Virginia	UTM NAD 83	Easting:	523,380.70
County:	Marshall		Northing:	4,403,545.21
District:	Meade	Public Road Access:		County Route 74
Quadrangle:	Glen Easton 7.5'	Generally used farm name:		XcL Midstream Operating, LLC
Watershed:	Fish Creek (IUC 10)			

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 checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED <input type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH) <input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION <input checked="" type="checkbox"/> 5. PUBLIC NOTICE <input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		<b>OOG OFFICE USE ONLY</b> <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input checked="" type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED
RECEIVED Office of Oil and Gas JAN 19 2021 WV Department of Environmental Protection		

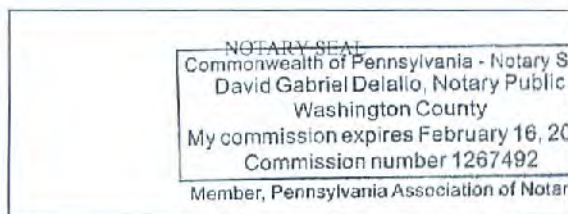
Required Attachments:

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><i>Amy L. Morris</i></u>		<u>Canonsburg, PA 15317</u>
Its:	<u>Permitting Specialist - Appalachia Region</u>	Facsimile:	<u>724-338-2030</u>
Telephone:	<u>724-749-8388</u>	Email:	<u>amorris@tug-hillop.com</u>



Subscribed and sworn before me this 15 day of JANUARY, 2021  
*David Gabriel Delallo* Notary Public  
 My Commission Expires 2/16/24

**Oil and Gas Privacy Notice:**

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

RECEIVED  
 Office of Oil and Gas  
 JAN 19 2021  
 WV Department of  
 Environmental Protection

WW-6A  
(9-13)

API NO. 47- 051 -  
OPERATOR WELL NO. Van Winkle N-19HU  
Well Pad Name: Hunter Pethtel

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

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

**Date of Notice:** 1/26/2021 **Date Permit Application Filed:** 1/15/2021

Notice of:

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

**Delivery method pursuant to West Virginia Code § 22-6A-10(b)**

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice  WSSP Notice  E&S Plan Notice  Well Plat Notice is hereby provided to:

SURFACE OWNER(s)

Name: XcL Midstream Operating, LLC (Well Pad & Access Road)  
Address: 380 Southpointe Boulevard, Plaza II, Suite 215  
Canonsburg, PA 15317

Name: Frank E. & Mary Virginia Pethtel, Life Estate (Well Pad)  
Address: 9845 Fish Creek Road  
Glen Easton, WV 26039

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

Name: Regina M. & Aaron D. Murray, Remainderman  
Address: 5 Mound Manor  
St. Mary's, WV 26170

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

SURFACE OWNER(s) (Impoundments or Pits)

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

COAL OWNER OR LESSEE

Name: CNX Land, LLC

Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317

COAL OPERATOR

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

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

Name: \*See attached  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

\*Please attach additional forms if necessary

RECEIVED  
Office of Oil and Gas  
FEB 03 2021  
WV Department of  
Environmental Protection

07/09/2021

**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

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

Office of Oil and Gas

FEB 03 2021

WV Department of  
Environmental Protection

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.**

07/09/2021

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

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

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

**Comment Requirements**

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

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

**Permit Denial or Condition**

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

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

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

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

RECEIVED  
Office of Oil and Gas  
FEB 03 2021  
WV Department of  
Environmental Protection

WW-6A  
(8-13)

API NO. 47- 051 -  
OPERATOR WELL NO. Van Winkle N-19HU  
Well Pad Name: Hunter Pethel

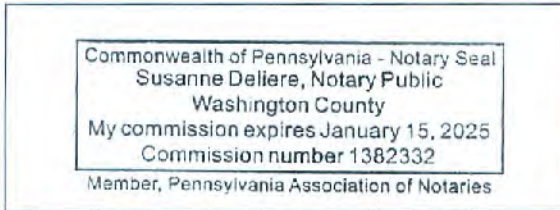
**Notice is hereby given by:**

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

Address: 380 Southpointe Boulevard, Plaza II, Suite 200  
Canonsburg, PA 15317  
Facsimile: 724-336-2030

**Oil and Gas Privacy Notice:**

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



Subscribed and sworn before me this 24<sup>th</sup> day of January 2021  
Susanne Deliere Notary Public  
My Commission Expires 1/15/2025

RECEIVED  
Office of Oil and Gas  
FEB 03 2021  
WV Department of  
Environmental Protection

07/09/2021



Tug Hill Operating, LLC  
 380 Southpointe Blvd, Suite 200  
 Cannonsburg, PA 15137

**Residences within Two-Thousand Feet (2,000')**

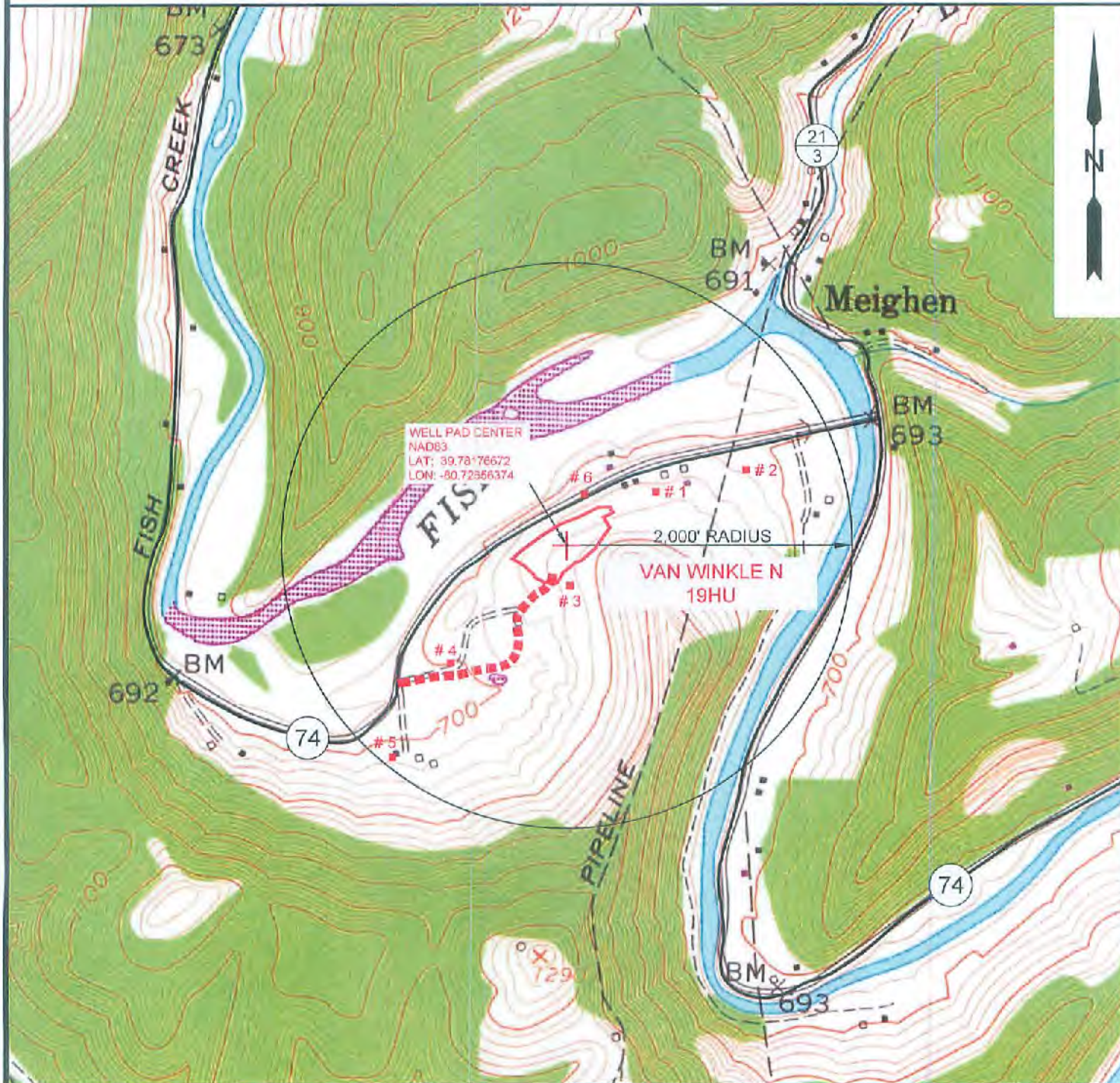
Well: Van Winkle N – 19HU  
 District: Meade  
 State: WV

There are four (4) possible residences, one (1) possible commercial or business site, no churches, no schools and no emergency facilities within two-thousand feet (2,000') of the above referenced well location. Number 6 is a water well only and is not a residence.

<p><b>Residence (#1)</b>                  TM 13 Pcl. 6                  Mary Virginia Pethtel  <b>Phone:</b> 304-684-2646, 304-845-3423  <b>Physical Address:</b>                  None Found – Possible Mobile Home  <b>Tax Address:</b>                  9845 Fish Creek Rd                  Glen Easton, WV 26039</p>	<p><b>Residence (#2)</b>                  TM 13 Pcl. 7                  Mary Virginia Pethtel  <b>Phone:</b> 304-684-2646, 304-845-3423  <b>Physical Address:</b>                  9845 Fish Creek Rd                  Glen Easton, WV 26039  <b>Tax Address:</b>                  Same</p>	<p><b>Commercial/Business (#3)*</b>                  TM 13 Pcl. 5                  XcL Midstream Operating, LLC  <b>Phone:</b> 1-888-751-0434  <b>Physical Address:</b>                  9269 Fish Creek Rd.                  Glen Easton, WV 26039  <b>Tax Address:</b>                  1320 S University DR STE 500                  Fort Worth, TX 76107                  *Physical address appears to be related to Oil &amp; Gas Well Pad.</p>
<p><b>Residence (#4)</b>                  TM 13 Pcl. 5                  XcL Midstream Operating, LLC  <b>Phone:</b> 1-888-751-0434  <b>Physical Address:</b>                  None Found – Appears to be newer home  <b>Tax Address:</b>                  1320 S University DR STE 500                  Fort Worth, TX 76107</p>	<p><b>Residence (#5)</b>                  TM 13 Pcl. 5                  XcL Midstream Operating, LLC  <b>Phone:</b> 1-888-751-0434  <b>Physical Address:</b>                  9201 Fish Creek Rd.                  Glen Easton, WV 26039  <b>Tax Address:</b>                  1320 S University DR STE 500                  Fort Worth, TX 76107</p>	<p><b>(#6)</b>                  Water Well Only (No Residence)                  Joseph L. Blake &amp; Michael A. Walker                  1207 Roberts Ridge Rd.                  Moundsville, WV 26041</p>

RECEIVED  
 Office of Oil and Gas  
 FEB 03 2021  
 WV Department of  
 Environmental Protection

# PROPOSED VAN WINKLE N - 19HU



NOTE: THERE APPEARS TO BE SIX (6) POSSIBLE WATER SOURCES WITHIN 2,000'. NUMBER 6 IS A WATER WELL ONLY (NO RESIDENCE).



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5634  
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952  
 234 East Beckley Bypass | Beckley, WV 25801 | 304.295.5296  
 slswv.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR:	
COUNTY	DISTRICT	TUG HILL OPERATING, LLC	
MARSHALL	MEADE	380 SOUTHPOINTE BLVD	
		SUITE 200	
		CANONSBURG, PA 15317	
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	8952	12/24/2020	1" = 1000'



**TUG HILL**  
OPERATING

07/09/2021

WW-9  
(4/16)

API Number 47 - 051

Operator's Well No. Van Winkle N-19HU

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Tug Hill Operating, LLC OP Code 494510851

Watershed (HUC 10) Fish Creek Quadrangle Glen Easton 7.5'

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

Will a pit be used? Yes  No

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

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

Proposed Disposal Method For Treated Pit Wastes:

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

Will closed loop system be used? If so, describe: Yes - For vertical and horizontal drilling

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

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

Additives to be used in drilling medium? Barite for weight

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

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

-Landfill or offsite name/permit number? Wetzel County Sanitary Landfill (SWF 1621 / WV0109185) and Westmoreland Sanitary Landfill, LLC (SAN1405 / PA DEP ECR1385425)

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

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

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

Company Official Signature *James Pancake*  
Company Official (Typed Name) James Pancake  
Company Official Title Vice President - Geoscience

RECEIVED  
Office of Oil and Gas  
FEB 03 2021  
WV Department of  
Environmental Protection

Subscribed and sworn before me this 8 day of JANUARY, 2021

*[Signature]*

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

My commission expires \_\_\_\_\_

07/09/2021

**Tug Hill Operating, LLC**

Proposed Revegetation Treatment: Acres Disturbed 16.63 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

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:

*Benny Stiles*

Comments:

RECEIVED  
Office of Oil and Gas

Title: Oil and Gas Inspector

Date: 1-21-21 FEB 03 2021

Field Reviewed?  Yes

No

WV Department of  
Environmental Protection

WW-6A  
(9-13)

API NO. 47- 051 - 002352  
OPERATOR WELL NO. Van Winkle N-19HU  
Well Pad Name: Hunter Pethel

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

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

Date of Notice: 1/14/2021 Date Permit Application Filed: 1/15/2021

Notice of:

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

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

- PERSONAL SERVICE       REGISTERED MAIL       METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice    WSSP Notice    E&S Plan Notice    Well Plat Notice is hereby provided to:

SURFACE OWNER(s)

Name: Xcl Midstream Operating, LLC (Well Pac & Access Road) ✓

Address: 380 Southpointe Boulevard, Plaza II, Suite 215

Canonsburg, PA 15317

Name: Frank E. & Mary Virginia Pethel, Life Estate (Well Pad) ✓

Address: 9845 Fish Creek Road

Glen Easton, WV 26039

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

Name: Regina M. & Aaron D. Murray, Remainderman ✓

Address: 5 Mound Manor

St. Mary's, WV 26170

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

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

SURFACE OWNER(s) (Impoundments or Pits)

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

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

COAL OWNER OR LESSEE

Name: CNX Land, LLC ✓

Address: 1000 Consol Energy Drive

Canonsburg, PA 15317

COAL OPERATOR

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

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

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

Name: \*See attached

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

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

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

\*Please attach additional forms if necessary

RECEIVED  
Office of Oil and Gas

JAN 19 2021

WV Department of  
Environmental Protection

07/09/2021

**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).

RECEIVED  
Office of Oil and Gas  
JAN 19 2021

**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

WV Department  
Environmental Protection

07/09/2021

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

RECEIVED  
Office of Oil and Gas

JAN 19 2021

WV Department of  
Environmental Protection

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.**

07/09/2021

### Time Limits and Methods for Filing Comments.

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

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

### Comment Requirements

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

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

### Permit Denial or Condition

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

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

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

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

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection

07/09/2021



WW-6A  
(8-13)

API NO. 47- 051 -  
OPERATOR WELL NO. Van Winkle N 19HU  
Well Pad Name: Hunter Pethel

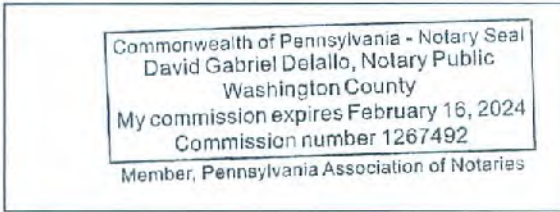
**Notice is hereby given by:**

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: 724-338-2030

**Oil and Gas Privacy Notice:**

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



Subscribed and sworn before me this 14 day of JANUARY, 2021  
*[Signature]* Notary Public

My Commission Expires 2/16/2024

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection

07/09/2021

**Exhibit WW-6A**

**Supplement Pg. 1A**

Tug Hill Operating, LLC  
380 Southpointe Blvd, Suite 200  
Cannonsburg, PA 15137

**Residences within Two-Thousand Feet (2,000')**

Well: Van Winkle N – 19HU  
District: Meade  
State: WV

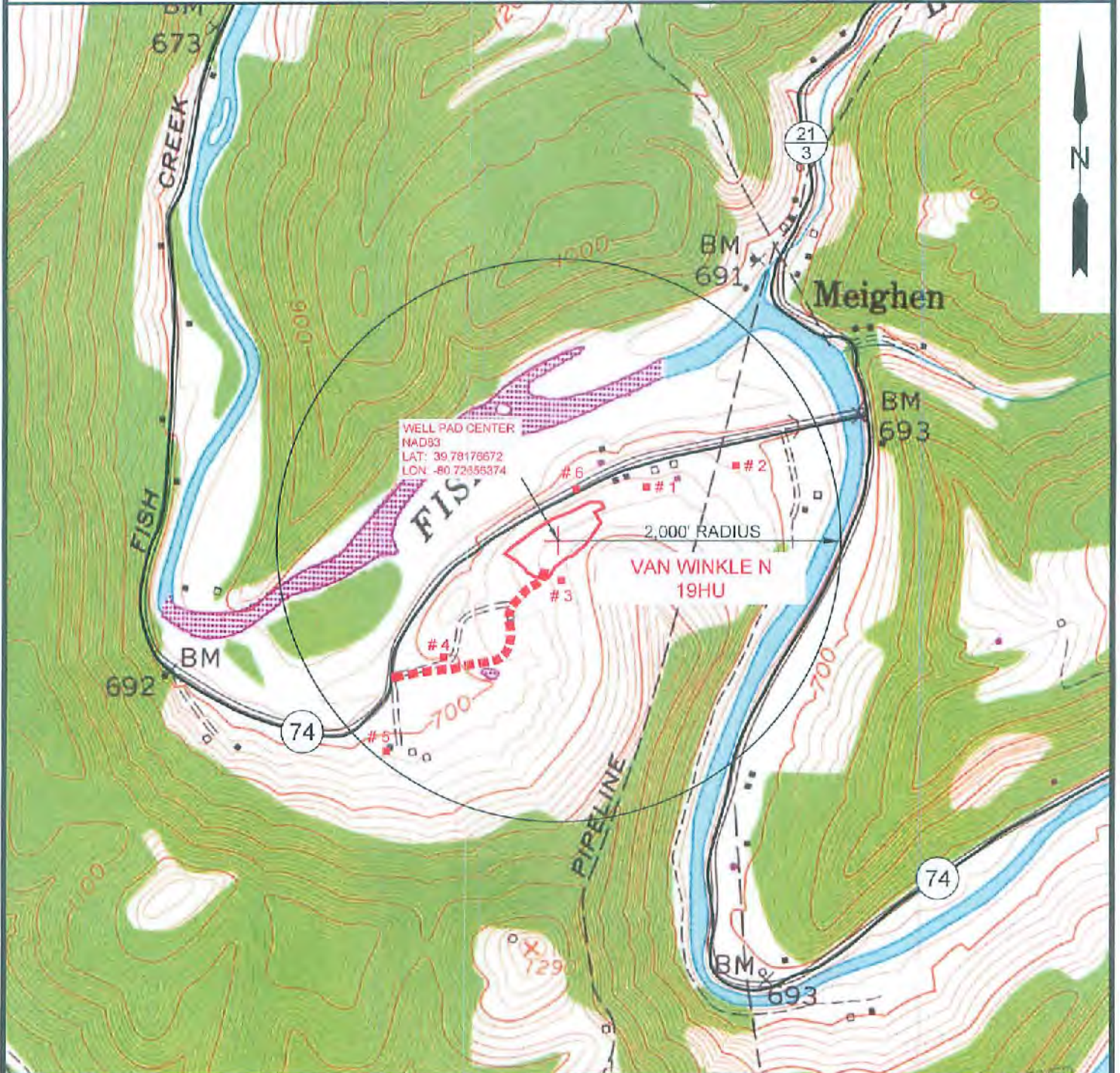
There are four (4) possible residences, one (1) possible commercial or business site, no churches, no schools and no emergency facilities within two-thousand feet (2,000') of the above referenced well location. Number 6 is a water well only and is not a residence.

<p><b>Residence (#1)</b> TM 13 Pcl. 6 Mary Virginia Pethtel <b>Phone:</b> 304-684-2646, 304-845-3423 <b>Physical Address:</b> None Found – Possible Mobile Home <b>Tax Address:</b> 9845 Fish Creek Rd Glen Easton, WV 26039</p>	<p><b>Residence (#2)</b> TM 13 Pcl. 7 Mary Virginia Pethtel <b>Phone:</b> 304-684-2646, 304-845-3423 <b>Physical Address:</b> 9845 Fish Creek Rd Glen Easton, WV 26039 <b>Tax Address:</b> Same</p>	<p><b>Commercial/Business (#3)*</b> TM 13 Pcl. 5 XcL Midstream Operating, LLC <b>Phone:</b> 1-888-751-0434 <b>Physical Address:</b> 9269 Fish Creek Rd. Glen Easton, WV 26039 <b>Tax Address:</b> 1320 S University DR STE 500 Fort Worth, TX 76107 *Physical address appears to be related to Oil &amp; Gas Well Pad.</p>
<p><b>Residence (#4)</b> TM 13 Pcl. 5 XcL Midstream Operating, LLC <b>Phone:</b> 1-888-751-0434 <b>Physical Address:</b> None Found – Appears to be newer home <b>Tax Address:</b> 1320 S University DR STE 500 Fort Worth, TX 76107</p>	<p><b>Residence (#5)</b> TM 13 Pcl. 5 XcL Midstream Operating, LLC <b>Phone:</b> 1-888-751-0434 <b>Physical Address:</b> 9201 Fish Creek Rd. Glen Easton, WV 26039 <b>Tax Address:</b> 1320 S University DR STE 500 Fort Worth, TX 76107</p>	<p><b>(#6)</b> Water Well Only (No Residence)</p>

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection

07/09/2021

# PROPOSED VAN WINKLE N - 19HU



NOTE: THERE APPEARS TO BE SIX (6) POSSIBLE WATER SOURCES WITHIN 2,000'. NUMBER 6 IS A WATER WELL ONLY (NO RESIDENCE).

RECEIVED  
Oil and Gas  
DIVISION  
JAN 19 2021



12 Vanhorn Drive | P.O. Box 150 | Gleeville, WV 26351 | 304.462.5634  
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952  
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296  
sls.wv.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR: TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317	
COUNTY	DISTRICT		
MARSHALL	MEADE		
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	8952	12/24/2020	1" = 1000'



**TUG HILL**  
OPERATING

07/09/2021

Affidavit of Personal Service

State Of WEST VIRGINIA  
County Of MARSHALL



The undersigned, being first duly sworn, says that the undersigned served a true and complete copy of all sides of--

- (1) Notice on Form WW-2(A)    / WW-3(A)    / WW-4(A)    / WW-5(A)    / WW-6(A)    <sup>6AS</sup>
- (2) Application on Form WW-2(B)    / WW-3(B)    / WW-4(B)    / WW-5(B)    / WW-6(B) X
- (3) Plat showing the well location on Form WW-6, and
- (4) Construction and Reclamation Plan on Form WW-9

--all with respect to operator's Well No. see list located in Meade District, Marshall County, West Virginia, upon the person or organization named--

FRANK E. PETER Frank E. Peter  
--by delivering the same in Marshall County, State of WEST VIRGINIA on the 15 day of JANUARY, 2021 in the manner specified below.

[COMPLETE THE APPROPRIATE SECTION]

For an individual:

Handing it to him  / her    / or, because he    / she    / refused to take it when offered it, by leaving it in his    / her    / presence.

Handing it to a member of his or her family above the age of 16 years named    who resides at the usual place of abode of the person to be served, and asking the family member to give it to the person to be served as soon as possible.

For a partnership:

Handing it to   , a partner of the partnership or, because the partner refused to take it when I handed it over, by leaving it in the presence of the partner.

For a limited partnership:

Handing it to the general partner, named   , or, because the general partner refused to take it when I tried to hand it over, by leaving it in the presence of the general partner.

For a corporation:

Handing it to the corporation's employee    / officer    / director    / attorney in fact    / named   

[Signature]  
(Signature of person executing service)

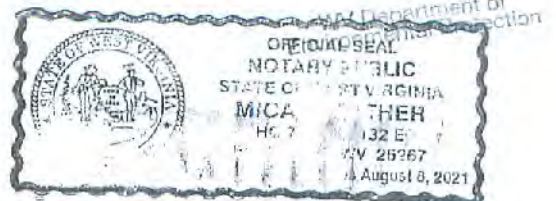
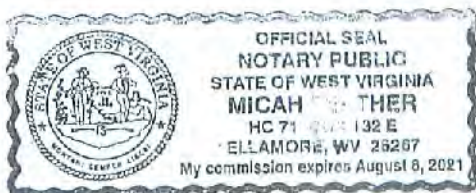
Taken, subscribed and sworn before me this 15 day of January, 2021.  
My commission expires August 8, 2021

[Signature]  
Notary Public

RECEIVED  
Office of Oil and Gas

JAN 19 2021

(AFFIX SEAL IF NOTARIZED OUTSIDE THE STATE)



07/09/2021

Affidavit of Personal Service

State Of Pennsylvania  
County Of Washington



The undersigned, being first duly sworn, says that the undersigned served a true and complete copy of all sides of--

- (1) Notice on Form WW-2(A) \_\_\_ / WW-3(A) \_\_\_ / WW-4(A) \_\_\_ / WW-5(A) \_\_\_ / WW-6(A) LAS
- (2) Application on Form WW-2(B) \_\_\_ / WW-3(B) \_\_\_ / WW-4(B) \_\_\_ / WW-5(B) \_\_\_ / WW-6(B) X
- (3)  Plat showing the well location on Form WW-6, and
- (4)  Construction and Reclamation Plan on Form WW-9

--all with respect to operator's Well No. Van Winkle Wells (see) located in Meade District, Marshall County, West Virginia, upon the person or organization named--

Kcl Midstream Operating, LLC  
--by delivering the same in Washington County, State of Pennsylvania on the 14<sup>th</sup> day of January, 2021 in the manner specified below.

[COMPLETE THE APPROPRIATE SECTION]

For an individual:

Handing it to him \_\_\_ / her \_\_\_ / or, because he \_\_\_ / she \_\_\_ / refused to take it when offered it, by leaving it in his \_\_\_ / her \_\_\_ / presence.

Handing it to a member of his or her family above the age of 16 years named \_\_\_\_\_ who resides at the usual place of abode of the person to be served, and asking the family member to give it to the person to be served as soon as possible.

For a partnership:

Handing it to \_\_\_\_\_, a partner of the partnership or, because the partner refused to take it when I handed it over, by leaving it in the presence of the partner.

For a limited partnership:

Handing it to the general partner, named \_\_\_\_\_, or, because the general partner refused to take it when I tried to hand it over, by leaving it in the presence of the general partner.

For a corporation:

Handing it to the corporation's employee \_\_\_ / officer  / director \_\_\_ / attorney in fact \_\_\_ / named Justin Trettel.

anyellowis  
(Signature of person executing service)

Taken, subscribed and sworn before me this 14 day of JANUARY 2021.  
My commission expires 2/16/24

[Signature]  
Notary Public

(AFFIX SEAL IF NOTARIZED OUTSIDE THE STATE)

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

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection  
07/09/2021

**WW-70 Attachment**

**Well List**

Van Winkle N-16HU

Van Winkle N-17HU

Van Winkle N-18HU

Van Winkle N-19HU

Van Winkle S-20HU

Van Winkle S-21HU

Van Winkle S-22HU

Van Winkle S-23HU

RECEIVED  
Office of Oil and Gas

JAN 19 2021

WV Department of  
Environmental Protection

07/09/2021

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF ENTRY FOR PLAT SURVEY**

**Notice Time Requirement:** Notice shall be provided at least SEVEN (7) days but no more than FORTY-FIVE (45) days prior to entry

**Date of Notice:** 12/11/2020      **Date of Planned Entry:** 12/18/2020

**Delivery method pursuant to West Virginia Code § 22-6A-10a**

- PERSONAL SERVICE     
  REGISTERED MAIL     
  METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to West Virginia Code § 22-6A-10(a), Prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

**Notice is hereby provided to:**

SURFACE OWNER(S)

**Name:** XcL Midstream Operating, LLC (Well Pad & Access Road)  
**Address:** 380 Southpointe Boulevard, Plaza II, Suite 215  
Canonsburg, PA 15317

**Name:** Frank E. & Mary Virginia Pethel, Life Estate (Well Pad)  
**Address:** 9845 Fish Creek Road  
Glen Easton, WV 26039

**Name:** Regina M. & Aaron D. Murray, Remainderman  
**Address:** 5 Mound Manor  
St. Marys, WV 26170

COAL OWNER OR LESSEE

**Name:** CNX Land, LLC  
**Address:** 1000 Consol Energy Drive  
Canonsburg, PA 15317

MINERAL OWNER(S)

**Name:** Frank E. & Mary Virginia Pethel, Life Estate  
**Address:** 9845 Fish Creek Road  
Glen Easton, WV 26039    \*\*See attached list

\*please attach additional forms if necessary

**Notice is hereby given:**

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

**State:** West Virginia  
**County:** Marshall  
**District:** Meade  
**Quadrangle:** Glen Easton 7.5'

**Approx. Latitude & Longitude:** 39.78176850; -80.72661368  
**Public Road Access:** County Route 74  
**Watershed:** Middle Fish Creek  
**Generally used farm name:** XcL Midstream Operating, LLC

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

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

**Address:** 380 Southpointe Boulevard, Plaza II, Suite 200  
Canonsburg, PA 15317  
**Facsimile:** 724-338-2020

RECEIVED  
Office of Oil and Gas

JAN 19 2021

WV Department of  
Environmental Protection

**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).

07/09/2021

**WW-6A3 Notice of Entry for Plat Survey  
Additional Parties to Notice  
Van Winkle Wells**

**Additional Mineral Owner:**

Dennis W. Hunter  
3322 Rainbow Lane  
North Ft. Myers, FL 33903

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection

07/09/2021



Affidavit of Personal Service

State of Pennsylvania  
County Of Washington



The undersigned, being first duly sworn, says that the undersigned served a true and complete copy of all sides of--

- (1) Notice on Form WW-2 (A) \_\_\_ / WW-3 (A) \_\_\_ / WW-4 (A) \_\_\_ / WW-5 (A) \_\_\_ / WW-6 (A) 3 ✓
- (2) Application on Form WW-2 (B) \_\_\_ / WW-3 (B) \_\_\_ / WW-4 (B) \_\_\_ / WW-5 (B) \_\_\_ / WW-6 (B) \_\_\_
- (3) Plat showing the well location on Form WW-6, and
- (4) Construction and Reclamation Plan on Form WW-9

--all with respect to operator's Well No. vanDette wells (see list) located in Meade District, Marshall County, West Virginia, upon the person or organization named--

XCL Midstream Operating, LLC  
--by delivering the same in Washington County, State of Pennsylvania on the 14<sup>th</sup> day of December, 2020 in the manner specified below.

[COMPLETE THE APPROPRIATE SECTION]

For an individual:

Handing it to him \_\_\_ / her \_\_\_ / or, because he \_\_\_ / she \_\_\_ / refused to take it when offered it, by leaving it in his \_\_\_ / her \_\_\_ / presence.

Handing it to a member of his or her family above the age of 16 years named \_\_\_\_\_ who resides at the usual place of abode of the person to be served, and asking the family member to give it to the person to be served as soon as possible.

For a partnership:

Handing it to \_\_\_\_\_, a partner of the partnership or, because the partner refused to take it when I handed it over, by leaving it in the presence of the partner.

For a limited partnership:

Handing it to the general partner, named \_\_\_\_\_, or, because the general partner refused to take it when I tried to hand it over, by leaving it in the presence of the general partner.

For a corporation:

Handing it to the corporation's employee \_\_\_ / officer ✓ / director \_\_\_ / attorney in fact \_\_\_ / named Justin Irettel

Amy S. Morris  
(Signature of person executing service)

Taken, subscribed and sworn before me this 14 day of December, 2020.  
My commission expires 2/16/2024

David Gabriel Delallo  
Notary Public

(AFFIX SEAL IF NOTARIZED OUTSIDE THE STATE)

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

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection

07/09/2021

**WW-70 Attachment**



**Well List**

- Van Winkle N-16HU
- Van Winkle N-17HU
- Van Winkle N-18HU
- Van Winkle N-19HU
- Van Winkle S-20HU
- Van Winkle S-21HU
- Van Winkle S-22HU
- Van Winkle S-23HU

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection

07/09/2021

**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:** 01/14/2021      **Date Permit Application Filed:** 01/15/2021

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

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> CERTIFIED MAIL | <input checked="" type="checkbox"/> HAND |
| RETURN RECEIPT REQUESTED                           | DELIVERY                                 |

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

**Notice is hereby provided to the SURFACE OWNER(s)**  
(at the address listed in the records of the sheriff at the time of notice):

Name: XcL Midstream Operating, LLC  
Address: 380 Southpointe Boulevard, Plaza II, Suite 200  
Canonsburg, PA 15317

Name: Frank E. & Mary Virginia Pethtel (Life Estate)  
Address: 9845 Fish Creek Road  
Glen Easton, WV 26039

**Notice is hereby given:**

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

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>523,369.70</u>
County: <u>Marshall</u>		Northing: <u>4,403,545.21</u>
District: <u>Meads</u>	Public Road Access: <u>County Route 74</u>	
Quadrangle: <u>Glen Easton 7.5'</u>	Generally used farm name: <u>XcL Midstream Operating, LLC</u>	
Watershed: <u>Fish Creek (HUC 10)</u>		

**This Notice Shall Include:**

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 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: 724-338-2030

**Oil and Gas Privacy Notice:**

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

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection  
07/09/2021

**Additional Surface Owner – Van Winkle Wells  
WW-6A5**

Regina M. & Aaron D. Murray  
5 Mound Manor  
St. Marys, WV 26170



RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection  
07/09/2021

Affidavit of Personal Service

State Of WEST VIRGINIA  
County Of MARSHALL



The undersigned, being first duly sworn, says that the undersigned served a true and complete copy of all sides of--

- (1) Notice on Form WW-2(A) \_\_\_ / WW-3(A) \_\_\_ / WW-4(A) \_\_\_ / WW-5(A) \_\_\_ / WW-6(A) 6A5
- (2) Application on Form WW-2(B) \_\_\_ / WW-3(B) \_\_\_ / WW-4(B) \_\_\_ / WW-5(B) \_\_\_ / WW-6(B) X
- (3) Plat showing the well location on Form WW-6, and
- (4) Construction and Reclamation Plan on Form WW-9

--all with respect to operator's Well No. see list located in Meade District, Marshall County, West Virginia, upon the person or organization named--

FRANK E. PETHER - Frank E. Pether  
--by delivering the same in MARSHALL County, State of WEST VIRGINIA on the 15 day of JANUARY, 2021 in the manner specified below.

[COMPLETE THE APPROPRIATE SECTION]

For an individual:

Handing it to him  / her \_\_\_ / or, because he \_\_\_ / she \_\_\_ / refused to take it when offered it, by leaving it in his \_\_\_ / her \_\_\_ / presence.

Handing it to a member of his or her family above the age of 16 years named \_\_\_ who resides at the usual place of abode of the person to be served, and asking the family member to give it to the person to be served as soon as possible.

For a partnership:

Handing it to \_\_\_, a partner of the partnership or, because the partner refused to take it when I handed it over, by leaving it in the presence of the partner.

For a limited partnership:

Handing it to the general partner, named \_\_\_, or, because the general partner refused to take it when I tried to hand it over, by leaving it in the presence of the general partner.

For a corporation:

Handing it to the corporation's employee \_\_\_ / officer \_\_\_ / director \_\_\_ / attorney in fact \_\_\_ / named \_\_\_.

[Signature]  
(Signature of person executing service)

Taken, subscribed and sworn before me this 15 day of January 2021  
My commission expires August 8, 2021

RECEIVED  
Office of Oil and Gas

[Signature]  
Notary Public

JAN 19 2021

WV Department of Environmental Protection

(AFFIX SEAL IF NOTARIZED OUTSIDE THE STATE)



07/09/2021

Affidavit of Personal Service

State Of Pennsylvania

County Of Washington



The undersigned, being first duly sworn, says that the undersigned served a true and complete copy of all sides of--

- (1) Notice on Form WW-2(A) \_\_\_ / WW-3(A) \_\_\_ / WW-4(A) \_\_\_ / WW-5(A) \_\_\_ / WW-6(A) WAS
- (2) Application on Form WW-2(B) \_\_\_ / WW-3(B) \_\_\_ / WW-4(B) \_\_\_ / WW-5(B) \_\_\_ / WW-6(B) X
- (3)  Plat showing the well location on Form WW-6, and
- (4) Construction and Reclamation Plan on Form WW-9

--all with respect to operator's Well No. Van Winkle Wells (see) located in Meade District, Marshall County, West Virginia, upon the person or organization named--

Kcl Midstream Operating, LLC  
--by delivering the same in Washington County, State of Pennsylvania on the 14<sup>th</sup> day of January, 2021 in the manner specified below.

[COMPLETE THE APPROPRIATE SECTION]

For an individual:

Handing it to him \_\_\_ / her \_\_\_ / or, because he \_\_\_ / she \_\_\_ / refused to take it when offered it, by leaving it in his \_\_\_ / her \_\_\_ / presence.

Handing it to a member of his or her family above the age of 16 years named \_\_\_\_\_ who resides at the usual place of abode of the person to be served, and asking the family member to give it to the person to be served as soon as possible.

For a partnership:

Handing it to \_\_\_\_\_, a partner of the partnership or, because the partner refused to take it when I handed it over, by leaving it in the presence of the partner.

For a limited partnership:

Handing it to the general partner, named \_\_\_\_\_, or, because the general partner refused to take it when I tried to hand it over, by leaving it in the presence of the general partner.

For a corporation:

Handing it to the corporation's employee \_\_\_ / officer  / director \_\_\_ / attorney in fact \_\_\_ / named Justin Trettel.

anyillovic  
(Signature of person executing service)

Taken, subscribed and sworn before me this 14 day of JANUARY 2021.  
My commission expires 2/16/24

[Signature]  
Notary Public

(AFFIX SEAL IF NOTARIZED OUTSIDE THE STATE)

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

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
07/09/2021  
Department of Environmental Protection

**WW-70 Attachment**

**Well List**

Van Winkle N-16HU

Van Winkle N-17HU

Van Winkle N-18HU

Van Winkle N-19HU

Van Winkle S-20HU

Van Winkle S-21HU

Van Winkle S-22HU

Van Winkle S-23HU

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection  
07/09/2021

51-02352



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

Byrd E. White, III  
Secretary of Transportation/  
Commissioner of Highways

January 14, 2021

Jimmy Wriston, P. E.  
Deputy Secretary/  
Deputy Commissioner

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 Hunter-Pethtel Pad, Marshall County  
Van Winkle N-19HU Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2009-0275 which has been transferred to Tug Hill Operating for access to the State Road for a well site located off Marshall County Route 74 SLS.

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.

Very Truly Yours,

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

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

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection  
07/09/2021





**PLANNED ADDITIVES TO BE USED IN FRACTURING OR STIMULATION**

**Van Winkle Wells**

<b>PRODUCT NAME:</b>	<b>CHEMICAL DESCRIPTION:</b>	<b>PRODUCT USE:</b>	<b>HAZARDOUS COMPONENT:</b>
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

RECEIVED  
Office of Oil and Gas  
JAN 19 2021  
WV Department of  
Environmental Protection

# Hunter Pethtel Well Pad Site

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

Tug Hill Operating  
Marshall County

Meade District

Latitude 39.78176672°

Longitude -80.72656374°

Middle Fish Creek Watershed

**Pertinent Site Information**  
Hunter Pethtel Well Pad Site  
Emergency Number 304-845-1930  
Meade District, Marshall County, WV  
Watershed: Middle Fish Creek Watershed  
Tug Hill Contact Number: 1-817-632-3400

WEST VIRGINIA  
COUNTY MAP



## Exhibit A: Final Design: Issue for Permitting

Property Owner Information - Hunter Pethtel Well Site  
Shade Owner - Shaded Owners

Parcel	Acres	Owner Name	Address	City	County	State	Zip	Phone	Fax	Email
11.0	0.21	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Section	Area (Acres)	Owner Name	Address	City	County	State	Zip	Phone	Fax	Email
11.0	0.21	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Section	Area (Acres)	Owner Name	Address	City	County	State	Zip	Phone	Fax	Email
11.0	0.21	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Section	Area (Acres)	Owner Name	Address	City	County	State	Zip	Phone	Fax	Email
11.0	0.21	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Section	Area (Acres)	Owner Name	Address	City	County	State	Zip	Phone	Fax	Email
11.0	0.21	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Area Sheet

Area Sheet	Area (Acres)	Owner Name	Address	City	County	State	Zip	Phone	Fax	Email
11.0	0.21	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Disturbed Area

Disturbed Area	Area (Acres)	Owner Name	Address	City	County	State	Zip	Phone	Fax	Email
11.0	0.21	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hunter Pethtel Well Pad Site Orientation

Orientation	Area (Acres)	Owner Name	Address	City	County	State	Zip	Phone	Fax	Email
11.0	0.21	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

jurisdictional Impact (Linear Feet)

Impact	Area (Acres)	Owner Name	Address	City	County	State	Zip	Phone	Fax	Email
11.0	0.21	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Disturbance Impact (Linear Feet)

Impact	Area (Acres)	Owner Name	Address	City	County	State	Zip	Phone	Fax	Email
11.0	0.21	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Wetland Impact (Square Feet)

Impact	Area (Acres)	Owner Name	Address	City	County	State	Zip	Phone	Fax	Email
11.0	0.21	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**Project Contacts**

**Log Information:**  
Hunter Pethtel Well Pad Site  
Tug Hill Operating, LLC  
1111 Huntington Blvd.  
Martinsburg, WV 26151

**Log Information:**  
Hunter Pethtel Well Pad Site  
Tug Hill Operating, LLC  
1111 Huntington Blvd.  
Martinsburg, WV 26151

**APPROVED**  
WVDEP OOG  
2/24/2021



Site Location (NAD 83)

Point	Latitude (DD)	Longitude (DD)
Corner of Section 11.0	39.78176672	-80.72656374
Corner of Section 11.0	39.78176672	-80.72656374
Corner of Section 11.0	39.78176672	-80.72656374

Site Location (NAD 83)

Point	Latitude (DD)	Longitude (DD)
Corner of Section 11.0	39.78176672	-80.72656374
Corner of Section 11.0	39.78176672	-80.72656374
Corner of Section 11.0	39.78176672	-80.72656374

**Approach Route:**

From the intersection of WV Rt 7 and 17th Street in Mountainville, WV, Travel South on WV Rt 2 for 3.5 mi. Turn Left onto WV Rt 2 (Round Bottom L.R. Rd.). Follow WV Rt 2 for 1.5 mi. Turn Right onto Co Rd 21 (Johnny Lee). Follow Co Rd 21 for 2 mi. Turn Right onto Co Rd 21 (Bakers Ridge). Follow Co Rd 21 for 1 mi. Turn Right onto Eme R 2 (State Roadhouse). Follow Eme R 2 for 4 mi. Turn Left into the Hunter Pethtel Well Pad to be located. When exiting the Hunter Pethtel Well Pad, turn Right onto Eme R 2 (back onto Eme R 2) and follow Eme R 2 for 0.5 mi. Turn Left onto Co Rd 21 (Bakers Ridge). Follow Co Rd 21 for 1 mi. Turn Left (across the bridge) to stay on Co Rd 21. Follow Co Rd 21 for 1 mi. The site location will be on the East side of the road.



**WV permit requirements:**

- All permittees comply with the following conditions:
- \*25' Buffer on either side of the disturbed area from the boundary of the disturbed area.
- \*No erosion control measures, or any other measures, shall be installed or maintained until the disturbed area is stabilized.
- \*No erosion control measures, or any other measures, shall be installed or maintained until the disturbed area is stabilized.
- \*25' Buffer on either side of the disturbed area from the boundary of the disturbed area.
- \*No erosion control measures, or any other measures, shall be installed or maintained until the disturbed area is stabilized.



**811**  
Call before you dig.  
Miss Utility of West Virginia  
1-800-251-4888  
www.811wv.com

Tug Hill Operating will obtain an Erosion and Sediment Control Plan from the WV Department of Environmental Protection, Division of Highways prior to the commencement of any construction activities.

**Permit Conditions:**

Condition	Yes/No
Permittee shall comply with all permit conditions.	Yes
Permittee shall comply with all permit conditions.	Yes
Permittee shall comply with all permit conditions.	Yes
Permittee shall comply with all permit conditions.	Yes
Permittee shall comply with all permit conditions.	Yes
Permittee shall comply with all permit conditions.	Yes
Permittee shall comply with all permit conditions.	Yes
Permittee shall comply with all permit conditions.	Yes
Permittee shall comply with all permit conditions.	Yes
Permittee shall comply with all permit conditions.	Yes

Sheet	Description
V1	Cover Sheet
W1-04	Site Location
1	Site Plan
2	Site Location
3	Site Location
4	Site Location
5	Site Location
6-7	EIS Plan View
8-13	Site Location
14-15	Site Location
16-17	Site Location
18-19	Site Location
20-21	Site Location
22-23	Site Location
24-25	Site Location
26-27	Site Location
28-29	Site Location
30-31	Site Location
32-33	Site Location
34-35	Site Location
36-37	Site Location
38-39	Site Location
40-41	Site Location
42-43	Site Location
44-45	Site Location
46-47	Site Location
48-49	Site Location
50-51	Site Location
52-53	Site Location
54-55	Site Location
56-57	Site Location
58-59	Site Location
60-61	Site Location
62-63	Site Location
64-65	Site Location
66-67	Site Location
68-69	Site Location
70-71	Site Location
72-73	Site Location
74-75	Site Location
76-77	Site Location
78-79	Site Location
80-81	Site Location
82-83	Site Location
84-85	Site Location
86-87	Site Location
88-89	Site Location
90-91	Site Location
92-93	Site Location
94-95	Site Location
96-97	Site Location
98-99	Site Location
100-101	Site Location
102-103	Site Location
104-105	Site Location
106-107	Site Location
108-109	Site Location
110-111	Site Location
112-113	Site Location
114-115	Site Location
116-117	Site Location
118-119	Site Location
120-121	Site Location
122-123	Site Location
124-125	Site Location
126-127	Site Location
128-129	Site Location
130-131	Site Location
132-133	Site Location
134-135	Site Location
136-137	Site Location
138-139	Site Location
140-141	Site Location
142-143	Site Location
144-145	Site Location
146-147	Site Location
148-149	Site Location
150-151	Site Location
152-153	Site Location
154-155	Site Location
156-157	Site Location
158-159	Site Location
160-161	Site Location
162-163	Site Location
164-165	Site Location
166-167	Site Location
168-169	Site Location
170-171	Site Location
172-173	Site Location
174-175	Site Location
176-177	Site Location
178-179	Site Location
180-181	Site Location
182-183	Site Location
184-185	Site Location
186-187	Site Location
188-189	Site Location
190-191	Site Location
192-193	Site Location
194-195	Site Location
196-197	Site Location
198-199	Site Location
200-201	Site Location
202-203	Site Location
204-205	Site Location
206-207	Site Location
208-209	Site Location
210-211	Site Location
212-213	Site Location
214-215	Site Location
216-217	Site Location
218-219	Site Location
220-221	Site Location
222-223	Site Location
224-225	Site Location
226-227	Site Location
228-229	Site Location
230-231	Site Location
232-233	Site Location
234-235	Site Location
236-237	Site Location
238-239	Site Location
240-241	Site Location
242-243	Site Location
244-245	Site Location
246-247	Site Location
248-249	Site Location
250-251	Site Location
252-253	Site Location
254-255	Site Location
256-257	Site Location
258-259	Site Location
260-261	Site Location
262-263	Site Location
264-265	Site Location
266-267	Site Location
268-269	Site Location
270-271	Site Location
272-273	Site Location
274-275	Site Location
276-277	Site Location
278-279	Site Location
280-281	Site Location
282-283	Site Location
284-285	Site Location
286-287	Site Location
288-289	Site Location
290-291	Site Location
292-293	Site Location
294-295	Site Location
296-297	Site Location
298-299	Site Location
300-301	Site Location
302-303	Site Location
304-305	Site Location
306-307	Site Location
308-309	Site Location
310-311	Site Location
312-313	Site Location
314-315	Site Location
316-317	Site Location
318-319	Site Location
320-321	Site Location
322-323	Site Location
324-325	Site Location
326-327	Site Location
328-329	Site Location
330-331	Site Location
332-333	Site Location
334-335	Site Location
336-337	Site Location
338-339	Site Location
340-341	Site Location
342-343	Site Location
344-345	Site Location
346-347	Site Location
348-349	Site Location
350-351	Site Location
352-353	Site Location
354-355	Site Location
356-357	Site Location
358-359	Site Location
360-361	Site Location
362-363	Site Location
364-365	Site Location
366-367	Site Location
368-369	Site Location
370-371	Site Location
372-373	Site Location
374-375	Site Location
376-377	Site Location
378-379	Site Location
380-381	Site Location
382-383	Site Location
384-385	Site Location
386-387	Site Location
388-389	Site Location
390-391	Site Location
392-393	Site Location
394-395	Site Location
396-397	Site Location
398-399	Site Location
400-401	Site Location
402-403	Site Location
404-405	Site Location
406-407	Site Location
408-409	Site Location
410-411	Site Location
412-413	Site Location
414-415	Site Location
416-417	Site Location
418-419	Site Location
420-421	Site Location
422-423	Site Location
424-425	Site Location
426-427	Site Location
428-429	Site Location
430-431	Site Location
432-433	Site Location
434-435	Site Location
436-437	Site Location
438-439	Site Location
440-441	Site Location
442-443	Site Location
444-445	Site Location
446-447	Site Location
448-449	Site Location
450-451	Site Location
452-453	Site Location
454-455	Site Location
456-457	Site Location
458-459	Site Location
460-461	Site Location
462-463	Site Location
464-465	Site Location
466-467	Site Location
468-469	Site Location
470-471	Site Location
472-473	Site Location
474-475	Site Location
476-477	Site Location
478-479	Site Location
480-481	Site Location



