



west virginia department of environmental protection

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

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

Wednesday, January 26, 2022
WELL WORK PERMIT
Horizontal 6A / New Drill

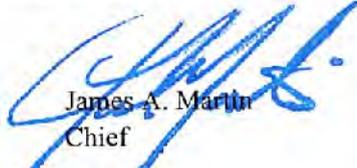
TUG HILL OPERATING, LLC
380 SOUTHPOINTE BOULEVARD, PLAZA II
SUITE 200
CANONSBURG, PA 15317

Re: Permit approval for WILLETT S-16HU
47-051-02423-00-00

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: WILLETT S-16HU
Farm Name: CNX LAND LLC
U.S. WELL NUMBER: 47-051-02423-00-00
Horizontal 6A New Drill
Date Issued: 1/26/2022

Promoting a healthy environment.

01/28/2022



west virginia department of environmental protection

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

Randall M. Albert, Chairman
dep.wv.gov

January 5, 2022

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

RE: Application for Deep Well Permit – API #47-051-02423

COMPANY: Tug Hill Operating, LLC

FARM: CNX Land, LLC Willett S-16HU

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

**Hudson S-15HU 47-051-02328; Hudson S-16HU 47-051-02329; Breckenridge S-18HU 47-051-02397; Breckenridge S-17HU 47-051-02396; Fitzgerald S-17HU 47-051-02324; Fitzgerald S-18HU 47-051-02325; Fitzgerald S-19HU 47-051-02326; Hudson S-12HU 47-051-02292; Hudson S-13HU 47-051-02293; Hudson S-14HU 47-051-02327

01/28/2022

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.

01/28/2022

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: Willett S-16HU Well Pad Name: Willett

3) Farm Name/Surface Owner: CNX Land, LLC Public Road Access: CR 62 New Bethel Road

4) Elevation, current ground: 1,310.03' Elevation, proposed post-construction: 1,310.03'

5) Well Type (a) Gas X Oil _____ Underground Storage _____

Other _____

(b) If Gas Shallow _____ Deep X

Horizontal X

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Point Pleasant is the target formation at a depth of 11,802' - 11,924', thickness of 122' and anticipated pressure of approx. 7,500 psi.

8) Proposed Total Vertical Depth: 12,074'

9) Formation at Total Vertical Depth: Trenton, plug back to Reedsville

10) Proposed Total Measured Depth: 24,796' ✓

11) Proposed Horizontal Leg Length: 12,152.15'

12) Approximate Fresh Water Strata Depths: 70; 992' ✓

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

14) Approximate Saltwater Depths: 1,464' ✓

15) Approximate Coal Seam Depths: Sewickley Coal - 888' and Pittsburgh Coal - 986' ✓

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 X No _____

(a) If Yes, provide Mine Info: Name: Marshall County Coal Resources, Inc./ Marshall Count Mine
Depth: 986' TVD and 324' subsea level
Seam: Pittsburgh
Owner: Marshall County Coal Resources, Inc.

18) CASING AND TUBING PROGRAM

| TYPE | Size (in) | New or Used | Grade | Weight per ft. (lb/ft) | FOOTAGE: For Drilling (ft) | INTERVALS: Left in Well (ft) | CEMENT: Fill-up (Cu. Ft.)/CTS |
|------------------|-----------|-------------|--------|------------------------|----------------------------|------------------------------|-------------------------------|
| Conductor | 30" | NEW | BW | BW | 120' | 120' ✓ | 259ft ³ (CTS) |
| Fresh Water/Coal | 20" | NEW | J55 | 106.5# | 1,100' | 1,100' ✓ | 1764ft ³ (CTS) |
| Intermediate 1 | 13 3/8" | NEW | J55 | 54.5# | 2,875' | 2,875' ✓ | 2026ft ³ (CTS) |
| Intermediate 2 | 9 5/8" | NEW | HPP110 | 47# | 10,963' | 10,963' ✓ | 3576ft ³ (CTS) |
| Production | 5 1/2" | NEW | HCP110 | 23# | 24,796' | 24,796' ✓ | 5867ft ³ (CTS) |
| Tubing | 2 7/8" | NEW | P110 | 6.5# | | 11,929' ✓ | |
| Liners | | | | | | | |

B.S. 10-14-21

| 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/Coal | 20" | 26# | .5 | 2,410 | 1,928 | SEE #24 | 1.2 |
| Intermediate 1 | 13 3/8" | 17 1/2" | .38 | 2,740 | 2,192 | SEE #24 | 1.2 |
| Intermediate 2 | 9 5/8" | 12 1/4" | .472 | 10,730 | 6,968 | SEE #24 | 1.33 |
| Production | 5 1/2" | 8 1/2" | .415 | 16,510 | 13,208 | SEE #24 | 1.17/1.19 |
| Tubing | 2 7/8" | | | 14,530 | 11,624 | | |
| Liners | | | | | | | |

PACKERS

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

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

Drill through the Point Pleasant and TD Pilot Hole 150' into the Trenton. Log vertical section and run a solid cement plug back to proposed KOP (11,429'). 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 30,400,000 lb. proppant and 550,000 bbl of water. Max rate = 80bpm; max psi = 9,000#.

BS 10-14-21

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 15.60 acres

22) Area to be disturbed for well pad only, less access road (acres): 5.44 acres

23) Describe centralizer placement for each casing string:

Will run 3 centralizers on surface casing at equal distance. Intermediate strings will have 1 centralizer every other joint. Production casing will have one centralizer every other joint in lateral, one centralizer every joint through curve, one centralizer every other joint to surface.

24) Describe all cement additives associated with each cement type:

Sfc - Premium NE-1 + 2% CaCl; Int1 - Premium NE-1 + 1.5% CaCL + Flake; Int2 - Lead: Premium NE-1 + 5% BA-90 + .85% R-3 + 3% KCl + .75 gals/100sk FP-13L + 1% MPA-170 Tail: Premium NE-1 + .1% R-3 + 5% KCl + 1% CD-32 + .4% FL-52 + .2% ASA-301 + .6% Sodium Metasilicate; Kick Plug - Class H Cement + 1% CD-32 + .7% Sodium Metasilicate + .1% R-3 + .75 gal/100sk FP-13L; Prod - Lead: 50:50 (Poz:Class H) + .3% R-3 + .3% MPA-250 + .75 gal/100sk FP-13L Tail: 25:75 (Poz:Class H) + .3% R-3 + .3% MPA-250 + .375 gal/100sk FP-13L

25) Proposed borehole conditioning procedures:

Will circulate a minimum of 3 hours at TD, short trip to curve, circulate bottoms up, check for flow, POOH

*Note: Attach additional sheets as needed.

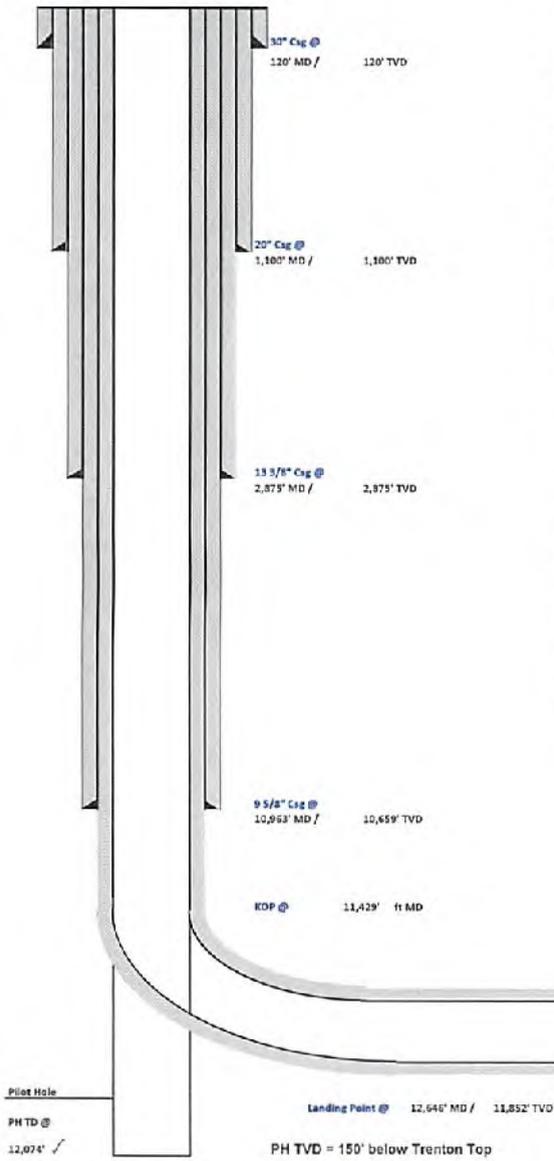


| | | | |
|---------------|-----------------|----------|----------|
| WELL NAME: | Willlett 5-16HU | | |
| STATE: | WV | COUNTY: | Marshall |
| DISTRICT: | Meade | | |
| DF Elev: | 1,310' | GL Elev: | 1,310' |
| TD: | 24,796' | | |
| TH Latitude: | 39.82302225 | | |
| TH Longitude: | -80.656242 | | |
| BH Latitude: | 39.793954 | | |
| BH Longitude: | -80.625057 | | |

| FORMATION TOPS | |
|---------------------|-----------|
| Formation | Depth TVD |
| Deepest Fresh Water | 592' |
| Sewickley Coal | 880' |
| Pittsburgh Coal | 986' |
| Big Lime | 2,078' |
| Berea | 2,690' |
| Tully | 6,699' |
| Marcellus | 6,818' |
| Onondaga | 6,858' |
| Selina | 7,555' |
| Lockport | 8,658' |
| Utica | 11,520' |
| Point Pleasant | 11,802' |
| Landing Depth | 11,852' |
| Trenton | 11,924' |
| Pilot Hole TD | 12,074' |

| CASING SUMMARY | | | | | | | |
|----------------|----------------|---------------|------------|-------------|----------------|--------|---------------|
| Type | Hole Size (in) | Csg Size (in) | Depth (MD) | Depth (TVD) | Weight (lb/ft) | Grade | Top of Cement |
| Conductor | 36 | 30 | 120' | 120' | 8W | BW | Surface |
| Surface | 26 | 20 | 1,100' | 1,100' | 106.5 | J55 | Surface |
| Intermediate 1 | 17 1/2 | 13 3/8 | 2,875' | 2,875' | 54.5 | J55 | Surface |
| Intermediate 2 | 12 1/4 | 9 5/8 | 10,963' | 10,659' | 47 | HPP110 | Surface |
| Production | 8 1/2 | 5 1/2 | 24,796' | 12,064' | 23 | HCP110 | Surface |

| CEMENT SUMMARY | | | | DRILLING DETAILS | |
|----------------|-------|-------|---------------|------------------|--|
| Type | Sacks | Class | Density (ppg) | Fluid Type | Centralizer Notes |
| Conductor | 338 | A | 15.6 | Air | None |
| Surface | 1,903 | A | 15.6 | Air | 3 Centralizers at equal distance |
| Intermediate 1 | 2,196 | A | 15.6 | Air | 1 Centralizer every other joint |
| Intermediate 2 | 3,259 | A | 14.5 | Air | 1 Centralizer every other joint |
| Production | 6,008 | A | 16.5 | Air / SOBMM | 1 every other joint in lateral; 1 per joint in curve; 1 every other joint to surface |



Pilot Hole
PH TD @
12,074'

Landing Point @ 12,646' MD / 11,852' TVD
PH TVD = 150' below Trenton Top

Lateral TD @ 24,796' ft MD ✓
12,064' ft TVD ✓



Tug Hill Operating, LLC Casing and Cement Program

Willett S-16HU

Casing

| | String | Grade | Bit Size | Depth (Measured) | Cement Fill Up |
|----------------|---------|--------|----------|------------------|----------------|
| Conductor | 30" | BW | 36" | 120' | CTS |
| Surface | 20" | J55 | 26" | 1,100' | CTS |
| Intermediate 1 | 13 3/8" | J55 | 17 1/2" | 2,875' | CTS |
| Intermediate 2 | 9 5/8" | HPP110 | 12 1/4" | 10,963' | CTS |
| Production | 5 1/2" | HCP110 | 8 1/2" | 24,796' | 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 14.5 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 16.5 ppg, Y = 1.18



December 2, 2021

WV DEP OFFICE OF OIL & GAS
ATTENTION: Charles Brewer
601 57TH STREET SE
CHARLESTON WV 25304-2345

VIA USPS

RE: **Willett S-16HU (New H6A Drilling Permit Application)**
Meade District, Marshall County, WV

Dear Taylor:

Tug Hill Operating, LLC would like to submit the Willett S-16HU application for a new well work permit to explore for Point Pleasant potential. The proposed well is located within Marshall County, WV. Please find the following enclosed:

- Check for application fee of \$5,150
- Permit application package
- CD with Site Safety Plans and MSDS Sheets
- Consent and Easement
- Map and list of names / addresses of all operators within 500 feet of entire well borehole
- Proposed Voluntary Pooling and Unitization Letter

If you have any questions or need any additional information, please feel free to call me at (304) 376-0111. Thank you for taking your time to review this application.

Sincerely,

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

AMY L. MORRIS
PERMITTING SPECIALIST-APPALACHIA REGION
TUG HILL OPERATING, LLC

Enclosures



Well: Willett S-16 HU (slot J)
 Site: Willett
 Project: Marshall County, West Virginia
 Design: rev2
 Rig:

SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | V Sect | Annotation |
|-----|----------|-------|--------|----------|-----------|---------|------|--------|----------|----------------------------------|
| 2 | 3301.00 | 0.00 | 0.00 | 3301.00 | 0.00 | 0.00 | 0.00 | 0.000 | 0.00 | KOP Begin 2°/100' build |
| 3 | 3801.00 | 10.00 | 76.37 | 3798.47 | 10.26 | 42.30 | 2.00 | 76.370 | 19.23 | Begin 10.00° tangent |
| 4 | 7052.94 | 10.00 | 76.37 | 7001.00 | 143.33 | 591.09 | 0.00 | 0.000 | 258.67 | Begin 2°/100' build |
| 5 | 7621.57 | 21.37 | 76.37 | 7547.58 | 179.50 | 740.25 | 2.00 | -0.001 | 336.47 | Begin 21.37° tangent |
| 6 | 11428.57 | 21.37 | 76.37 | 11092.75 | 508.45 | 2088.57 | 0.00 | 0.000 | 949.31 | Begin 6°/100' build/turn |
| 7 | 12135.11 | 50.00 | 136.28 | 11675.64 | 333.23 | 2415.79 | 6.00 | 79.454 | 1291.96 | Begin 8°/100' build/turn |
| 8 | 12646.32 | 89.00 | 149.61 | 11851.95 | -45.40 | 2691.44 | 8.00 | 20.935 | 1758.27 | Begin 89.00° lateral |
| 9 | 24796.29 | 89.00 | 149.61 | 12064.00 | -10545.83 | 8800.27 | 0.00 | 0.000 | 13735.33 | PBHL/TD 24796.29 MD 12064.00 TVD |

DESIGN TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|--|----------|-----------|---------|-------------|------------|-------------|--------------|
| Willett S-16HU LP r1 | 11841.00 | 452.41 | 2401.68 | 14462927.54 | 1739335.27 | 39.82423900 | -80.64768200 |
| - plan misses target center by 202.30ft at 12155.69ft MD (11689.28 TVD, 321.06 N, 2427.27 E) | | | | | | | |
| Willett S-16HU PBHL r1 | 12064.00 | -10545.83 | 8800.27 | 14451929.33 | 1745734.85 | 39.79396400 | -80.62505700 |
| - plan hits target center | | | | | | | |

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 @ 1310.00ft

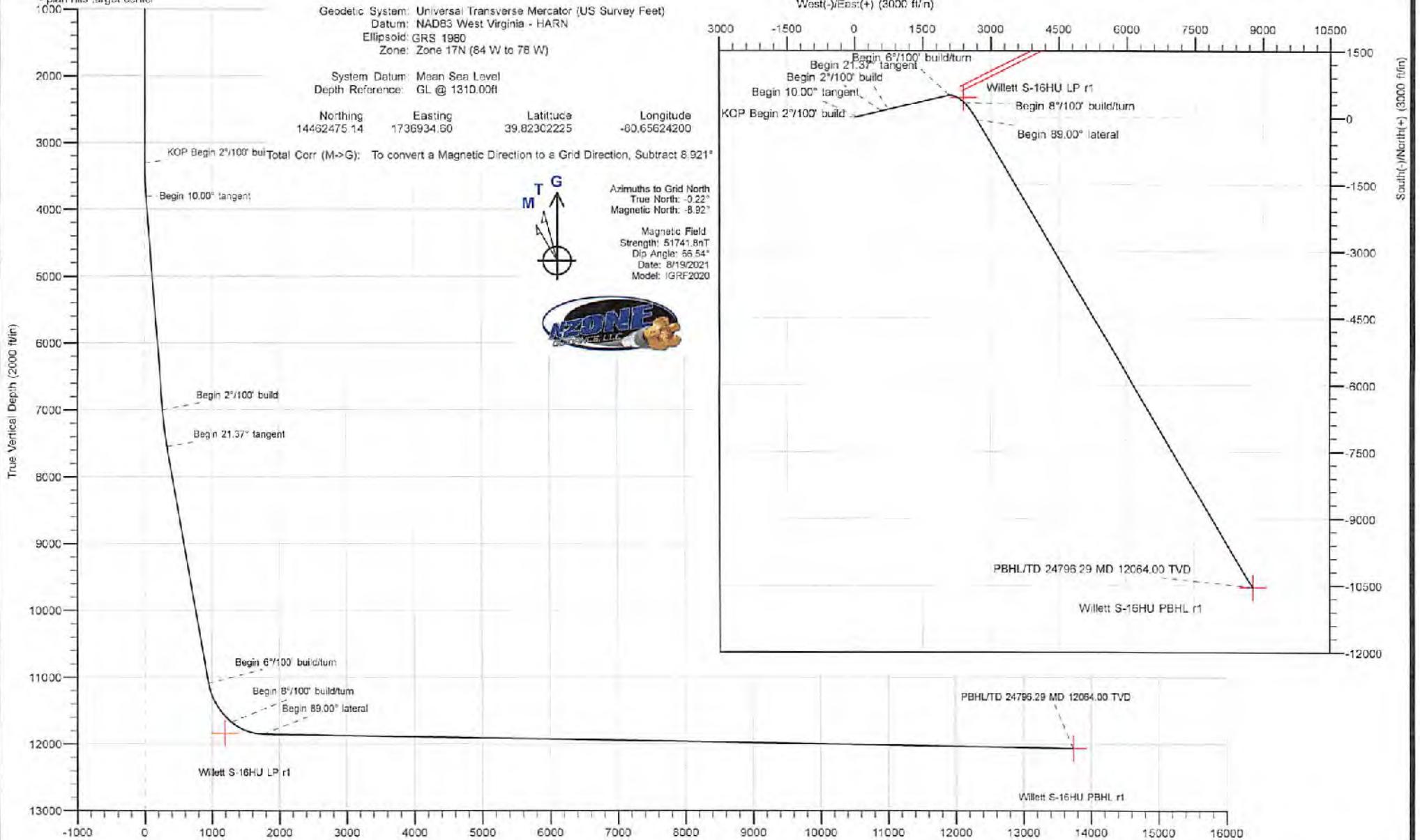
| Northing | Easting | Latitude | Longitude |
|-------------|------------|-------------|--------------|
| 14462475.14 | 1736934.80 | 39.82302225 | -80.65624200 |

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.921°



Azimuths to Grid North
 True North: -0.22°
 Magnetic North: -8.92°

Magnetic Field
 Strength: 51741.8nT
 Dip Angle: 56.54°
 Date: 8/19/2021
 Model: IGRF2020





Planning Report - Geographic

| | | | |
|------------------|--------------------------------|-------------------------------------|-------------------------------|
| Database: | DB_Dec2220_v16 | Local Co-ordinate Reference: | Well Willett S-16 HU (slot J) |
| Company: | Tug Hill Operating LLC | TVD Reference: | GL @ 1310.00ft |
| Project: | Marshall County, West Virginia | MD Reference: | GL @ 1310.00ft |
| Site: | Willett | North Reference: | Grid |
| Well: | Willett S-16 HU (slot J) | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Original Hole | | |
| Design: | rev2 | | |

| | | | |
|--------------------|--|----------------------|----------------|
| Project | Marshall County, West Virginia | | |
| Map System: | Universal Transverse Mercator (US Survey Feet) | System Datum: | Mean Sea Level |
| Geo Datum: | NAD83 West Virginia - HARN | | |
| Map Zone: | Zone 17N (64 W to 76 W) | | |

| | | | | | |
|------------------------------|----------|---------------------|--------------------|-------------------|--------------|
| Site | Willett | | | | |
| Site Position: | | Northing: | 14,462,447.53 usft | Latitude: | 39.82294609 |
| From: | Lat/Long | Easting: | 1,736,965.80 usft | Longitude: | -80.65613126 |
| Position Uncertainty: | 0.00 ft | Slot Radius: | 13-3/16 " | | |

| | | | | | | |
|-----------------------------|--------------------------|---------|----------------------------|--------------------|----------------------|--------------|
| Well | Willett S-16 HU (slot J) | | | | | |
| Well Position | +N-S | 0.00 ft | Northing: | 14,462,475.14 usft | Latitude: | 39.82302225 |
| | +E-W | 0.00 ft | Easting: | 1,736,934.60 usft | Longitude: | -80.65624200 |
| Position Uncertainty | 0.00 ft | | Wellhead Elevation: | ft | Ground Level: | 1,310.00 ft |
| Grid Convergence: | | | | | | |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Original Hole | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2020 | 8/19/2021 | -8.701 | 66.542 | 51,741.80559227 |

| | | | | |
|--------------------------|------------------------------|------------------|----------------------|----------------------|
| Design | rev2 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (ft) | +N-S (ft) | +E-W (ft) | Direction (°) |
| | 0.00 | 0.00 | 0.00 | 140.16 |

| Plan Survey Tool Program | | Date | | |
|--------------------------|---------------|--------------------------------|-----------|---------|
| Depth From (ft) | Depth To (ft) | Survey (Wellbore) | Tool Name | Remarks |
| 1 | 0.00 | 24,796.29 rev2 (Original Hole) | | |



Planning Report - Geographic

| | | | |
|-----------|--------------------------------|------------------------------|-------------------------------|
| Database: | DB_Dec2220_v16 | Local Co-ordinate Reference: | Well Willett S-16 HU (slot J) |
| Company: | Tug Hill Operating LLC | TVD Reference: | GL @ 1310.00ft |
| Project: | Marshall County, West Virginia | MD Reference: | GL @ 1310.00ft |
| Site: | Willett | North Reference: | Grid |
| Well: | Willett S-16 HU (slot J) | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Original Hole | | |
| Design: | rev2 | | |

| 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 | |
| 3,301.00 | 0.00 | 0.00 | 3,301.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.000 | |
| 3,801.00 | 10.00 | 76.37 | 3,798.47 | 10.26 | 42.30 | 2.00 | 2.00 | 0.00 | 76.370 | |
| 7,052.94 | 10.00 | 76.37 | 7,001.00 | 143.33 | 591.09 | 0.00 | 0.00 | 0.00 | 0.000 | |
| 7,821.57 | 21.37 | 76.37 | 7,547.58 | 179.50 | 740.25 | 2.00 | 2.00 | 0.00 | -0.001 | |
| 11,428.58 | 21.37 | 76.37 | 11,092.75 | 506.45 | 2,088.57 | 0.00 | 0.00 | 0.00 | 0.000 | |
| 12,135.11 | 50.00 | 136.28 | 11,675.64 | 333.23 | 2,415.79 | 6.00 | 4.05 | 8.48 | 79.454 | |
| 12,646.32 | 89.00 | 149.81 | 11,851.95 | -45.40 | 2,691.44 | 8.00 | 7.63 | 2.65 | 20.935 | |
| 24,796.29 | 89.00 | 149.81 | 12,064.00 | -10,545.83 | 8,800.27 | 0.00 | 0.00 | 0.00 | 0.000 | Willett S-16HU PBHL |



Planning Report - Geographic

| | | | |
|-----------|--------------------------------|------------------------------|-------------------------------|
| Database: | DB_Dec2220_v18 | Local Co-ordinate Reference: | Well Willett S-16 HU (slot J) |
| Company: | Tug Hill Operating LLC | TVD Reference: | CL @ 1310.00ft |
| Project: | Marshall County, West Virginia | MD Reference: | CL @ 1310.00ft |
| Site: | Willett | North Reference: | Grid |
| Well: | Willett S-16 HU (slot J) | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Original Hole | | |
| Design: | rev2 | | |

| 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 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 300.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 400.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 500.00 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 600.00 | 0.00 | 0.00 | 600.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 700.00 | 0.00 | 0.00 | 700.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 800.00 | 0.00 | 0.00 | 800.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 900.00 | 0.00 | 0.00 | 900.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 1,000.00 | 0.00 | 0.00 | 1,000.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 1,100.00 | 0.00 | 0.00 | 1,100.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 1,200.00 | 0.00 | 0.00 | 1,200.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 1,300.00 | 0.00 | 0.00 | 1,300.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 1,400.00 | 0.00 | 0.00 | 1,400.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 1,500.00 | 0.00 | 0.00 | 1,500.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 1,600.00 | 0.00 | 0.00 | 1,600.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 1,700.00 | 0.00 | 0.00 | 1,700.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 1,800.00 | 0.00 | 0.00 | 1,800.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 1,900.00 | 0.00 | 0.00 | 1,900.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 2,000.00 | 0.00 | 0.00 | 2,000.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 2,100.00 | 0.00 | 0.00 | 2,100.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 2,200.00 | 0.00 | 0.00 | 2,200.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 2,300.00 | 0.00 | 0.00 | 2,300.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 2,400.00 | 0.00 | 0.00 | 2,400.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 2,500.00 | 0.00 | 0.00 | 2,500.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 2,600.00 | 0.00 | 0.00 | 2,600.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 2,700.00 | 0.00 | 0.00 | 2,700.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 2,800.00 | 0.00 | 0.00 | 2,800.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 2,900.00 | 0.00 | 0.00 | 2,900.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 3,000.00 | 0.00 | 0.00 | 3,000.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 3,100.00 | 0.00 | 0.00 | 3,100.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 3,200.00 | 0.00 | 0.00 | 3,200.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| 3,301.00 | 0.00 | 0.00 | 3,301.00 | 0.00 | 0.00 | 14,462,475.14 | 1,736,934.60 | 39.82302225 | -80.65624200 | |
| KOP Begin 2°/100' build | | | | | | | | | | |
| 3,400.00 | 1.98 | 76.37 | 3,399.99 | 0.40 | 1.66 | 14,462,475.55 | 1,736,936.26 | 39.82302334 | -80.65623507 | |
| 3,500.00 | 3.98 | 76.37 | 3,499.84 | 1.63 | 6.71 | 14,462,476.77 | 1,736,941.31 | 39.82302665 | -80.65621806 | |
| 3,600.00 | 5.98 | 76.37 | 3,599.46 | 3.67 | 15.15 | 14,462,478.82 | 1,736,949.75 | 39.82303218 | -80.65618799 | |
| 3,700.00 | 7.98 | 76.37 | 3,698.71 | 6.54 | 26.96 | 14,462,481.68 | 1,736,961.56 | 39.82303992 | -80.65614589 | |
| 3,801.00 | 10.00 | 76.37 | 3,798.47 | 10.26 | 42.30 | 14,462,485.40 | 1,736,976.89 | 39.82304997 | -80.65609122 | |
| Begin 10.00° tangent | | | | | | | | | | |
| 3,900.00 | 10.00 | 76.37 | 3,895.96 | 14.31 | 59.00 | 14,462,489.45 | 1,736,993.60 | 39.82306092 | -80.65603166 | |
| 4,000.00 | 10.00 | 76.37 | 3,994.44 | 18.40 | 75.88 | 14,462,493.54 | 1,737,010.48 | 39.82307198 | -80.65597150 | |
| 4,100.00 | 10.00 | 76.37 | 4,092.92 | 22.49 | 92.76 | 14,462,497.63 | 1,737,027.35 | 39.82308304 | -80.65591134 | |
| 4,200.00 | 10.00 | 76.37 | 4,191.40 | 26.58 | 109.63 | 14,462,501.73 | 1,737,044.23 | 39.82309410 | -80.65585118 | |
| 4,300.00 | 10.00 | 76.37 | 4,289.88 | 30.68 | 126.51 | 14,462,505.82 | 1,737,061.10 | 39.82310516 | -80.65579102 | |
| 4,400.00 | 10.00 | 76.37 | 4,388.37 | 34.77 | 143.38 | 14,462,509.91 | 1,737,077.98 | 39.82311622 | -80.65573086 | |
| 4,500.00 | 10.00 | 76.37 | 4,486.85 | 38.86 | 160.26 | 14,462,514.00 | 1,737,094.85 | 39.82312728 | -80.65567070 | |
| 4,600.00 | 10.00 | 76.37 | 4,585.33 | 42.95 | 177.13 | 14,462,518.09 | 1,737,111.73 | 39.82313834 | -80.65561054 | |
| 4,700.00 | 10.00 | 76.37 | 4,683.81 | 47.04 | 194.01 | 14,462,522.19 | 1,737,128.61 | 39.82314939 | -80.65555038 | |
| 4,800.00 | 10.00 | 76.37 | 4,782.29 | 51.14 | 210.89 | 14,462,526.28 | 1,737,145.48 | 39.82316045 | -80.65549022 | |
| 4,900.00 | 10.00 | 76.37 | 4,880.77 | 55.23 | 227.76 | 14,462,530.37 | 1,737,162.36 | 39.82317151 | -80.65543006 | |
| 5,000.00 | 10.00 | 76.37 | 4,979.25 | 59.32 | 244.64 | 14,462,534.46 | 1,737,179.23 | 39.82318257 | -80.65536990 | |
| 5,100.00 | 10.00 | 76.37 | 5,077.73 | 63.41 | 261.51 | 14,462,538.55 | 1,737,196.11 | 39.82319363 | -80.65530974 | |



Planning Report - Geographic

| | | | |
|-----------|--------------------------------|------------------------------|-------------------------------|
| Database: | DB_Dec2220_V16 | Local Co-ordinate Reference: | Well Willett S-16 HU (slot J) |
| Company: | Tug Hill Operating LLC | TVD Reference: | GL @ 1310.00ft |
| Project: | Marshall County, West Virginia | MD Reference: | GL @ 1310.00ft |
| Site: | Willett | North Reference: | Grid |
| Well: | Willett S-16 HU (slot J) | Survey Calculation Method: | Minimum Curvatura |
| Wellbore: | Original Hole | | |
| Design: | rev2 | | |

| Planned Survey | | | | | | | | | |
|-----------------------------|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|-------------|--------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
| 5,200.00 | 10.00 | 76.37 | 5,176.21 | 67.50 | 278.39 | 14,462,542.65 | 1,737,212.98 | 39.82320469 | -80.65524958 |
| 5,300.00 | 10.00 | 76.37 | 5,274.69 | 71.60 | 295.26 | 14,462,546.74 | 1,737,229.86 | 39.82321575 | -80.65516942 |
| 5,400.00 | 10.00 | 76.37 | 5,373.17 | 75.69 | 312.14 | 14,462,550.83 | 1,737,246.74 | 39.82322681 | -80.65512926 |
| 5,500.00 | 10.00 | 76.37 | 5,471.65 | 79.78 | 329.02 | 14,462,554.92 | 1,737,263.61 | 39.82323787 | -80.65506910 |
| 5,600.00 | 10.00 | 76.37 | 5,570.13 | 83.87 | 345.89 | 14,462,559.01 | 1,737,280.49 | 39.82324893 | -80.65500894 |
| 5,700.00 | 10.00 | 76.37 | 5,668.62 | 87.96 | 362.77 | 14,462,563.11 | 1,737,297.36 | 39.82325999 | -80.65494878 |
| 5,800.00 | 10.00 | 76.37 | 5,767.10 | 92.06 | 379.64 | 14,462,567.20 | 1,737,314.24 | 39.82327104 | -80.65488862 |
| 5,900.00 | 10.00 | 76.37 | 5,865.58 | 96.15 | 396.52 | 14,462,571.29 | 1,737,331.12 | 39.82328210 | -80.65482846 |
| 6,000.00 | 10.00 | 76.37 | 5,964.06 | 100.24 | 413.40 | 14,462,575.38 | 1,737,347.99 | 39.82329316 | -80.65476830 |
| 6,100.00 | 10.00 | 76.37 | 6,062.54 | 104.33 | 430.27 | 14,462,579.47 | 1,737,364.87 | 39.82330422 | -80.65470814 |
| 6,200.00 | 10.00 | 76.37 | 6,161.02 | 108.42 | 447.15 | 14,462,583.57 | 1,737,381.74 | 39.82331528 | -80.65464798 |
| 6,300.00 | 10.00 | 76.37 | 6,259.50 | 112.52 | 464.02 | 14,462,587.66 | 1,737,398.62 | 39.82332634 | -80.65458782 |
| 6,400.00 | 10.00 | 76.37 | 6,357.98 | 116.61 | 480.90 | 14,462,591.75 | 1,737,415.49 | 39.82333740 | -80.65452766 |
| 6,500.00 | 10.00 | 76.37 | 6,456.46 | 120.70 | 497.77 | 14,462,595.84 | 1,737,432.37 | 39.82334846 | -80.65446750 |
| 6,600.00 | 10.00 | 76.37 | 6,554.94 | 124.79 | 514.65 | 14,462,599.93 | 1,737,449.25 | 39.82335951 | -80.65440734 |
| 6,700.00 | 10.00 | 76.37 | 6,653.42 | 128.88 | 531.53 | 14,462,604.03 | 1,737,466.12 | 39.82337057 | -80.65434718 |
| 6,800.00 | 10.00 | 76.37 | 6,751.90 | 132.98 | 548.40 | 14,462,608.12 | 1,737,483.00 | 39.82338163 | -80.65428702 |
| 6,900.00 | 10.00 | 76.37 | 6,850.38 | 137.07 | 565.28 | 14,462,612.21 | 1,737,499.87 | 39.82339269 | -80.65422686 |
| 7,000.00 | 10.00 | 76.37 | 6,948.87 | 141.16 | 582.15 | 14,462,616.30 | 1,737,516.75 | 39.82340375 | -80.65416670 |
| 7,052.94 | 10.00 | 76.37 | 7,001.00 | 143.33 | 591.09 | 14,462,618.47 | 1,737,525.68 | 39.82340960 | -80.65413485 |
| Begin 2°/100' build | | | | | | | | | |
| 7,100.00 | 10.94 | 76.37 | 7,047.28 | 145.34 | 599.40 | 14,462,620.48 | 1,737,533.99 | 39.82341505 | -80.65410522 |
| 7,200.00 | 12.94 | 76.37 | 7,145.11 | 150.22 | 619.51 | 14,462,625.36 | 1,737,554.10 | 39.82342823 | -80.65403354 |
| 7,300.00 | 14.94 | 76.37 | 7,242.16 | 155.89 | 642.92 | 14,462,631.04 | 1,737,577.51 | 39.82344357 | -80.65395008 |
| 7,400.00 | 16.94 | 76.37 | 7,338.31 | 162.37 | 669.81 | 14,462,637.51 | 1,737,604.20 | 39.82346106 | -80.65385493 |
| 7,500.00 | 18.94 | 76.37 | 7,433.44 | 169.63 | 699.54 | 14,462,644.77 | 1,737,634.14 | 39.82348067 | -80.65374822 |
| 7,600.00 | 20.94 | 76.37 | 7,527.44 | 177.66 | 732.69 | 14,462,652.80 | 1,737,667.28 | 39.82350239 | -80.65363006 |
| 7,621.57 | 21.37 | 76.37 | 7,547.56 | 179.50 | 740.25 | 14,462,654.64 | 1,737,674.85 | 39.82350735 | -80.65360309 |
| Begin 21.37° tangent | | | | | | | | | |
| 7,700.00 | 21.37 | 76.37 | 7,620.59 | 186.23 | 768.03 | 14,462,661.37 | 1,737,702.63 | 39.82352555 | -80.65350407 |
| 7,800.00 | 21.37 | 76.37 | 7,713.71 | 194.82 | 803.45 | 14,462,669.96 | 1,737,738.04 | 39.82354876 | -80.65337781 |
| 7,900.00 | 21.37 | 76.37 | 7,806.84 | 203.41 | 838.86 | 14,462,678.55 | 1,737,773.46 | 39.82357197 | -80.65325155 |
| 8,000.00 | 21.37 | 76.37 | 7,899.96 | 212.00 | 874.28 | 14,462,687.14 | 1,737,808.88 | 39.82359518 | -80.65312530 |
| 8,100.00 | 21.37 | 76.37 | 7,993.08 | 220.59 | 909.70 | 14,462,695.73 | 1,737,844.29 | 39.82361838 | -80.65299904 |
| 8,200.00 | 21.37 | 76.37 | 8,086.21 | 229.17 | 945.11 | 14,462,704.32 | 1,737,879.71 | 39.82364159 | -80.65287278 |
| 8,300.00 | 21.37 | 76.37 | 8,179.33 | 237.76 | 980.53 | 14,462,712.90 | 1,737,915.13 | 39.82366480 | -80.65274652 |
| 8,400.00 | 21.37 | 76.37 | 8,272.45 | 246.35 | 1,015.95 | 14,462,721.49 | 1,737,950.54 | 39.82368801 | -80.65262026 |
| 8,500.00 | 21.37 | 76.37 | 8,365.58 | 254.94 | 1,051.37 | 14,462,730.08 | 1,737,985.96 | 39.82371121 | -80.65249401 |
| 8,600.00 | 21.37 | 76.37 | 8,458.70 | 263.53 | 1,086.78 | 14,462,738.67 | 1,738,021.38 | 39.82373442 | -80.65236775 |
| 8,700.00 | 21.37 | 76.37 | 8,551.82 | 272.11 | 1,122.20 | 14,462,747.26 | 1,738,056.79 | 39.82375763 | -80.65224149 |
| 8,800.00 | 21.37 | 76.37 | 8,644.94 | 280.70 | 1,157.62 | 14,462,755.84 | 1,738,092.21 | 39.82378084 | -80.65211523 |
| 8,900.00 | 21.37 | 76.37 | 8,738.07 | 289.29 | 1,193.03 | 14,462,764.43 | 1,738,127.63 | 39.82380404 | -80.65198897 |
| 9,000.00 | 21.37 | 76.37 | 8,831.19 | 297.88 | 1,228.45 | 14,462,773.02 | 1,738,163.04 | 39.82382725 | -80.65186271 |
| 9,100.00 | 21.37 | 76.37 | 8,924.31 | 306.47 | 1,263.87 | 14,462,781.61 | 1,738,198.46 | 39.82385046 | -80.65173646 |
| 9,200.00 | 21.37 | 76.37 | 9,017.44 | 315.06 | 1,299.26 | 14,462,790.20 | 1,738,233.88 | 39.82387366 | -80.65161020 |
| 9,300.00 | 21.37 | 76.37 | 9,110.56 | 323.64 | 1,334.70 | 14,462,798.79 | 1,738,269.29 | 39.82389687 | -80.65148394 |
| 9,400.00 | 21.37 | 76.37 | 9,203.68 | 332.23 | 1,370.12 | 14,462,807.37 | 1,738,304.71 | 39.82392007 | -80.65135768 |
| 9,500.00 | 21.37 | 76.37 | 9,296.81 | 340.82 | 1,405.53 | 14,462,815.96 | 1,738,340.13 | 39.82394328 | -80.65123142 |
| 9,600.00 | 21.37 | 76.37 | 9,389.93 | 349.41 | 1,440.95 | 14,462,824.55 | 1,738,375.54 | 39.82396649 | -80.65110516 |
| 9,700.00 | 21.37 | 76.37 | 9,483.05 | 358.00 | 1,476.37 | 14,462,833.14 | 1,738,410.96 | 39.82398969 | -80.65097890 |
| 9,800.00 | 21.37 | 76.37 | 9,576.17 | 366.58 | 1,511.78 | 14,462,841.73 | 1,738,446.38 | 39.82401290 | -80.65085264 |
| 9,900.00 | 21.37 | 76.37 | 9,669.30 | 375.17 | 1,547.20 | 14,462,850.31 | 1,738,481.79 | 39.82403610 | -80.65072638 |
| 10,000.00 | 21.37 | 76.37 | 9,762.42 | 383.76 | 1,582.62 | 14,462,858.90 | 1,738,517.21 | 39.82405931 | -80.65060013 |
| 10,100.00 | 21.37 | 76.37 | 9,855.54 | 392.35 | 1,618.03 | 14,462,867.49 | 1,738,552.63 | 39.82408251 | -80.65047387 |



Planning Report - Geographic

| | | | |
|-----------|--------------------------------|------------------------------|-------------------------------|
| Database: | DB_Dec2220_v16 | Local Co-ordinate Reference: | Well Willett S-16 HU (slot J) |
| Company: | Tug Hill Operating LLC | TVD Reference: | GL @ 1310.00ft |
| Project: | Marshall County, West Virginia | MD Reference: | GL @ 1310.00ft |
| Site: | Willett | North Reference: | Grid |
| Well: | Willett S-16 HU (slot J) | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Original Hole | | |
| Design: | rev2 | | |

| Planned Survey | | | | | | | | | | |
|---------------------------------|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|-------------|--------------|--|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude | |
| 10,200.00 | 21.37 | 76.37 | 9,948.67 | 400.84 | 1,653.45 | 14,462,876.08 | 1,738,588.04 | 39.82410572 | -80.65034761 | |
| 10,300.00 | 21.37 | 76.37 | 10,041.79 | 409.53 | 1,688.87 | 14,462,884.67 | 1,738,623.46 | 39.82412892 | -80.65022135 | |
| 10,400.00 | 21.37 | 76.37 | 10,134.91 | 418.11 | 1,724.28 | 14,462,893.26 | 1,738,658.88 | 39.82415213 | -80.65009509 | |
| 10,500.00 | 21.37 | 76.37 | 10,228.04 | 426.70 | 1,759.70 | 14,462,901.84 | 1,738,694.29 | 39.82417533 | -80.64996883 | |
| 10,600.00 | 21.37 | 76.37 | 10,321.16 | 435.29 | 1,795.12 | 14,462,910.43 | 1,738,729.71 | 39.82419854 | -80.64984257 | |
| 10,700.00 | 21.37 | 76.37 | 10,414.28 | 443.88 | 1,830.54 | 14,462,919.02 | 1,738,765.13 | 39.82422174 | -80.64971631 | |
| 10,800.00 | 21.37 | 76.37 | 10,507.40 | 452.47 | 1,865.95 | 14,462,927.61 | 1,738,800.54 | 39.82424495 | -80.64959005 | |
| 10,900.00 | 21.37 | 76.37 | 10,600.53 | 461.05 | 1,901.37 | 14,462,936.20 | 1,738,835.96 | 39.82426815 | -80.64946379 | |
| 11,000.00 | 21.37 | 76.37 | 10,693.65 | 469.64 | 1,936.79 | 14,462,944.78 | 1,738,871.38 | 39.82429135 | -80.64933753 | |
| 11,100.00 | 21.37 | 76.37 | 10,786.77 | 478.23 | 1,972.20 | 14,462,953.37 | 1,738,906.80 | 39.82431456 | -80.64921127 | |
| 11,200.00 | 21.37 | 76.37 | 10,879.90 | 486.82 | 2,007.62 | 14,462,961.96 | 1,738,942.21 | 39.82433776 | -80.64908501 | |
| 11,300.00 | 21.37 | 76.37 | 10,973.02 | 495.41 | 2,043.04 | 14,462,970.55 | 1,738,977.63 | 39.82436096 | -80.64895875 | |
| 11,400.00 | 21.37 | 76.37 | 11,066.14 | 504.00 | 2,078.45 | 14,462,979.14 | 1,739,013.05 | 39.82438417 | -80.64883249 | |
| 11,428.58 | 21.37 | 76.37 | 11,092.75 | 506.45 | 2,088.57 | 14,462,981.59 | 1,739,023.17 | 39.82439080 | -80.64879641 | |
| Begin 6°/100' build/turn | | | | | | | | | | |
| 11,450.00 | 21.64 | 79.80 | 11,112.89 | 508.07 | 2,096.26 | 14,462,983.21 | 1,739,030.85 | 39.82439516 | -80.64876902 | |
| 11,500.00 | 22.54 | 87.42 | 11,159.03 | 510.13 | 2,114.91 | 14,462,985.28 | 1,739,049.50 | 39.82440063 | -80.64870257 | |
| 11,550.00 | 23.76 | 94.40 | 11,205.01 | 509.79 | 2,134.53 | 14,462,984.93 | 1,739,069.12 | 39.82439948 | -80.64863270 | |
| 11,600.00 | 25.26 | 100.66 | 11,250.51 | 507.05 | 2,155.06 | 14,462,982.19 | 1,739,089.65 | 39.82439172 | -80.64855961 | |
| 11,650.00 | 27.00 | 106.21 | 11,295.40 | 501.91 | 2,176.45 | 14,462,977.05 | 1,739,111.04 | 39.82437737 | -80.64848350 | |
| 11,700.00 | 28.94 | 111.11 | 11,339.57 | 494.38 | 2,198.64 | 14,462,969.52 | 1,739,133.23 | 39.82435646 | -80.64840457 | |
| 11,750.00 | 31.02 | 115.42 | 11,382.88 | 484.49 | 2,221.57 | 14,462,959.63 | 1,739,156.16 | 39.82432906 | -80.64832305 | |
| 11,800.00 | 33.24 | 119.22 | 11,425.22 | 472.27 | 2,245.17 | 14,462,947.41 | 1,739,179.76 | 39.82429523 | -80.64823916 | |
| 11,850.00 | 35.56 | 122.60 | 11,466.48 | 457.74 | 2,269.36 | 14,462,932.88 | 1,739,203.97 | 39.82425508 | -80.64815312 | |
| 11,900.00 | 37.96 | 125.60 | 11,506.54 | 440.95 | 2,294.14 | 14,462,916.09 | 1,739,228.73 | 39.82420871 | -80.64806518 | |
| 11,950.00 | 40.43 | 128.29 | 11,545.29 | 421.95 | 2,319.37 | 14,462,897.09 | 1,739,253.97 | 39.82415625 | -80.64797557 | |
| 12,000.00 | 42.96 | 130.73 | 11,582.62 | 400.78 | 2,345.02 | 14,462,875.92 | 1,739,279.61 | 39.82409784 | -80.64788454 | |
| 12,050.00 | 45.53 | 132.94 | 11,618.44 | 377.51 | 2,370.99 | 14,462,852.65 | 1,739,305.59 | 39.82403365 | -80.64779234 | |
| 12,100.00 | 48.15 | 134.96 | 11,652.64 | 352.19 | 2,397.24 | 14,462,827.33 | 1,739,331.83 | 39.82396384 | -80.64769923 | |
| 12,135.11 | 50.00 | 136.28 | 11,675.64 | 333.23 | 2,415.79 | 14,462,808.37 | 1,739,350.38 | 39.82391156 | -80.64763342 | |
| Begin 8°/100' build/turn | | | | | | | | | | |
| 12,150.00 | 51.11 | 136.83 | 11,685.10 | 324.88 | 2,423.70 | 14,462,800.02 | 1,739,358.29 | 39.82388656 | -80.64760538 | |
| 12,200.00 | 54.87 | 138.55 | 11,715.19 | 295.36 | 2,450.56 | 14,462,770.50 | 1,739,365.15 | 39.82380718 | -80.64751013 | |
| 12,250.00 | 58.65 | 140.11 | 11,742.59 | 263.64 | 2,477.80 | 14,462,738.78 | 1,739,412.39 | 39.82371977 | -80.64741356 | |
| 12,300.00 | 62.45 | 141.56 | 11,767.17 | 229.88 | 2,505.28 | 14,462,705.02 | 1,739,439.87 | 39.82362677 | -80.64731615 | |
| 12,350.00 | 66.26 | 142.90 | 11,788.81 | 194.25 | 2,532.87 | 14,462,669.39 | 1,739,467.47 | 39.82352863 | -80.64721837 | |
| 12,400.00 | 70.08 | 144.18 | 11,807.40 | 156.93 | 2,560.45 | 14,462,632.07 | 1,739,495.04 | 39.82342583 | -80.64712070 | |
| 12,450.00 | 73.91 | 145.39 | 11,822.85 | 118.08 | 2,587.86 | 14,462,593.23 | 1,739,522.45 | 39.82331866 | -80.64702361 | |
| 12,500.00 | 77.75 | 146.55 | 11,835.09 | 77.91 | 2,614.98 | 14,462,553.05 | 1,739,549.57 | 39.82320825 | -80.64692759 | |
| 12,550.00 | 81.59 | 147.68 | 11,844.06 | 36.61 | 2,641.68 | 14,462,511.75 | 1,739,576.27 | 39.82309454 | -80.64683308 | |
| 12,600.00 | 85.44 | 148.79 | 11,849.70 | -5.62 | 2,667.82 | 14,462,469.52 | 1,739,602.41 | 39.82297827 | -80.64674056 | |
| 12,646.32 | 89.00 | 149.81 | 11,851.95 | -45.40 | 2,691.44 | 14,462,429.74 | 1,739,626.03 | 39.82286677 | -80.64665701 | |
| Begin 89.00° lateral | | | | | | | | | | |
| 12,700.00 | 89.00 | 149.81 | 11,852.89 | -91.79 | 2,718.42 | 14,462,383.35 | 1,739,653.02 | 39.82274109 | -80.64656155 | |
| 12,800.00 | 89.00 | 149.81 | 11,854.63 | -178.21 | 2,768.70 | 14,462,296.93 | 1,739,703.28 | 39.82250321 | -80.64638370 | |
| 12,900.00 | 89.00 | 149.81 | 11,856.38 | -264.64 | 2,818.98 | 14,462,210.51 | 1,739,753.57 | 39.82226532 | -80.64620585 | |
| 13,000.00 | 89.00 | 149.81 | 11,858.12 | -351.06 | 2,869.26 | 14,462,124.08 | 1,739,803.85 | 39.82202744 | -80.64602800 | |
| 13,100.00 | 89.00 | 149.81 | 11,859.87 | -437.48 | 2,919.54 | 14,462,037.66 | 1,739,854.13 | 39.82178955 | -80.64585015 | |
| 13,200.00 | 89.00 | 149.81 | 11,861.61 | -523.91 | 2,969.82 | 14,461,951.24 | 1,739,904.41 | 39.82155167 | -80.64567231 | |
| 13,300.00 | 89.00 | 149.81 | 11,863.36 | -610.33 | 3,020.10 | 14,461,864.81 | 1,739,954.69 | 39.82131378 | -80.64549446 | |
| 13,400.00 | 89.00 | 149.81 | 11,865.11 | -696.75 | 3,070.37 | 14,461,778.39 | 1,740,004.95 | 39.82107590 | -80.64531662 | |
| 13,500.00 | 89.00 | 149.81 | 11,866.85 | -783.18 | 3,120.65 | 14,461,691.97 | 1,740,055.24 | 39.82083801 | -80.64513877 | |
| 13,600.00 | 89.00 | 149.81 | 11,868.60 | -869.60 | 3,170.93 | 14,461,605.54 | 1,740,105.52 | 39.82060013 | -80.64496093 | |
| 13,700.00 | 89.00 | 149.81 | 11,870.34 | -956.02 | 3,221.21 | 14,461,519.12 | 1,740,155.80 | 39.82036224 | -80.64478309 | |



Planning Report - Geographic

Database: DB_Dec2220_v16
 Company: Tug Hill Operating LLC
 Project: Marshall County, West Virginia
 Site: Willett
 Well: Willett S-16 HU (slot J)
 Wellbore: Original Hole
 Design: rev2

Local Co-ordinate Reference: Well Willett S-16 HU (slot J)
 TVD Reference: GL @ 1310.00ft
 MD Reference: GL @ 1310.00ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---------------------|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|-------------|--------------|
| 13,800.00 | 89.00 | 149.81 | 11,872.09 | -1,042.45 | 3,271.49 | 14,461,432.70 | 1,740,206.08 | 39.82012436 | -80.84460525 |
| 13,900.00 | 89.00 | 149.81 | 11,873.83 | -1,128.87 | 3,321.77 | 14,461,346.27 | 1,740,256.36 | 39.81986647 | -80.84442741 |
| 14,000.00 | 89.00 | 149.81 | 11,875.58 | -1,215.29 | 3,372.05 | 14,461,259.65 | 1,740,306.64 | 39.81954858 | -80.84424958 |
| 14,100.00 | 89.00 | 149.81 | 11,877.32 | -1,301.72 | 3,422.32 | 14,461,173.43 | 1,740,356.91 | 39.81941070 | -80.84407174 |
| 14,200.00 | 89.00 | 149.81 | 11,879.07 | -1,388.14 | 3,472.60 | 14,461,087.00 | 1,740,407.19 | 39.81917281 | -80.84389391 |
| 14,300.00 | 89.00 | 149.81 | 11,880.81 | -1,474.56 | 3,522.88 | 14,461,000.58 | 1,740,457.47 | 39.81893492 | -80.84371608 |
| 14,400.00 | 89.00 | 149.81 | 11,882.56 | -1,560.99 | 3,573.16 | 14,460,914.16 | 1,740,507.75 | 39.81869703 | -80.84353824 |
| 14,500.00 | 89.00 | 149.81 | 11,884.30 | -1,647.41 | 3,623.44 | 14,460,827.73 | 1,740,558.03 | 39.81845915 | -80.84336041 |
| 14,600.00 | 89.00 | 149.81 | 11,886.05 | -1,733.84 | 3,673.72 | 14,460,741.31 | 1,740,608.31 | 39.81822126 | -80.84318258 |
| 14,700.00 | 89.00 | 149.81 | 11,887.79 | -1,820.26 | 3,724.00 | 14,460,654.89 | 1,740,658.59 | 39.81798337 | -80.84300476 |
| 14,800.00 | 89.00 | 149.81 | 11,889.54 | -1,906.68 | 3,774.28 | 14,460,568.48 | 1,740,708.86 | 39.81774548 | -80.84282693 |
| 14,900.00 | 89.00 | 149.81 | 11,891.28 | -1,993.11 | 3,824.55 | 14,460,482.04 | 1,740,759.14 | 39.81750759 | -80.84264910 |
| 15,000.00 | 89.00 | 149.81 | 11,893.03 | -2,079.53 | 3,874.83 | 14,460,395.62 | 1,740,809.42 | 39.81726970 | -80.84247128 |
| 15,100.00 | 89.00 | 149.81 | 11,894.77 | -2,165.95 | 3,925.11 | 14,460,309.19 | 1,740,859.70 | 39.81703181 | -80.84229346 |
| 15,200.00 | 89.00 | 149.81 | 11,896.52 | -2,252.38 | 3,975.39 | 14,460,222.77 | 1,740,909.98 | 39.81679392 | -80.84211563 |
| 15,300.00 | 89.00 | 149.81 | 11,898.27 | -2,338.80 | 4,025.67 | 14,460,136.35 | 1,740,960.26 | 39.81655603 | -80.84193781 |
| 15,400.00 | 89.00 | 149.81 | 11,900.01 | -2,425.22 | 4,075.95 | 14,460,049.92 | 1,741,010.54 | 39.81631814 | -80.84175999 |
| 15,500.00 | 89.00 | 149.81 | 11,901.76 | -2,511.65 | 4,126.23 | 14,459,963.50 | 1,741,060.81 | 39.81608025 | -80.84158218 |
| 15,600.00 | 89.00 | 149.81 | 11,903.50 | -2,598.07 | 4,176.50 | 14,459,877.08 | 1,741,111.09 | 39.81584236 | -80.84140436 |
| 15,700.00 | 89.00 | 149.81 | 11,905.25 | -2,684.49 | 4,226.78 | 14,459,790.65 | 1,741,161.37 | 39.81560447 | -80.84122654 |
| 15,800.00 | 89.00 | 149.81 | 11,906.99 | -2,770.92 | 4,277.06 | 14,459,704.23 | 1,741,211.65 | 39.81536657 | -80.84104873 |
| 15,900.00 | 89.00 | 149.81 | 11,908.74 | -2,857.34 | 4,327.34 | 14,459,617.81 | 1,741,261.93 | 39.81512868 | -80.84087091 |
| 16,000.00 | 89.00 | 149.81 | 11,910.48 | -2,943.76 | 4,377.62 | 14,459,531.38 | 1,741,312.21 | 39.81489079 | -80.84069310 |
| 16,100.00 | 89.00 | 149.81 | 11,912.23 | -3,030.19 | 4,427.90 | 14,459,444.95 | 1,741,362.49 | 39.81465290 | -80.84051529 |
| 16,200.00 | 89.00 | 149.81 | 11,913.97 | -3,116.61 | 4,478.18 | 14,459,358.54 | 1,741,412.76 | 39.81441500 | -80.84033748 |
| 16,300.00 | 89.00 | 149.81 | 11,915.72 | -3,203.03 | 4,528.45 | 14,459,272.11 | 1,741,463.04 | 39.81417711 | -80.84015967 |
| 16,400.00 | 89.00 | 149.81 | 11,917.46 | -3,289.46 | 4,578.73 | 14,459,185.69 | 1,741,513.32 | 39.81393922 | -80.83998187 |
| 16,500.00 | 89.00 | 149.81 | 11,919.21 | -3,375.88 | 4,629.01 | 14,459,099.27 | 1,741,563.60 | 39.81370132 | -80.83980406 |
| 16,600.00 | 89.00 | 149.81 | 11,920.95 | -3,462.30 | 4,679.29 | 14,459,012.84 | 1,741,613.88 | 39.81346343 | -80.83962626 |
| 16,700.00 | 89.00 | 149.81 | 11,922.70 | -3,548.73 | 4,729.57 | 14,458,926.42 | 1,741,664.16 | 39.81322554 | -80.83944845 |
| 16,800.00 | 89.00 | 149.81 | 11,924.44 | -3,635.15 | 4,779.85 | 14,458,840.00 | 1,741,714.43 | 39.81298764 | -80.83927065 |
| 16,900.00 | 89.00 | 149.81 | 11,926.19 | -3,721.57 | 4,830.13 | 14,458,753.57 | 1,741,764.71 | 39.81274975 | -80.83909285 |
| 17,000.00 | 89.00 | 149.81 | 11,927.93 | -3,808.00 | 4,880.40 | 14,458,667.15 | 1,741,814.99 | 39.81251185 | -80.83891505 |
| 17,100.00 | 89.00 | 149.81 | 11,929.68 | -3,894.42 | 4,930.68 | 14,458,580.73 | 1,741,865.27 | 39.81227396 | -80.83873725 |
| 17,200.00 | 89.00 | 149.81 | 11,931.43 | -3,980.85 | 4,980.96 | 14,458,494.30 | 1,741,915.55 | 39.81203606 | -80.83855945 |
| 17,300.00 | 89.00 | 149.81 | 11,933.17 | -4,067.27 | 5,031.24 | 14,458,407.88 | 1,741,965.83 | 39.81179816 | -80.83838166 |
| 17,400.00 | 89.00 | 149.81 | 11,934.92 | -4,153.69 | 5,081.52 | 14,458,321.45 | 1,742,016.11 | 39.81156027 | -80.83820386 |
| 17,500.00 | 89.00 | 149.81 | 11,936.66 | -4,240.12 | 5,131.80 | 14,458,235.03 | 1,742,066.38 | 39.81132237 | -80.83802607 |
| 17,600.00 | 89.00 | 149.81 | 11,938.41 | -4,326.54 | 5,182.08 | 14,458,148.61 | 1,742,116.66 | 39.81108448 | -80.83784827 |
| 17,700.00 | 89.00 | 149.81 | 11,940.15 | -4,412.96 | 5,232.36 | 14,458,062.19 | 1,742,166.94 | 39.81084658 | -80.83767048 |
| 17,800.00 | 89.00 | 149.81 | 11,941.90 | -4,499.39 | 5,282.63 | 14,457,975.77 | 1,742,217.22 | 39.81060868 | -80.83749268 |
| 17,900.00 | 89.00 | 149.81 | 11,943.64 | -4,585.81 | 5,332.91 | 14,457,889.34 | 1,742,267.50 | 39.81037078 | -80.83731489 |
| 18,000.00 | 89.00 | 149.81 | 11,945.39 | -4,672.23 | 5,383.19 | 14,457,802.92 | 1,742,317.78 | 39.81013289 | -80.83713710 |
| 18,100.00 | 89.00 | 149.81 | 11,947.13 | -4,758.66 | 5,433.47 | 14,457,716.50 | 1,742,368.06 | 39.80989499 | -80.83695931 |
| 18,200.00 | 89.00 | 149.81 | 11,948.88 | -4,845.08 | 5,483.75 | 14,457,630.07 | 1,742,418.33 | 39.80965709 | -80.83678154 |
| 18,300.00 | 89.00 | 149.81 | 11,950.62 | -4,931.50 | 5,534.03 | 14,457,543.65 | 1,742,468.61 | 39.80941919 | -80.83660376 |
| 18,400.00 | 89.00 | 149.81 | 11,952.37 | -5,017.93 | 5,584.31 | 14,457,457.23 | 1,742,518.89 | 39.80918129 | -80.83642598 |
| 18,500.00 | 89.00 | 149.81 | 11,954.11 | -5,104.35 | 5,634.58 | 14,457,370.80 | 1,742,569.17 | 39.80894339 | -80.83624820 |
| 18,600.00 | 89.00 | 149.81 | 11,955.86 | -5,190.77 | 5,684.86 | 14,457,284.38 | 1,742,619.45 | 39.80870549 | -80.83607041 |
| 18,700.00 | 89.00 | 149.81 | 11,957.60 | -5,277.20 | 5,735.14 | 14,457,197.96 | 1,742,669.73 | 39.80846759 | -80.83589264 |
| 18,800.00 | 89.00 | 149.81 | 11,959.35 | -5,363.62 | 5,785.42 | 14,457,111.53 | 1,742,720.00 | 39.80822969 | -80.83571486 |
| 18,900.00 | 89.00 | 149.81 | 11,961.09 | -5,450.04 | 5,835.70 | 14,457,025.11 | 1,742,770.28 | 39.80799179 | -80.83553708 |
| 19,000.00 | 89.00 | 149.81 | 11,962.84 | -5,536.47 | 5,885.98 | 14,456,938.69 | 1,742,820.56 | 39.80775389 | -80.83535931 |
| 19,100.00 | 89.00 | 149.81 | 11,964.59 | -5,622.89 | 5,936.26 | 14,456,852.26 | 1,742,870.84 | 39.80751599 | -80.83518153 |
| 19,200.00 | 89.00 | 149.81 | 11,966.33 | -5,709.31 | 5,986.53 | 14,456,765.84 | 1,742,921.12 | 39.80727809 | -80.83500376 |



Planning Report - Geographic

| | | | |
|-----------|--------------------------------|------------------------------|-------------------------------|
| Database: | DB_Dec2220_v16 | Local Co-ordinate Reference: | Well Willett S-16 HU (slot J) |
| Company: | Tug Hill Operating LLC | TVD Reference: | GL @ 1310.00ft |
| Project: | Marshall County, West Virginia | MD Reference: | GL @ 1310.00ft |
| Site: | Willett | North Reference: | Grid |
| Well: | Willett S-16 HU (slot J) | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Original Hole | | |
| Design: | rev2 | | |

| Planned Survey | | | | | | | | | | |
|---------------------|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|-------------|--------------|--|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude | |
| 19,300.00 | 89.00 | 149.81 | 11,968.08 | -5,795.74 | 6,036.81 | 14,456,679.42 | 1,742,971.40 | 39.80704019 | -80.63482599 | |
| 19,400.00 | 89.00 | 149.81 | 11,969.62 | -5,802.16 | 6,087.09 | 14,456,592.99 | 1,743,021.68 | 39.80680229 | -80.63464822 | |
| 19,500.00 | 89.00 | 149.81 | 11,971.57 | -5,968.59 | 6,137.37 | 14,456,506.57 | 1,743,071.95 | 39.80658438 | -80.63447045 | |
| 19,600.00 | 89.00 | 149.81 | 11,973.31 | -6,055.01 | 6,187.65 | 14,456,420.15 | 1,743,122.23 | 39.80632648 | -80.63429268 | |
| 19,700.00 | 89.00 | 149.81 | 11,975.06 | -6,141.43 | 6,237.93 | 14,456,333.72 | 1,743,172.51 | 39.80608858 | -80.63411491 | |
| 19,800.00 | 89.00 | 149.81 | 11,976.80 | -6,227.86 | 6,288.21 | 14,456,247.30 | 1,743,222.79 | 39.80585066 | -80.63393715 | |
| 19,900.00 | 89.00 | 149.81 | 11,978.55 | -6,314.28 | 6,338.49 | 14,456,160.88 | 1,743,273.07 | 39.80561277 | -80.63375938 | |
| 20,000.00 | 89.00 | 149.81 | 11,980.29 | -6,400.70 | 6,388.76 | 14,456,074.45 | 1,743,323.35 | 39.80537487 | -80.63358162 | |
| 20,100.00 | 89.00 | 149.81 | 11,982.04 | -6,487.13 | 6,439.04 | 14,455,988.03 | 1,743,373.63 | 39.80513697 | -80.63340386 | |
| 20,200.00 | 89.00 | 149.81 | 11,983.78 | -6,573.55 | 6,489.32 | 14,455,901.61 | 1,743,423.90 | 39.80489906 | -80.63322609 | |
| 20,300.00 | 89.00 | 149.81 | 11,985.53 | -6,659.97 | 6,539.60 | 14,455,815.18 | 1,743,474.18 | 39.80466116 | -80.63304833 | |
| 20,400.00 | 89.00 | 149.81 | 11,987.27 | -6,746.40 | 6,589.88 | 14,455,728.76 | 1,743,524.46 | 39.80442325 | -80.63287058 | |
| 20,500.00 | 89.00 | 149.81 | 11,989.02 | -6,832.82 | 6,640.16 | 14,455,642.34 | 1,743,574.74 | 39.80418535 | -80.63269282 | |
| 20,600.00 | 89.00 | 149.81 | 11,990.76 | -6,919.24 | 6,690.43 | 14,455,555.91 | 1,743,625.02 | 39.80394744 | -80.63251506 | |
| 20,700.00 | 89.00 | 149.81 | 11,992.51 | -7,005.67 | 6,740.71 | 14,455,469.49 | 1,743,675.30 | 39.80370954 | -80.63233731 | |
| 20,800.00 | 89.00 | 149.81 | 11,994.25 | -7,092.09 | 6,790.99 | 14,455,383.07 | 1,743,725.57 | 39.80347163 | -80.63215955 | |
| 20,900.00 | 89.00 | 149.81 | 11,996.00 | -7,178.51 | 6,841.27 | 14,455,296.64 | 1,743,775.85 | 39.80323373 | -80.63198180 | |
| 21,000.00 | 89.00 | 149.81 | 11,997.75 | -7,264.94 | 6,891.55 | 14,455,210.22 | 1,743,826.13 | 39.80299582 | -80.63180405 | |
| 21,100.00 | 89.00 | 149.81 | 11,999.49 | -7,351.36 | 6,941.83 | 14,455,123.80 | 1,743,876.41 | 39.80275792 | -80.63162630 | |
| 21,200.00 | 89.00 | 149.81 | 12,001.24 | -7,437.78 | 6,992.11 | 14,455,037.37 | 1,743,926.69 | 39.80252001 | -80.63144855 | |
| 21,300.00 | 89.00 | 149.81 | 12,002.98 | -7,524.21 | 7,042.39 | 14,454,950.95 | 1,743,976.97 | 39.80228210 | -80.63127081 | |
| 21,400.00 | 89.00 | 149.81 | 12,004.73 | -7,610.63 | 7,092.66 | 14,454,864.53 | 1,744,027.25 | 39.80204419 | -80.63109306 | |
| 21,500.00 | 89.00 | 149.81 | 12,006.47 | -7,697.05 | 7,142.94 | 14,454,778.10 | 1,744,077.52 | 39.80180629 | -80.63091531 | |
| 21,600.00 | 89.00 | 149.81 | 12,008.22 | -7,783.48 | 7,193.22 | 14,454,691.68 | 1,744,127.80 | 39.80156838 | -80.63073757 | |
| 21,700.00 | 89.00 | 149.81 | 12,009.96 | -7,869.90 | 7,243.50 | 14,454,605.26 | 1,744,178.08 | 39.80133047 | -80.63055983 | |
| 21,800.00 | 89.00 | 149.81 | 12,011.71 | -7,956.32 | 7,293.78 | 14,454,518.83 | 1,744,228.36 | 39.80109256 | -80.63038209 | |
| 21,900.00 | 89.00 | 149.81 | 12,013.45 | -8,042.75 | 7,344.06 | 14,454,432.41 | 1,744,278.64 | 39.80085465 | -80.63020435 | |
| 22,000.00 | 89.00 | 149.81 | 12,015.20 | -8,129.17 | 7,394.34 | 14,454,345.99 | 1,744,328.92 | 39.80061675 | -80.63002661 | |
| 22,100.00 | 89.00 | 149.81 | 12,016.94 | -8,215.60 | 7,444.61 | 14,454,259.56 | 1,744,379.20 | 39.80037884 | -80.62984887 | |
| 22,200.00 | 89.00 | 149.81 | 12,018.69 | -8,302.02 | 7,494.89 | 14,454,173.14 | 1,744,429.47 | 39.80014093 | -80.62967113 | |
| 22,300.00 | 89.00 | 149.81 | 12,020.43 | -8,388.44 | 7,545.17 | 14,454,086.72 | 1,744,479.75 | 39.79990302 | -80.62949340 | |
| 22,400.00 | 89.00 | 149.81 | 12,022.18 | -8,474.87 | 7,595.45 | 14,454,000.29 | 1,744,530.03 | 39.79966511 | -80.62931566 | |
| 22,500.00 | 89.00 | 149.81 | 12,023.92 | -8,561.29 | 7,645.73 | 14,453,913.87 | 1,744,580.31 | 39.79942720 | -80.62913793 | |
| 22,600.00 | 89.00 | 149.81 | 12,025.67 | -8,647.71 | 7,696.01 | 14,453,827.45 | 1,744,630.59 | 39.79918929 | -80.62896020 | |
| 22,700.00 | 89.00 | 149.81 | 12,027.41 | -8,734.14 | 7,746.29 | 14,453,741.02 | 1,744,680.87 | 39.79895138 | -80.62878247 | |
| 22,800.00 | 89.00 | 149.81 | 12,029.16 | -8,820.56 | 7,796.56 | 14,453,654.60 | 1,744,731.15 | 39.79871346 | -80.62860474 | |
| 22,900.00 | 89.00 | 149.81 | 12,030.91 | -8,906.98 | 7,846.84 | 14,453,568.18 | 1,744,781.42 | 39.79847555 | -80.62842701 | |
| 23,000.00 | 89.00 | 149.81 | 12,032.65 | -8,993.41 | 7,897.12 | 14,453,481.75 | 1,744,831.70 | 39.79823764 | -80.62824929 | |
| 23,100.00 | 89.00 | 149.81 | 12,034.40 | -9,079.83 | 7,947.40 | 14,453,395.33 | 1,744,881.98 | 39.79799973 | -80.62807156 | |
| 23,200.00 | 89.00 | 149.81 | 12,036.14 | -9,166.25 | 7,997.68 | 14,453,308.91 | 1,744,932.26 | 39.79776182 | -80.62789384 | |
| 23,300.00 | 89.00 | 149.81 | 12,037.89 | -9,252.68 | 8,047.96 | 14,453,222.48 | 1,744,982.54 | 39.79752390 | -80.62771611 | |
| 23,400.00 | 89.00 | 149.81 | 12,039.63 | -9,339.10 | 8,098.24 | 14,453,136.06 | 1,745,032.82 | 39.79728599 | -80.62753839 | |
| 23,500.00 | 89.00 | 149.81 | 12,041.38 | -9,425.52 | 8,148.51 | 14,453,049.64 | 1,745,083.09 | 39.79704808 | -80.62736067 | |
| 23,600.00 | 89.00 | 149.81 | 12,043.12 | -9,511.95 | 8,198.79 | 14,452,963.21 | 1,745,133.37 | 39.79681017 | -80.62718295 | |
| 23,700.00 | 89.00 | 149.81 | 12,044.87 | -9,598.37 | 8,249.07 | 14,452,876.79 | 1,745,183.65 | 39.79657225 | -80.62700523 | |
| 23,800.00 | 89.00 | 149.81 | 12,046.61 | -9,684.79 | 8,299.35 | 14,452,790.37 | 1,745,233.93 | 39.79633434 | -80.62682752 | |
| 23,900.00 | 89.00 | 149.81 | 12,048.36 | -9,771.22 | 8,349.63 | 14,452,703.94 | 1,745,284.21 | 39.79609642 | -80.62664980 | |
| 24,000.00 | 89.00 | 149.81 | 12,050.10 | -9,857.64 | 8,399.91 | 14,452,617.52 | 1,745,334.49 | 39.79585851 | -80.62647209 | |
| 24,100.00 | 89.00 | 149.81 | 12,051.85 | -9,944.06 | 8,450.19 | 14,452,531.10 | 1,745,384.77 | 39.79562059 | -80.62629437 | |
| 24,200.00 | 89.00 | 149.81 | 12,053.59 | -10,030.49 | 8,500.47 | 14,452,444.67 | 1,745,435.04 | 39.79538268 | -80.62611666 | |
| 24,300.00 | 89.00 | 149.81 | 12,055.34 | -10,116.91 | 8,550.74 | 14,452,358.25 | 1,745,485.32 | 39.79514476 | -80.62593895 | |
| 24,400.00 | 89.00 | 149.81 | 12,057.08 | -10,203.33 | 8,601.02 | 14,452,271.83 | 1,745,535.60 | 39.79490685 | -80.62576124 | |
| 24,500.00 | 89.00 | 149.81 | 12,058.83 | -10,289.76 | 8,651.30 | 14,452,185.40 | 1,745,585.88 | 39.79466893 | -80.62558353 | |
| 24,600.00 | 89.00 | 149.81 | 12,060.57 | -10,376.18 | 8,701.58 | 14,452,098.98 | 1,745,636.16 | 39.79443102 | -80.62540582 | |
| 24,700.00 | 89.00 | 149.81 | 12,062.32 | -10,462.61 | 8,751.86 | 14,452,012.56 | 1,745,686.44 | 39.79419310 | -80.62522812 | |

| | | | |
|-----------|--------------------------------|------------------------------|-------------------------------|
| Database: | DB_Dec2220_v16 | Local Co-ordinate Reference: | Well Willett S-16 HU (slot J) |
| Company: | Tug Hill Operating LLC | TVD Reference: | GL @ 1310.00ft |
| Project: | Marshall County, West Virginia | MD Reference: | GL @ 1310.00ft |
| Site: | Willett | North Reference: | Grid |
| Well: | Willett S-16 HU (slot J) | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Original Hole | | |
| Design: | rev2 | | |

| Planned Survey | | | | | | | | | |
|----------------------------------|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|-------------|--------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
| 24,796.29 | 89.00 | 149.61 | 12,064.00 | -10,545.83 | 8,800.27 | 14,451,929.34 | 1,745,734.85 | 39.79396400 | -80.62505700 |
| PBHL/TD 24796.29 MD 12064.00 TVD | | | | | | | | | |

| Design Targets | | | | | | | | | |
|--|---------------|--------------|-----------|------------|------------|-----------------|----------------|-------------|--------------|
| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
| Willett S-16HU LP r1 - hit/miss target - Shape - Point | 0.00 | 0.00 | 11,841.00 | 452.41 | 2,401.68 | 14,462,927.55 | 1,739,336.27 | 39.82423900 | -80.64768200 |
| - plan misses target center by 202.30ft at 12156.69ft MD (11689.28 TVD, 321.06 N, 2427.27 E) | | | | | | | | | |
| Willett S-16HU PBHL r1 - plan hits target center - Point | 0.00 | 0.01 | 12,064.00 | -10,545.83 | 8,800.27 | 14,451,929.34 | 1,745,734.85 | 39.79396400 | -80.62505700 |

| Casing Points | | | | | |
|---------------------|---------------------|------------|---------------------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") | |
| 24,796.29 | 12,064.00 | 20" Casing | 20 | 24 | |

| Plan Annotations | | | | |
|---------------------|---------------------|------------|------------|----------------------------------|
| Measured Depth (ft) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Comment |
| 3,301.00 | 3,301.00 | 0.00 | 0.00 | KOP Begin 2°/100' build |
| 3,801.00 | 3,798.47 | 10.26 | 42.30 | Begin 10.00° tangent |
| 7,052.94 | 7,001.00 | 143.33 | 591.09 | Begin 2°/100' build |
| 7,621.57 | 7,547.56 | 179.50 | 740.25 | Begin 21.37° tangent |
| 11,428.58 | 11,092.75 | 506.45 | 2,088.57 | Begin 6°/100' build/turn |
| 12,135.11 | 11,675.84 | 333.23 | 2,415.79 | Begin 8°/100' build/turn |
| 12,646.32 | 11,851.95 | -45.40 | 2,691.44 | Begin 89.00° lateral |
| 24,796.29 | 12,064.00 | -10,545.83 | 8,800.27 | PBHL/TD 24796.29 MD 12064.00 TVD |

WW-9
(4/16)

API Number 47 - 051 - _____
Operator's Well No. Willat S-16HU

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Tug Hill Operating, LLC OP Code 494510851

Watershed (HUC 10) Middle 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
- Underground Injection (UIC Permit Number UIC 2459, UIC 965, UIC 359, UIC 2D0732540, UIC 2D0732523)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

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

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

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

Additives to be used in drilling medium? _____

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

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

-Landfill or offsite name/permit number? Wetzel County Sanitary Landfill (SWF-1021 / WV0109185) and Westmoreland Sanitary Landfill, LLC (SAN1405 / PA DEP EC#1386428)

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

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

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

Company Official Signature James A Pancake

Company Official (Typed Name) Jim Pancake

Company Official Title Vice President - Geosciences

Subscribed and sworn before me this 1st day of September, 2021

Susanne Deliere Notary Public

My commission expires 1/15/2025

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

Tug Hill Operating, LLC

Proposed Revegetation Treatment: Acres Disturbed 5.44 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: *Bay Hill*

Comments: _____

Title: Oil and Gas Inspector Date: 10-14-21

Field Reviewed? () Yes () No

Area of Review

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

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

Data Sources Reviewed:

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

Contacted Adam Picard 724-485-9331, apicard@dpslandservices.com, DPS GIS (08/25/2021) to have him make maps of the wellbores with his information. DPS utilizes WVGES maps for their mapping seems it is the best publicly available. See attached map he provided.

Request maps for:

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

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

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

Wells within 500' Buffer

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

| API Number | Operator Name | Total Depth | Perforated Fms | Producing zones not perforated | Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation | Comments |
|------------|-------------------------|----------------------|----------------------|--------------------------------|--|--|
| 4705102255 | Tug Hill Operating, LLC | 6870' TVD (proposed) | Marcellus (proposed) | none | Yes, this is a proposed well in the Marcellus. Once completed the well will be within the expected fracture propagation from a Marcellus stimulation. Proper casing and cement should prevent migration of fluids between wellbores. | A Tug Hill Operating, LLC permitted well on the pad that is not drilled or perforated. |
| 4705100953 | Consolidation Coal Co. | unknown | unknown | unknown | Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. Well is plugged. | Well was plugged 8/9/2005. |
| 4705100631 | CNX Gas Co. LLC (North) | 2909' TVD | Gordon | unknown | No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Well is plugged. | Well was plugged 6/19/2004. |
| 4705100915 | Consolidation Coal Co. | unknown | unknown | unknown | Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. Well is plugged. | Well was plugged 5/15/2004. |

| 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 |
|------------|-------------------------|-------------|----------------|--------------------------------|---|-------------------------------|
| 4705130298 | Raad Supply Company | 3146' TVD | Gordon | unknown | No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Well is plugged. | Well was plugged 8/31/1949. |
| 4705170629 | unknown | unknown | unknown | unknown | Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. | State records are incomplete. |
| 4705170630 | unknown | unknown | unknown | unknown | Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. | State records are incomplete. |
| 4705100637 | CNX Gas Co. LLC (North) | 2966' TVD | Gordon | unknown | No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Well is plugged. | Well was plugged 6/24/2005. |
| 4705170618 | unknown | unknown | unknown | unknown | Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. | State records are incomplete. |

| 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 |
|------------|------------------------|-------------|----------------|--------------------------------|---|-------------------------------|
| 4705170619 | unknown | unknown | unknown | unknown | Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. | State records are incomplete. |
| 4705170621 | unknown | unknown | unknown | unknown | Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well. | State records are incomplete. |
| 4705100937 | Consolidation Coal Co. | 2851' TVD | Gordon | unknown | No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Well is plugged. | Well was plugged 8/17/2004. |

WV Geological & Economic Survey,

Well: County = 51 Permit = 02255

Report Time: Monday, August 30, 2021 9:22:18 AM

Location Information: [View Map](#)

| API | COUNTY | PERMIT | TAX_DISTRICT | QUAD_75 | QUAD_15 | LAT_DD | LONG_DD | UTME | UTMN |
|------------|----------|--------|--------------|-------------|---------|-----------|------------|----------|-----------|
| 4705102255 | Marshall | 2255 | Meade | Glen Easton | Cameron | 39.822712 | -80.656398 | 529405.5 | 4408136.8 |

There is no Bottom Hole Location data for this well

Owner Information:

| API | CMP_DT | SUFFIX | STATUS | SURFACE_OWNER | WELL_NUM | CO_NUM | LEASE | LEASE_NUM | MINERAL_OWN | OPERATOR_AT_COMPLETION | PROP_VD | PROP_TRGT |
|------------|--------|----------------|-----------|---------------|----------|--------|---------|-----------|-------------------------------------|-------------------------|---------|--------------|
| 4705102255 | -/- | Divd Orgnl Loc | Permitted | CNX Land LLC | 21V | | Willett | | Appalachian Basin Minerals LP et al | Tug Hill Operating, LLC | 6870 | Marcellus Fm |

Completion Information:

| API | CMP_DT | SPUD_DT | ELEV | DATUM | FIELD | DEEPEST_FM | DEEPEST_FMT | INITIAL_CLASS | FINAL_CLASS | TYPE | RIG | CMP_MTHD | TVD | TMD | NEW_FTG | KOD | G_BEF | G_AFT | O_BEF |
|------------|--------|---------|------|--------------|-------|------------|-------------|---------------|-------------|------|-----|----------|-----|-----|---------|-----|-------|-------|-------|
| 4705102255 | -/- | -/- | 1315 | Ground Level | | | | | | | | | | | | | | | |

WV Geological & Economic Survey:

Well: County = 51 Permit = 00953

Report Time: Monday, August 30, 2021 11:38:45 AM

Location Information: [View Map](#)

| API | COUNTY | PERMIT | TAX_DISTRICT | QUAD_75 | QUAD_15 | LAT_DD | LOM_DD | UTME | UTMN |
|------------|----------|--------|--------------|-------------|---------|-----------|------------|----------|-----------|
| 4705100953 | Marshall | 953 | Meade | Glen Easton | Cameron | 39.817461 | -80.643984 | 530470.2 | 4407558.1 |

There is no Bottom Hole Location data for this well

Owner Information:

| API | CMP_DT | SUFFIX | STATUS | SURFACE_OWNER | WELL_NUM | CO_NUM | LEASE | LEASE_NUM | MINERAL_OWN | OPERATOR_AT_COMPLETION | PROP_VD | PROP_TRGT_FM | TFM_EST_PR |
|------------|----------|----------|-----------|----------------------|----------|--------|-------|-----------|-------------|------------------------|---------|--------------|------------|
| 4705100953 | 8/9/2005 | Plugging | Completed | Glenn Gorozyce et al | | M-173 | | | | Consolidation Coal Co. | | | |

Completion Information:

| API | CMP_DT | SPUD_DT | ELEV | DATUM | FIELD | DEEPEST_FM | DEEPEST_FMT | INITIAL_CLASS | FINAL_CLASS | TYPE | RIG | CMP_MTHD | TVD | TMD | NEW_FTG | KOD | G_BEF | G_AF |
|------------|----------|-----------|------|--------------|-------|------------|-----------------|---------------|--------------|---------------|---------|----------|-----|-----|---------|-----|-------|------|
| 4705100953 | 8/9/2005 | 7/22/2005 | 1207 | Ground Level | | | Pittsburgh coal | unclassified | unclassified | not available | unknown | unknown | | | | | | |

There is no Pay data for this well

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

Stratigraphy Information:

| API | SUFFIX | FM | FM_QUALITY | DEPTH_TOP | DEPTH_QUALITY | THICKNESS | THICKNESS_QUALITY | ELEV | DATUM |
|------------|----------|-----------------|-------------|-----------|---------------|-----------|-------------------|------|--------------|
| 4705100953 | Plugging | Pittsburgh coal | Well Record | 927 | Reasonable | 5 | Reasonable | 1207 | Ground Level |

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

Plugging Information:

| API | PLG_DT | DEPTH_PBT |
|------------|----------|-----------|
| 4705100953 | 8/9/2005 | 0 |

WV Geological & Economic Survey:

Well: County = 51 Permit = 00631

Report Time: Monday, August 30, 2021 11:39:15 AM

Location Information: [View Map](#)

| API | COUNTY | PERMIT | TAX_DISTRICT | QUAD_75 | QUAD_16 | LAT_DD | LON_DD | UTME | UTMN |
|------------|----------|--------|--------------|-------------|---------|-----------|------------|----------|-----------|
| 4705100631 | Marshall | 631 | Liberty | Glen Easton | Cameron | 39.807021 | -80.635897 | 531167.1 | 4406402.2 |

There is no Bottom Hole Location data for this well

Owner Information:

| API | CMP_DT | SUFFIX | STATUS | SURFACE_OWNER | WELL_NUM | CO_NUM | LEASE | LEASE_NUM | MINERAL_OWN | OPERATOR_AT_COMPLETION | PROP_VD | PROP_TRGT |
|------------|------------|--------------|-----------|-----------------|----------|--------|-----------------|-----------|-----------------------|-----------------------------------|---------|-----------|
| 4705100631 | 10/14/1908 | Original Loc | Completed | Lydick-Vanscoy | 1 | C-1 | | | | South Penn Oil (S. Penn Nat. Gas) | | |
| 4705100631 | 6/19/2004 | Plugging | Completed | Ila Dobbs-Kerns | | M-330 | Ila Dobbs-Kerns | | Consolidation Coal Co | Consolidation Coal Co | | |

Completion Information:

| API | CMP_DT | SPUD_DT | ELEV | DATUM | FIELD | DEEPEST_FM | DEEPEST_FMT | INITIAL_CLASS | FINAL_CLASS | TYPE | RIG | CMP_MTHD | TVD | TMD | NEW_FTG |
|------------|------------|-----------|------|-----------------|----------------|---------------|-------------|---------------|--------------|----------------------------------|---------|----------|------|-----|---------|
| 4705100631 | 10/14/1908 | 8/24/1908 | 1210 | Topo Estimation | Cameron-Garner | Hampshire Grp | Gordon | unclassified | unclassified | Oil w/ Gas Show not available | unknown | Shot | 2909 | | 2909 |
| 4705100631 | 6/19/2004 | 5/13/2004 | 1168 | Ground Level | | | | | | | unknown | unknown | | | |

Pay/Show/Water Information:

| API | CMP_DT | ACTIVITY | PRODUCT | SECTION | DEPTH_TOP | FM_TOP | DEPTH_BOT | FM_BOT | G_BEF | G_AFT | O_BEF | O_AFT | WATER_QNTY |
|------------|------------|----------|---------|----------|-----------|--------|-----------|--------|-------|-------|-------|-------|------------|
| 4705100631 | 10/14/1908 | Show | Gas | Vertical | | | 2885 | Gordon | 0 | 0 | | | |
| 4705100631 | 10/14/1908 | Pay | Oil | Vertical | | | 2891 | Gordon | 0 | 0 | | | |

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 |
|------------|---------------------------|----------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 4705100631 | Pennzoil Company | 1981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | Pennzoil Company | 1982 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | Pennzoil Company | 1983 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | Pennzoil Company | 1984 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | Pennzoil Products Company | 1989 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | Pennzoil Products Company | 1998 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | Pennzoil Products Company | 1999 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | East Resources, Inc. | 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | East Resources, Inc. | 2001 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | CNX Gas Co. LLC (North) | 2002 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | East Resources, Inc. | 2002 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | CNX Gas Co. LLC (North) | 2003 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | CNX Gas Co. LLC (North) | 2004 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | CNX Gas Co. LLC (North) | 2005 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | CNX Gas Co. LLC (North) | 2006 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | CNX Gas Co. LLC (North) | 2007 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | CNX Gas Co. LLC (North) | 2008 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | CNX Gas Co. LLC (North) | 2009 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | CNX Gas Co. LLC (North) | 2010 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100631 | CNX Gas Co. LLC (North) | 2011 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Plugging Information:

| API | PLG_DT | DEPTH_PBT |
|------------|-----------|-----------|
| 4705100631 | 6/19/2004 | 0 |

WV Geological & Economic Survey

Well: County = 51 Permit = 00915

Report Time: Monday, August 30, 2021 11:39:46 AM

Location Information: [View Map](#)

| API | COUNTY | PERMIT | TAX_DISTRICT | QUAD_75 | QUAD_15 | LAT_DD | LON_DD | UTME | UTMN |
|------------|----------|--------|--------------|-------------|---------|-----------|------------|----------|-----------|
| 4705100915 | Marshall | 915 | Liberty | Glen Easton | Cameron | 39.807116 | -80.636893 | 531081.8 | 4406412.3 |

There is no Bottom Hole Location data for this well

Owner Information:

| API | CMP_DT | SUFFIX | STATUS | SURFACE_OWNER | WELL_NUM | CO_NUM | LEASE | LEASE_NUM | MINERAL_OWN | OPERATOR_AT_COMPLETION | PROP_VD | PROP_TRG |
|------------|-----------|----------|-----------|-----------------------------|----------|--------|-----------------|-----------|-----------------------|------------------------|---------|----------|
| 4705100915 | 5/15/2004 | Plugging | Completed | Joseph B & Judith M Patrelo | | M-177 | John Chapman Sr | | Consolidation Coal Co | Consolidation Coal Co. | | |

Completion Information:

| API | CMP_DT | SPUD_DT | ELEV | DATUM | FIELD | DEEPEST_FM | DEEPEST_FMT | INITIAL_CLASS | FINAL_CLASS | TYPE | RIG | CMP_MTHD | TVD | TMD | NEW_FTG | KOD | G_BEF | G_AFT | O_BEF |
|------------|-----------|-----------|------|--------------|-------|------------|-------------|---------------|-------------|------|-----|----------|-----|-----|---------|-----|-------|-------|-------|
| 4705100915 | 5/15/2004 | 4/18/2004 | 1398 | Ground Level | | | | | | | | | | | | | | | |

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 |
|------------|-----------|-----------|
| 4705100915 | 5/15/2004 | 0 |

There is no Sample data for this well

WV Geological & Economic Survey

Well: County = 51 Permit = 30298

Report Time: Monday, August 30, 2021 11:40:02 AM

Location Information: [View Map](#)

| API | COUNTY | PERMIT | TAX_DISTRICT | QUAD_75 | QUAD_15 | LAT_DD | LON_DD | UTME | UTMN |
|------------|----------|--------|--------------|-------------|---------|-----------|-----------|----------|-----------|
| 4705130298 | Marshall | 30298 | Meade | Glen Easton | Cameron | 39 808471 | -80 63578 | 531176 5 | 4406563 2 |

There is no Bottom Hole Location data for this well

Owner Information:

| API | CMP_DT | SUFFIX | STATUS | SURFACE_OWNER | WELL_NUM | CO_NUM | LEASE | LEASE_NUM | MINERAL_OWN | OPERATOR_AT_COMPLETION | PROP_VD | PROP_T |
|------------|-----------|--------------|-----------|--------------------------------|----------|--------|--------------|-----------|---------------------|------------------------|---------|--------|
| 4705130298 | 8/14/1917 | Original Loc | Completed | A L Shepherd & Willard Chapman | 4 | | John Chapman | | Grave Creed Fuel Co | Raad Supply Company | | |

Completion Information:

| API | CMP_DT | SPUD_DT | ELEV | DATUM | FIELD | DEEPEST_FM | DEEPEST_FMT | INITIAL_CLASS | FINAL_CLASS | TYPE | RIG | CMP_MTHD | TVD | TMD | NEW_FTG | KOD | G_B |
|------------|-----------|---------|------|--------------|---------------|------------|-------------|------------------|------------------|------|------------|----------|------|-----|---------|------|-----|
| 4705130298 | 8/14/1917 | -- | 1411 | Ground Level | Cameron-Gamer | Gordon | Gordon | Development Well | Development Well | Oil | Cable Tool | unknown | 3146 | | | 3146 | |

Pay/Show/Water Information:

| API | CMP_DT | ACTIVITY | PRODUCT | SECTION | DEPTH_TOP | FM_TOP | DEPTH_BOT | FM_BOT | G_BEF | G_AFT | O_BEF | O_AFT | WATER_ONTY |
|------------|-----------|----------|------------|----------|-----------|---------------|-----------|---------------|-------|-------|-------|-------|------------|
| 4705130298 | 8/14/1917 | Water | Salt Water | Vertical | 1950 | 1st Salt Sand | 1958 | 1st Salt Sand | | | | | |
| 4705130298 | 8/14/1917 | Pay | Oil | Vertical | | | 3117 | Gordon | 0 | 0 | | | |

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

Stratigraphy Information:

| API | SUFFIX | FM | FM_QUALITY | DEPTH_TOP | DEPTH_QUALITY | THICKNESS | THICKNESS_QUALITY | ELEV | DATUM |
|------------|--------------|---------------------|-------------|-----------|---------------|-----------|-------------------|------|--------------|
| 4705130298 | Original Loc | Sewickley coal | Well Record | 1038 | Reasonable | 4 | Reasonable | 1411 | Ground Level |
| 4705130298 | Original Loc | Pittsburgh coal | Well Record | 1138 | Reasonable | 4 | Reasonable | 1411 | Ground Level |
| 4705130298 | Original Loc | Mahonig Ss/Big Dunk | Well Record | 1642 | Reasonable | 38 | Reasonable | 1411 | Ground Level |
| 4705130298 | Original Loc | 1st Salt Sand | Well Record | 1950 | Reasonable | 45 | Reasonable | 1411 | Ground Level |
| 4705130298 | Original Loc | 2nd Salt Sand | Well Record | 2055 | Reasonable | 100 | Reasonable | 1411 | Ground Level |
| 4705130298 | Original Loc | Big Lime | Well Record | 2220 | Reasonable | 54 | Reasonable | 1411 | Ground Level |
| 4705130298 | Original Loc | Big Injun (undiff) | Well Record | 2274 | Reasonable | 234 | Reasonable | 1411 | Ground Level |
| 4705130298 | Original Loc | Gordon | Well Record | 3115 | Reasonable | 31 | Reasonable | 1411 | Ground Level |

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

Plugging Information:

| API | PLG_DT | DEPTH_PBT |
|------------|-----------|-----------|
| 4705130298 | 8/31/1949 | 0 |

There is no Sample data for this well

WV Geological & Economic Survey

Well: County = 51 Permit = 70629

Report Time: Monday, August 30, 2021 11:40:19 AM

Location Information: [View Map](#)

| API | COUNTY | PERMIT | TAX_DISTRICT | QUAD_75 | QUAD_15 | LAT_DD | LON_DD | UTME | UTMN |
|------------|----------|--------|--------------|-------------|---------|-----------|------------|----------|-----------|
| 4705170629 | Marshall | 70629 | Liberty | Glen Easton | Cameron | 39.807868 | -80.634582 | 531279.3 | 4406496.7 |

There is no Bottom Hole Location data for this well

Owner Information:

| API | CMP_DT | SUFFIX | STATUS | SURFACE_OWNER | WELL_NUM | CO_NUM | LEASE | LEASE_NUM | MINERAL_OWN | OPERATOR_AT_COMPLETION | PROP_VD | PROP_TRGT_FM | TFM_EST_PR |
|------------|--------|--------|---------|---------------------|----------|--------|-------|-----------|-------------|------------------------|---------|--------------|------------|
| 4705170629 | -/- | | unknown | Prpty Map E Vansyoc | | | | | | | ----- | unknown | ----- |

Completion Information:

| API | CMP_DT | SPUD_DT | ELEV | DATUM | FIELD | DEEPEST_FM | DEEPEST_FMT | INITIAL_CLASS | FINAL_CLASS | TYPE | RIG | CMP_MTHD | TVD | TMD | NEW_FTG | KOD | G_BEFO | G_AFTO |
|------------|--------|---------|------|-------|-------|------------|-------------|---------------|--------------|---------------|---------|----------|-----|-----|---------|-----|--------|--------|
| 4705170629 | -/- | -/- | | | | | | unclassified | unclassified | not available | unknown | unknown | | | | | | |

WV Geological & Economic Survey

Well: County = 51 Permit = 70630

Report Time: Monday, August 30, 2021 11:40:33 AM

Location Information: [View Map](#)

| API | COUNTY | PERMIT | TAX_DISTRICT | QUAD_75 | QUAD_15 | LAT_DD | LON_DD | UTME | UTMN |
|------------|----------|--------|--------------|-------------|---------|-----------|------------|----------|-----------|
| 4705170630 | Marshall | 70630 | Liberty | Glen Easton | Cameron | 39.808883 | -80.634769 | 531262.8 | 4406609.3 |

There is no Bottom Hole Location data for this well

Owner Information:

| API | CMP_DT | SUFFIX | STATUS | SURFACE_OWNER | WELL_NUM | CO_NUM | LEASE | LEASE_NUM | MINERAL_OWN | OPERATOR_AT_COMPLETION | PROP_VD | PROP_TRGT_FM | TFM_EST_PR |
|------------|--------|--------|---------|---------------------------|----------|--------|-------|-----------|-------------|------------------------|---------|--------------|------------|
| 4705170630 | -/- | | unknown | Prpty Map John Chapman Sr | | 2 | | | | | ----- | unknown | ----- |

Completion Information:

| API | CMP_DT | SPUD_DT | ELEV | DATUM | FIELD | DEEPEST_FM | DEEPEST_FMT | INITIAL_CLASS | FINAL_CLASS | TYPE | RIG | CMP_MTHD | TVD | TMD | NEW_FTG | KOD | G_BEFO | G_AFTO |
|------------|--------|---------|------|-------|-------|------------|-------------|---------------|--------------|---------------|---------|----------|-----|-----|---------|-----|--------|--------|
| 4705170630 | -/- | -/- | | | | | | unclassified | unclassified | not available | unknown | unknown | | | | | | |

WV Geological & Economic Survey

Well: County = 51 Permit = 00637

Report Time: Monday, August 30, 2021 11:40:51 AM

Location Information: [View Map](#)

| API | COUNTY | PERMIT | TAX_DISTRICT | QUAD_75 | QUAD_15 | LAT_DD | LON_DD | UTME | UTMN |
|------------|----------|--------|--------------|-------------|---------|-----------|------------|----------|-----------|
| 4705100637 | Marshall | 637 | Liberty | Glen Easton | Cameron | 39.807166 | -80.632888 | 531424.5 | 4406419.3 |

There is no Bottom Hole Location data for this well

Owner Information:

| API | CMP_DT | SUFFIX | STATUS | SURFACE_OWNER | WELL_NUM | CO_NUM | LEASE | LEASE_NUM | MINERAL_OWN | OPERATOR_AT_COMPLETION | PROP_VD | PROP_TRGT_FM | TFM_E3 |
|------------|-----------|--------------|-----------|-----------------------|----------|--------|-------|-----------|-------------|-----------------------------------|---------|--------------|--------|
| 4705100637 | 6/15/1905 | Original Loc | Completed | E J Vanscoy | 1 | | | | | South Penn Oil (S. Penn Nat. Gas) | | | |
| 4705100637 | 9/8/1908 | Worked Over | Completed | E J Vanscoy | 1 | | | | | South Penn Oil (S. Penn Nat. Gas) | | | |
| 4705100637 | 6/24/2005 | Plugging | Completed | Consolidation Coal Co | | M-114 | | | | Consolidation Coal Co | | | |

Completion Information:

| API | CMP_DT | SPUD_DT | ELEV | DATUM | FIELD | DEEPEST_FM | DEEPEST_FMT | INITIAL_CLASS | FINAL_CLASS | TYPE | RIG | CMP_MTHD | TVD | TMD | NEW_FTG | KOD |
|------------|-----------|----------|------|-----------------|----------------|------------|-------------|---------------|--------------|---------------|---------|----------|------|-----|---------|-----|
| 4705100637 | 6/15/1905 | 4/6/1905 | 1230 | Topo Estimation | Cameron-Garner | Gordon | Gordon | unclassified | unclassified | Oil | unknown | Shot | 2966 | | 2966 | |
| 4705100637 | 9/8/1908 | -/- | 1230 | Topo Estimation | Cameron-Garner | Gordon | Gordon | unclassified | unclassified | Oil | unknown | Shot | 2966 | | 0 | |
| 4705100637 | 6/24/2005 | 6/9/2005 | 1229 | Ground Level | | | | unclassified | unclassified | not available | unknown | unknown | | | | |

Pay/Show/Water Information:

| API | CMP_DT | ACTIVITY | PRODUCT | SECTION | DEPTH_TOP | FM_TOP | DEPTH_BOT | FM_BOT | G_BEF | G_AFT | O_BEF | O_AFT | WATER_QNTY |
|------------|-----------|----------|---------|----------|-----------|--------|-----------|--------|-------|-------|-------|-------|------------|
| 4705100637 | 6/15/1905 | Pay | Oil | Vertical | 2948 | Gordon | 2950 | Gordon | 0 | 0 | | | |
| 4705100637 | 6/15/1905 | Pay | Oil | Vertical | 2955 | Gordon | 2960 | Gordon | 0 | 0 | | | |

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 |
|------------|---------------------------|----------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 4705100637 | Pennzoil Company | 1981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | Pennzoil Company | 1982 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | Pennzoil Company | 1983 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | Pennzoil Company | 1984 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | Pennzoil Products Company | 1989 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | Pennzoil Products Company | 1998 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | Pennzoil Products Company | 1999 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | East Resources, Inc. | 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | East Resources, Inc. | 2001 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | CNX Gas Co. LLC (North) | 2002 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | East Resources, Inc. | 2002 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | CNX Gas Co. LLC (North) | 2003 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | CNX Gas Co. LLC (North) | 2004 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | CNX Gas Co. LLC (North) | 2005 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | CNX Gas Co. LLC (North) | 2006 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | CNX Gas Co. LLC (North) | 2007 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | CNX Gas Co. LLC (North) | 2008 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | CNX Gas Co. LLC (North) | 2009 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | CNX Gas Co. LLC (North) | 2010 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4705100637 | CNX Gas Co. LLC (North) | 2011 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Stratigraphy Information:

| API | SUFFIX | FM | FM_QUALITY | DEPTH_TOP | DEPTH_QUALITY | THICKNESS | THICKNESS_QUALITY | ELEV | DATUM |
|------------|----------|-----------------|-------------|-----------|---------------|-----------|-------------------|------|---------|
| 4705100637 | Plugging | Pittsburgh coal | Well Record | 985 | Reasonable | 8 | Reasonable | | unknown |

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

Plugging Information:

| API | PLG_DT | DEPTH_PBT |
|------------|-----------|-----------|
| 4705100637 | 6/24/2005 | 0 |

WV Geological & Economic Survey

Well: County = 51 Permit = 70618

Report Time: Monday, August 30, 2021 11:41:25 AM

Location Information: [View Map](#)

| API | COUNTY | PERMIT | TAX_DISTRICT | QUAD_75 | QUAD_15 | LAT_DD | LON_DD | UTME | UTMN |
|------------|----------|--------|--------------|-------------|---------|-----------|------------|----------|---------|
| 4705170618 | Marshall | 70618 | Liberty | Glen Easton | Cameron | 39.798724 | -80.628376 | 531814.7 | 4405484 |

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 |
|------------|--------|--------|---------|-------------------------------|----------|--------|-------|-----------|-------------|------------------------|---------|--------------|---------------------|
| 4705170618 | -/- | | unknown | Prpty Map Jonathan Wilson Hrs | | | | | | | | | ----- unknown ----- |

Completion Information:

| API | CMP_DT | SPUD_DT | ELEV | DATUM | FIELD | DEEPEST_FM | DEEPEST_FMT | INITIAL_CLASS | FINAL_CLASS | TYPE | RIG | CMP_MTHD | TVD | TMD | NEW_FTG | KOD | G_BEF | G_AFT | O_ |
|------------|--------|---------|------|-------|-------|------------|-------------|---------------|--------------|---------------|---------|----------|-----|-----|---------|-----|-------|-------|----|
| 4705170618 | -/- | -/- | | | | | | unclassified | unclassified | not available | unknown | unknown | | | | | | | |

WV Geological & Economic Survey

Well: County = 51 Permit = 70619

Report Time: Monday, August 30, 2021 11:41:42 AM

Location Information: [View Map](#)

| API | COUNTY | PERMIT | TAX_DISTRICT | QUAD_75 | QUAD_15 | LAT_DD | LON_DD | UTME | UTMN |
|------------|----------|--------|--------------|-------------|---------|-----------|------------|--------|-----------|
| 4705170619 | Marshall | 70619 | Liberty | Glen Easton | Cameron | 39.799304 | -80.631009 | 531589 | 4405547.5 |

There is no Bottom Hole Location data for this well

Owner Information:

| API | CMP_DT | SUFFIX | STATUS | SURFACE_OWNER | WELL_NUM | CO_NUM | LEASE | LEASE_NUM | MINERAL_OWN | OPERATOR_AT_COMPLETION | PROP_VD | PROP_TRGT_FM | TFM_EST_PR |
|------------|--------|--------|---------|-------------------------------|----------|--------|-------|-----------|-------------|------------------------|---------|--------------|---------------------|
| 4705170619 | -/- | | unknown | Prpty Map Jonathan Wilson Hrs | | | | | | | | | ----- unknown ----- |

Completion Information:

| API | CMP_DT | SPUD_DT | ELEV | DATUM | FIELD | DEEPEST_FM | DEEPEST_FMT | INITIAL_CLASS | FINAL_CLASS | TYPE | RIG | CMP_MTHD | TVD | TMD | NEW_FTG | KOD | G_BEF | G_AFT | O_ |
|------------|--------|---------|------|-------|-------|------------|-------------|---------------|--------------|---------------|---------|----------|-----|-----|---------|-----|-------|-------|----|
| 4705170619 | -/- | -/- | | | | | | unclassified | unclassified | not available | unknown | unknown | | | | | | | |

WV Geological & Economic Survey

Well: County = 51 Permit = 70621

Report Time: Monday, August 30, 2021 11:42:02 AM

Location Information: [View Map](#)

| API | COUNTY | PERMIT | TAX_DISTRICT | QUAD_75 | QUAD_15 | LAT_DD | LON_DD | UTME | UTMN |
|------------|----------|--------|--------------|-------------|---------|-----------|------------|----------|-----------|
| 4705170621 | Marshall | 70621 | Liberty | Glen Easton | Cameron | 39.601772 | -80.632514 | 531459.1 | 4405820.8 |

There is no Bottom Hole Location data for this well

Owner Information:

| API | CMP_DT | SUFFIX | STATUS | SURFACE_OWNER | WELL_NUM | CO_NUM | LEASE | LEASE_NUM | MINERAL_OWN | OPERATOR_AT_COMPLETION | PROP_VD | PROP_TRGT_FM | TFM_EST_PR |
|------------|--------|---------|-----------|---------------|----------|--------|-------|-----------|-------------|------------------------|---------|--------------|------------|
| 4705170621 | -/- | unknown | Prpty Map | WH Dobbs | 6 | | | | | ----- unknown ----- | | | |

Completion Information:

| API | CMP_DT | SPUD_DT | ELEV | DATUM | FIELD | DEEPEST_FM | DEEPEST_FMT | INITIAL_CLASS | FINAL_CLASS | TYPE | RIG | CMP_MTHD | TVD | TMD | NEW_FTG | KOD | G_BEF | G_AFT | O_ |
|------------|--------|---------|------|-------|-------|------------|-------------|---------------|--------------|---------------|---------|----------|-----|-----|---------|-----|-------|-------|----|
| 4705170621 | -/- | -/- | | | | | | unclassified | unclassified | not available | unknown | unknown | | | | | | | |

WV Geological & Economic Survey

Well: County = 51 Permit = 00937

Report Time: Monday, August 30, 2021 11:42:21 AM

Well Reassignment Information: Reassigned From

| OLD_COUNTY | OLD_PERMIT | NEW_COUNTY | NEW_PERMIT |
|------------|------------|------------|------------|
| 51 | 30301 | 51 | 937 |

Location Information: [View Map](#)

| API | COUNTY | PERMIT | TAX_DISTRICT | QUAD_75 | QUAD_15 | LAT_DD | LON_DD | UTME | UTMN |
|------------|----------|--------|--------------|-------------|---------|-----------|-----------|----------|-----------|
| 4705100937 | Marshall | 937 | Liberty | Glen Easton | Cameron | 39.793826 | -80.62518 | 532090.6 | 4404941.5 |

There is no Bottom Hole Location data for this well

Owner Information:

| API | CMP_DT | SUFFIX | STATUS | SURFACE_OWNER | WELL_NUM | CO_NUM | LEASE | LEASE_NUM | MINERAL_OWN | OPERATOR_AT_COMPLETION | PROP_VD | PROP_TRGT_FM |
|------------|-----------|--------------|-----------|---------------------|----------|--------|----------------|-----------|-----------------------|-----------------------------|---------|--------------|
| 4705100937 | 12/4/1901 | Original Loc | Completed | Harrison G Chambers | 1 | | Lewis Chambers | | Grave Creek Fuel Co | Tri-State Pipe Company, The | | |
| 4705100937 | 8/17/2004 | Plugging | Completed | Blaine Stern | | M-415 | | | Consolidation Coal Co | Consolidation Coal Co. | | |

Completion Information:

| API | CMP_DT | SPUD_DT | ELEV | DATUM | FIELD | DEEPEST_FM | DEEPEST_FMT | INITIAL_CLASS | FINAL_CLASS | TYPE | RIG | CMP_MTHD | TVD | TMD | NEW_FTG | KOD | G_BEF | G_AFT | O_BEF |
|------------|-----------|-----------|------|-------|-------|------------|-------------|---------------|--------------|------|---------|----------|------|-----|---------|-----|-------|-------|-------|
| 4705100937 | 12/4/1901 | -/- | | | | Gordon | Gordon | unclassified | unclassified | Oil | unknown | unknown | 2851 | | 2851 | | | | |
| 4705100937 | 8/17/2004 | 7/30/2004 | | | | | | | | | | | | | | | | | |

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

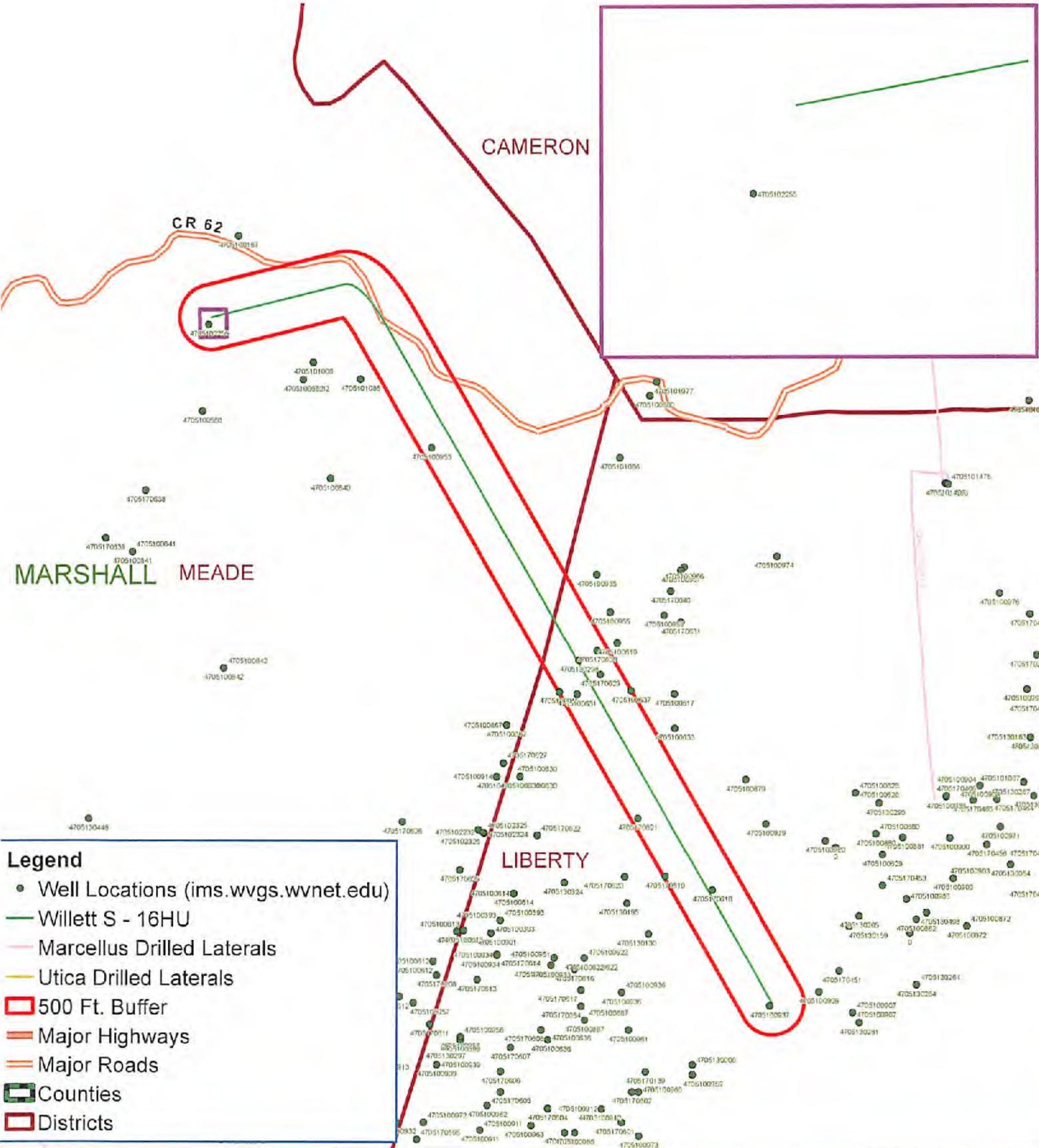
There is no Stratigraphy data for this well

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

Plugging Information:

| API | PLG_DT | DEPTH_PBT |
|------------|-----------|-----------|
| 4705100937 | 7/20/1949 | 0 |
| 4705100937 | 8/17/2004 | 0 |

There is no Sample data for this well

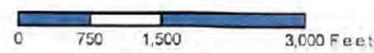


Legend

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



Willett S - 16HU Meade District Marshall County, WV



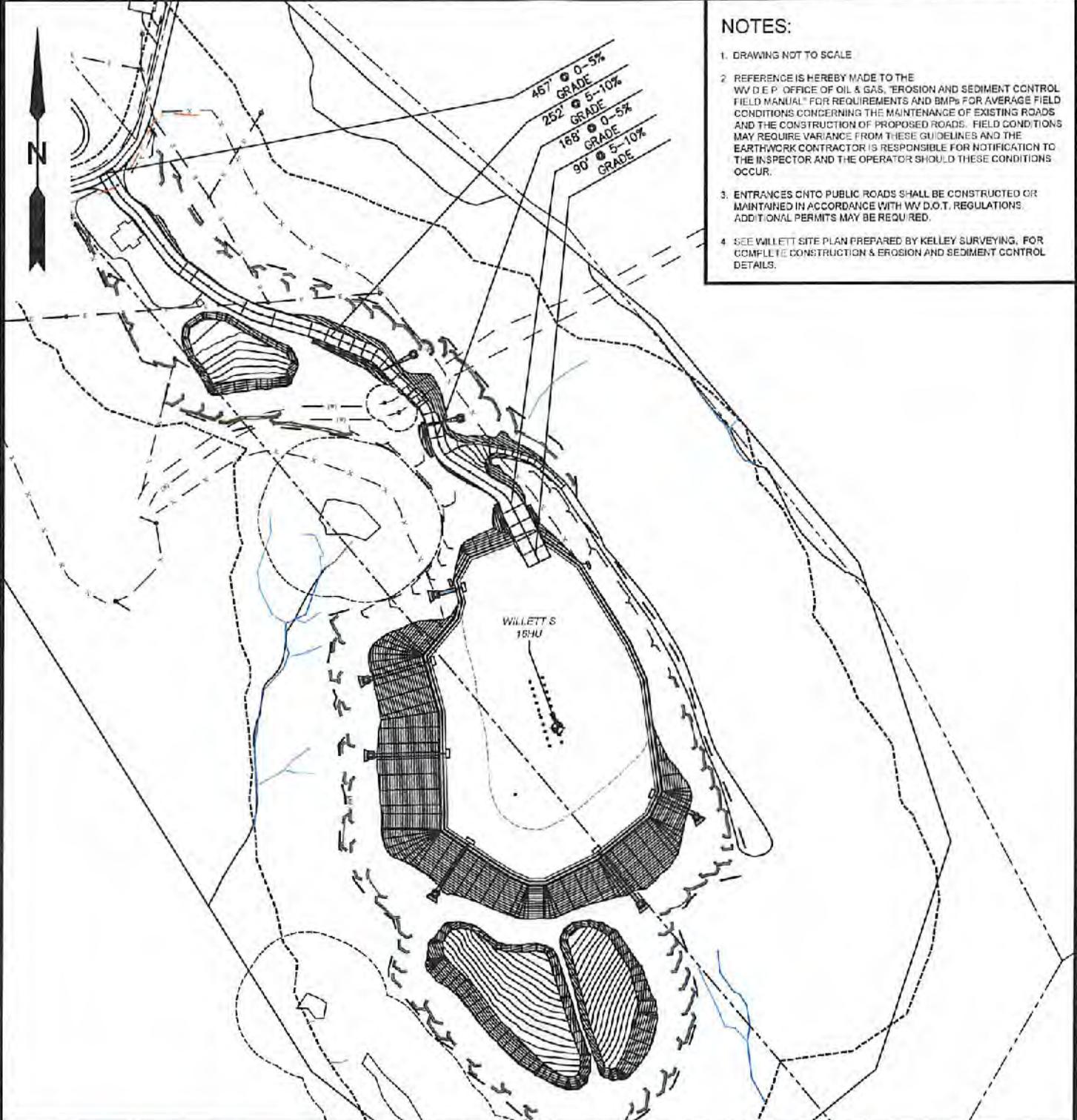
Map Prepared by:

01/28/2022

Map Created: August 26, 2021

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

PROPOSED WILLETT S - 16HU



NOTES:

1. DRAWING NOT TO SCALE
2. REFERENCE IS HEREBY MADE TO THE WV DEP 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. SEE WILLETT SITE PLAN PREPARED BY KELLEY SURVEYING, FOR COMPLETE CONSTRUCTION & EROSION AND SEDIMENT CONTROL DETAILS.



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5654
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
 254 East Beckley Bypass | Beckley, WV 25801 | 304.255.9296
 slswv.com

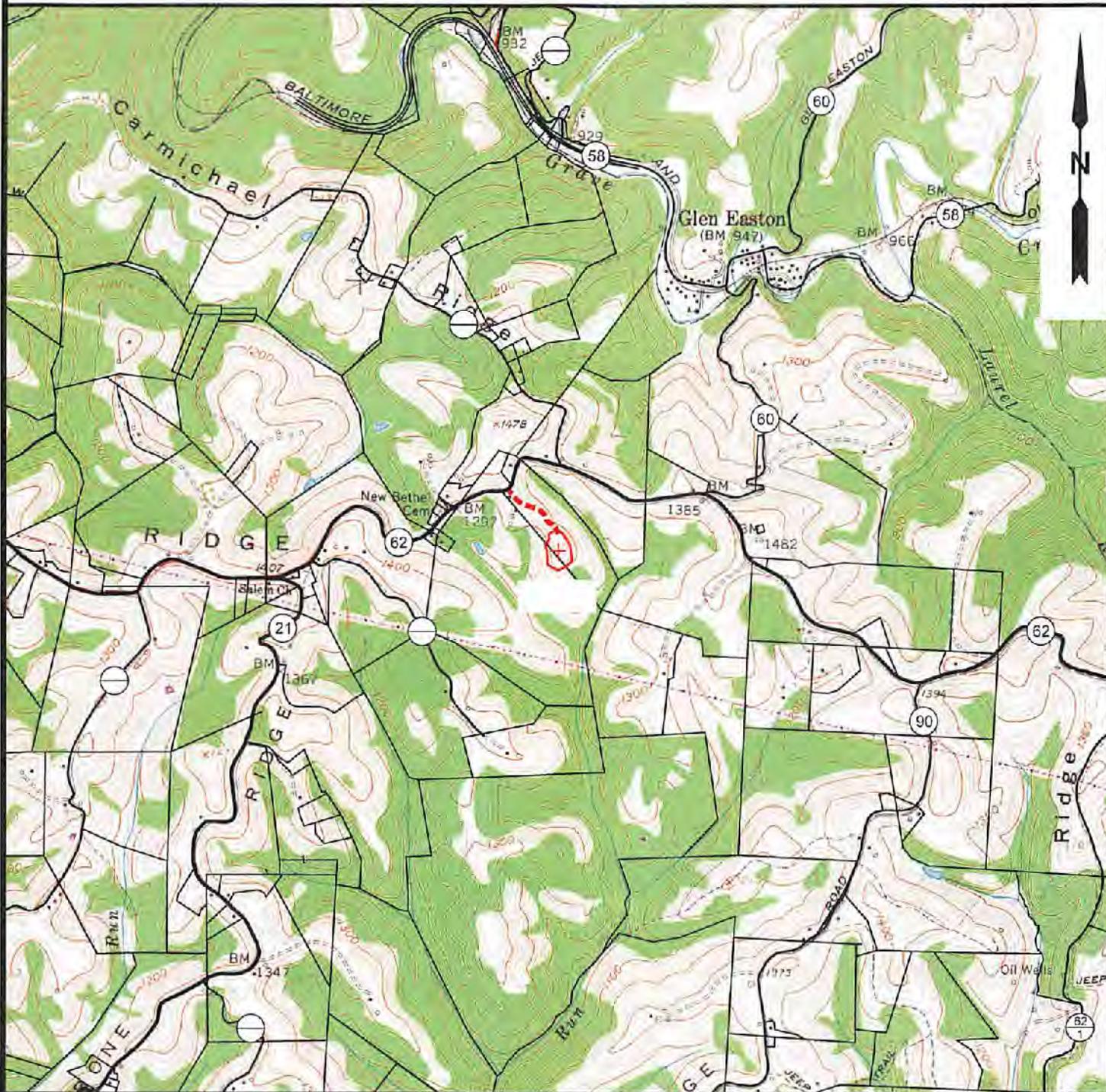
| | | | |
|------------------|----------|-------------------------|-------|
| TOPO SECTION: | | OPERATOR: | |
| GLEN EASTON 7.5' | | PREPARED FOR: | |
| COUNTY | DISTRICT | TUG HILL OPERATING, LLC | |
| MARSHALL | MEADE | 380 SOUTHPOINTE BLVD | |
| | | SUITE 200 | |
| | | CANONSBURG, PA 15317 | |
| DRAWN BY | JOB NO. | DATE | SCALE |
| K.G.M. | 8939 | 12/01/21 | NONE |



TUG HILL
OPERATING

01/28/2022

PROPOSED WILLETT S - 16HU



NOTE: CLOSEST WATER PURVEYOR
CITY OF CAMERON - FRANK WALKER RESERVOIR
CAMDEN, WV

LAT: 39.829865
LON: -80.573724
LOCATED: N 84°36'39" E AT 23,313.72' FROM THE CENTER OF WILLETT S WELL PAD LOCATION.

12 Venkrom Drive | MO, Box 150 | Glenville, WV 26031 | 304.482.5634
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
294 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296
slsww.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. | 8939 | 12/01/2021 | 1" = 2000' |

01/28/2022



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

Well Name: Willett S-16HU

Pad Name: Willett Pad

County: Marshall

UTM (meters), NAD83, Zone 17

Northing: 4,408,171.18

Easting: 529,418.72

Bay Stiles 10-14-21
**KEY CONTACT FOR WELL SITE SAFETY PLAN
DEVELOPMENT AND MAINTENANCE**

Jerry V. DeRosa, Director EH&S Affairs

(724) 338-2029 (office)

(412) 736-5767 (cellular)

24-HOUR EMERGENCY PHONE NUMBER

(800) 921-9745

Willett 16HU

Operators within 500 feet of Well Borehole

| County | District | TMP | Mineral Owner or Lessee | Address |
|----------|----------|----------------|-------------------------|---|
| Marshall | Liberty | 7-1-3 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Liberty | 7-1-4 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Liberty | 7-1-5 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Liberty | 7-7-3 | CNX GAS COMPANY, LLC | 1000 CONSOL ENERGY DRIVE, SUITE 400 CANONSBURG, PA 15317 |
| Marshall | Liberty | 7-8-11 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Liberty | 7-8-13 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Liberty | 7-8-14 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Liberty | 7-8-2 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-3-14 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | DOT - 9-3-14 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-3-14.1 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | DOT - 9-3-14.1 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-3-15 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | DOT - 9-3-15 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-3-15.1 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |

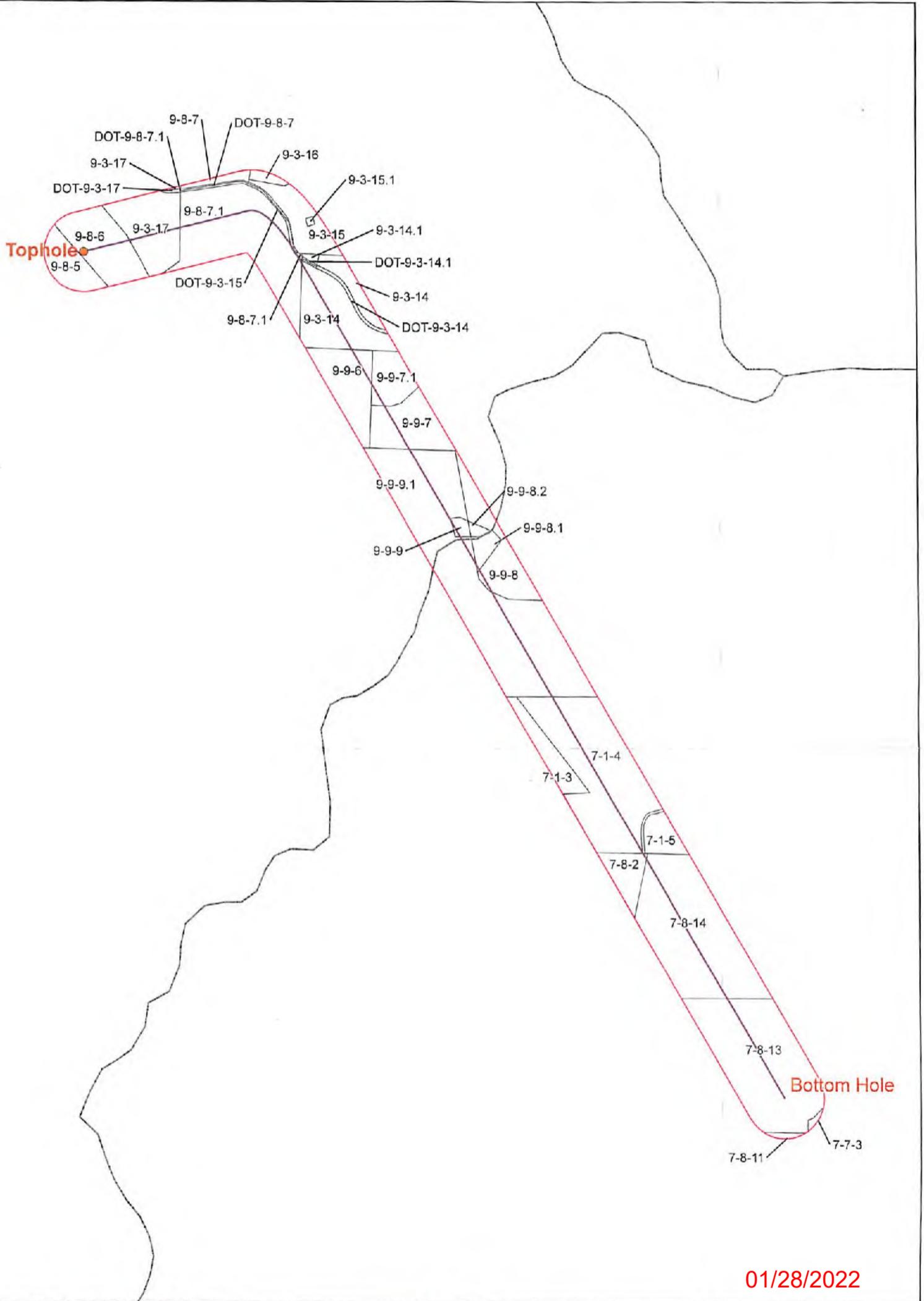
Willett 16HU**Operators within 500 feet of Well Borehole**

| | | | | |
|----------|-------|---------------|--------------------|--|
| Marshall | Meade | 9-3-16 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-3-17 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | DOT - 9-3-17 | TH EXPLORATION LLC | 1321 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-8-5 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-8-6 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-8-7 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | DOT - 9-8-7 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-8-7.1 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | DOT - 9-8-7.1 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-9-6 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-9-7 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-9-7.1 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-9-8 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-9-8.1 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-9-8.2 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |

Willett 16HU

Operators within 500 feet of Well Borehole

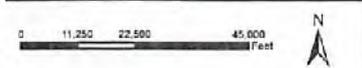
| | | | | |
|----------|-------|---------|--------------------|---|
| Marshall | Meade | 9-9-9 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |
| Marshall | Meade | 9-9-9.1 | TH EXPLORATION LLC | 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 |



01/28/2022

Coordinate System: NAD 83
 Datum: North American 1983
 Units: Feet
 Spheroid: GRS 80
 Prime Meridian: -85.0000
 UTM Zone Number: 18Q
 UTM Easting: 650,000.0000
 UTM Northing: 0.0000
 UTM Scale Factor: 0.999999
 UTM False Easting: 500,000.0000
 UTM False Northing: 0.0000

CONFIDENTIAL



- Utica Well
- Force Pool
- 500' Buffer

Willett S-16HU
 Operators within 500 Feet of Well Borehole



**WILLETT S LEASE
UTICA UNIT - 386.06 AC±
WELL 16HU
TUG HILL OPERATING**

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

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)
 NAD 83 S.P.C.(FT) N. 483,976.55 E. 1,643,755.32
 NAD 83 GEO. LAT-(N) 39.823022 LONG-(W) 80.656242
 NAD 83 UTM (M) N. 4,403,171.24 E. 529,418.72
LANDING POINT
 NAD 83 S.P.C.(FT) N. 483,888.1 E. 1,646,446.5
 NAD 83 GEO. LAT-(N) 39.822869 LONG-(W) 80.646657
 NAD 83 UTM (M) N. 4,403,157.4 E. 530,239.1
BOTTOM HOLE
 NAD 83 S.P.C.(FT) N. 473,281.8 E. 1,652,381.0
 NAD 83 GEO. LAT-(N) 39.793984 LONG-(W) 80.625057
 NAD 83 UTM (M) N. 4,404,956.9 E. 532,101.0

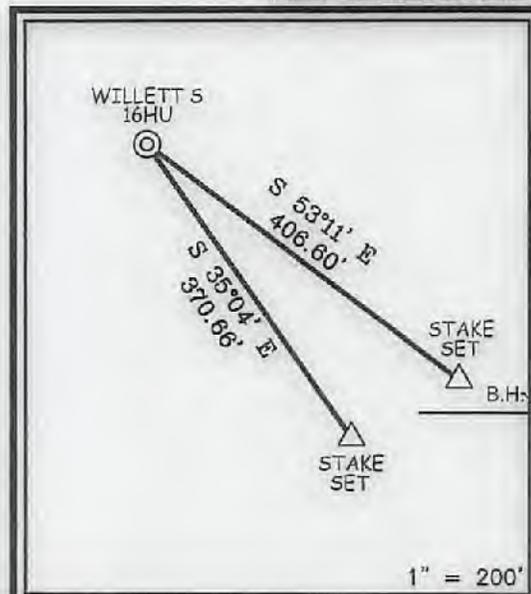
T.H. LONGITUDE 80°37'30"
B.H. LONGITUDE 80°37'30"
3,756' T.H.
14,340' B.H.



| TAG | SURFACE OWNER | PARCEL | ACRES |
|-----|--|----------|---------|
| A | CNX LAND, LLC | 9-8-5 | 110.37 |
| B | CNX LAND, LLC | 9-8-6 | 27.596 |
| C | CNX LAND, LLC | 9-3-17 | 65.86 |
| D | LARRY S. NEELY - LIFE | 9-8-7.1 | 76.005 |
| E | CNX LAND, LLC | 9-3-16 | 53.00 |
| F | RAYMOND DEWAIN DOBBS, ET AL | 9-3-15 | 70.7424 |
| G | MARSHALL COUNTY PUBLIC SERVICE DISTRICT #4 | 9-3-15.1 | 0.2296 |
| H | RAYMOND DEWAIN DOBBS, ET AL | 9-3-14.1 | 0.499 |
| I | RAYMOND DEWAIN DOBBS, ET AL | 9-3-14 | 81.331 |
| J | GLEN G. CORCZYCA - TOD | 9-9-6 | 25.12 |
| K | RAYMOND DEWAIN DOBBS, ET AL | 9-9-7.1 | 9.00 |
| L | JAMES R. THOMAS, ET UX | 9-9-7 | 60.796 |
| M | JOSEPH B. & JUDITH PATRELLO | 9-9-9.1 | 149.924 |
| N | VINCENT P. PATRELLO | 9-9-9 | 1.076 |
| O | VINCENT PATRELLO | 9-9-8.2 | 0.723 |
| P | DIANA MAE PIATT | 9-9-8.1 | 2.253 |
| Q | JAMES D. BLAKE, ET AL | 9-9-8 | 52.144 |
| R | DANNY R. & FRANCES V. KERNS ESTATE | 7-1-3 | 58.00 |
| S | KAREN S. EVANS & JUDY KAY MATTHEWS | 7-1-5 | 116.915 |
| T | CNX LAND, LLC | 7-1-4 | 52.00 |
| U | DANNY R. & FRANCES V. KERNS ESTATE | 7-8-2 | 94.00 |
| V | GEO A. BURRIS | 7-8-14 | 95.44 |
| W | BLAINE E. STERN, JR. | 7-8-13 | 104.92 |

| MAP/PARCEL | ADJOINING SURFACE OWNER LIST | ACRES |
|------------|------------------------------|-------|
| 3-19-82 | XCL PROCESSING OPERATING LLC | 14.89 |
| 7-1-7.1 | NANCY L. PARSONS | 0.5 |
| 9-3-13 | XCL PROCESSING OPERATING LLC | 28.00 |
| 9-3-13.1 | XCL PROCESSING OPERATING LLC | 10.00 |
| 9-3-17.1 | BRIAN & LEAH KESTNER | 11.8 |
| 9-8-5.1 | CNX LAND, LLC | 1.040 |
| 9-8-5.2 | AMY EVANS & KAREN WHETZAL | 4.586 |
| 9-8-6.1 | KAYLA E. BRATTON | 1.423 |
| 9-9-7.2 | XCL PROCESSING OPERATING LLC | 3.907 |
| 9-9-7.3 | JEFFREY B. THOMAS | 1.297 |

REFERENCES



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 825' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOP MARK SCALE ARE 1"=2000'
- PROPOSED LATERAL OR TOP HOLE OF PROPOSED WILLETT S-16HU IS WITHIN 3000' OF THE TOP HOLES OR LATERALS OF PROPOSED OR EXISTING WELLS:
 PROPOSED WILLETT S-17HU,
 PROPOSED HUDSON S-13HU (47-051-02293),
 PROPOSED HUDSON S-14HU (47-051-02327),
 PROPOSED HUDSON S-15HU (47-051-02328),
 PROPOSED HUDSON S-16HU (47-051-02329),
 PROPOSED BRECKENRIDGE S-17HU (47-051-02398).



12 Vanhoen Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5834
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
 254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296
 slsw.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. 677 *Gregory A. Smith*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 DATE DECEMBER 1, 20 21
 REVISED _____, 20 _____
 OPERATORS WELL NO. WILLETT S 16HU
 API WELL NO. 47 - 051 - 02423
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. 8939P16HU.dwg
WILLETT S 16HU-REV2
 HORIZONTAL & VERTICAL SCALE 1" = 2000'
 CONTROL DETERMINED BY: DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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



WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION:
 ELEVATION 1,310.03' WATERSHED TRIBUTARY OF UPPER BOWMAN RUN
 DISTRICT MEADE COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'

SURFACE OWNER CNX LAND LLC ACREAGE 27.596±
 ROYALTY OWNER APPALACHIAN BASIN MINERALS, LP, ET AL ACREAGE 01.528/2022

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: 12,074' / TMD: 24,796'

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN - CT CORPORATION
 ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5098 WASHINGTON ST. W, STE 407
FORT WORTH, TX 76107 CHARLESTON, WV 25313-1561

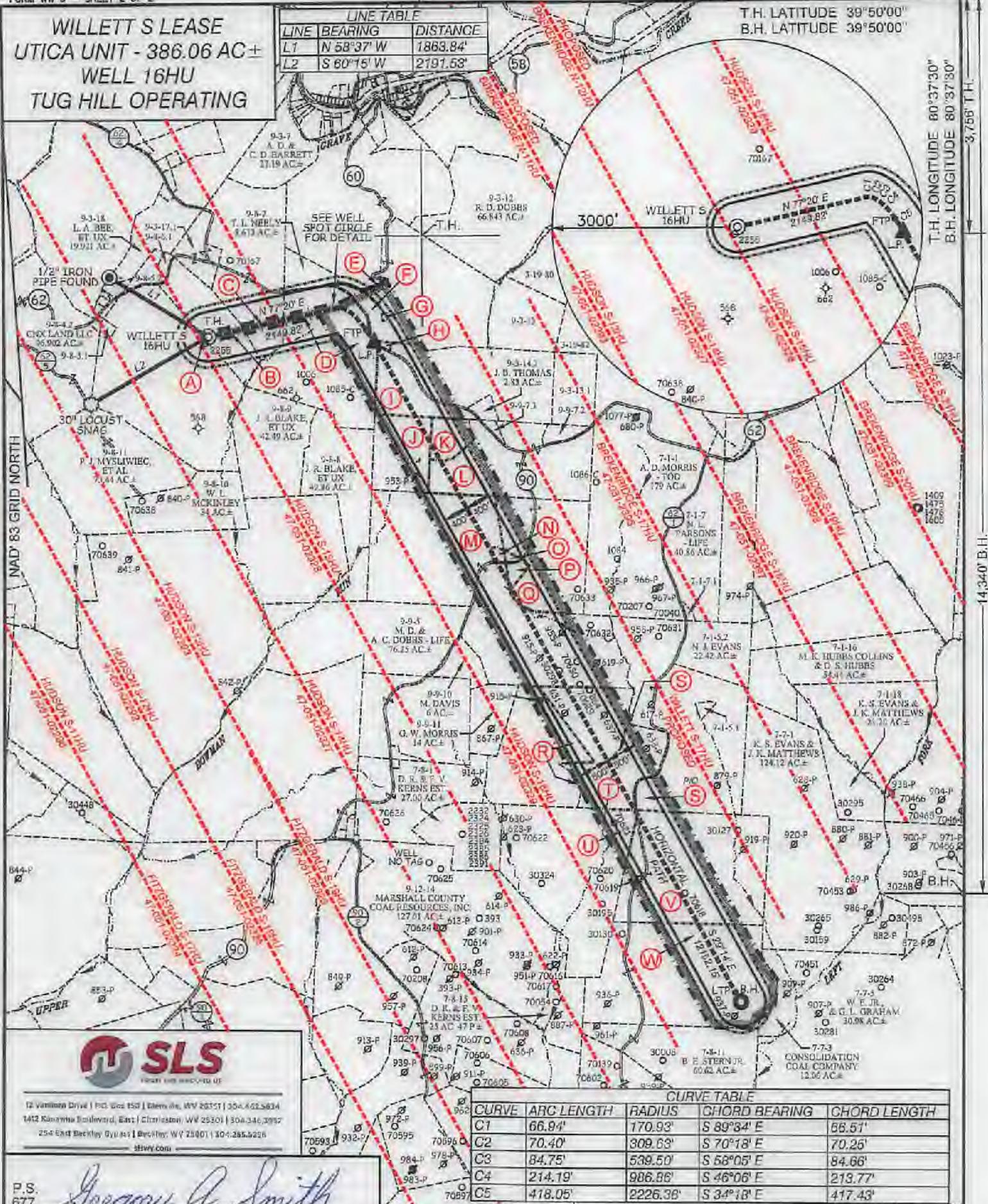
COUNTY NAME
PERMIT

**WILLETT S LEASE
UTICA UNIT - 386.06 AC±
WELL 16HU
TUG HILL OPERATING**

| LINE TABLE | | |
|------------|------------|----------|
| LINE | BEARING | DISTANCE |
| L1 | N 58°37' W | 1863.84' |
| L2 | S 60°15' W | 2191.53' |

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

T.H. LONGITUDE 80°37'30"
B.H. LONGITUDE 80°37'30"



12 Veterans Drive | P.O. Box 850 | Steersville, WV 25351 | 304.432.5834
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.2952
254 East Beckley Blvd #1 | Beckley, WV 25801 | 304.285.9226
sllwv.com

| CURVE TABLE | | | | |
|-------------|------------|----------|---------------|--------------|
| CURVE | ARC LENGTH | RADIUS | CHORD BEARING | CHORD LENGTH |
| C1 | 66.94' | 170.93' | S 89°34' E | 66.51' |
| C2 | 70.40' | 309.63' | S 70°18' E | 70.26' |
| C3 | 84.75' | 539.50' | S 68°05' E | 84.66' |
| C4 | 214.19' | 986.86' | S 46°06' E | 213.77' |
| C5 | 418.05' | 2226.36' | S 34°18' E | 417.43' |

P.S. 677 *Gregory A. Smith*



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

LEGEND

- EXTERIOR UNIT BOUNDARY
- INTERIOR LEASE BOUNDARY
- SURFACE LINE
- PROPOSED UTICA
- WELL LATERAL
- 400' OFFSET LINE
- 500' OFFSET LINE
- TIE LINE
- 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)

| (S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH) | | | |
|--|-------------------|--------------------|--|
| NAD'83 S.P.C. (FT) | N. 469,976.55 | E. 1,843,755.32 | |
| NAD'83 GEO. | LAT-(N) 39.823022 | LONG-(W) 80.956242 | |
| NAD'83 UTM (M) | N. 4,408,171.24 | E. 529,418.72 | |
| LANDING POINT | | | |
| NAD'83 S.P.C. (FT) | N. 469,896.1 | E. 1,846,446.5 | |
| NAD'83 GEO. | LAT-(N) 39.822809 | LONG-(W) 80.946657 | |
| NAD'83 UTM (M) | N. 4,408,157.4 | E. 530,239.1 | |
| BOTTOM HOLE | | | |
| NAD'83 S.P.C. (FT) | N. 473,281.6 | E. 1,852,381.0 | |
| NAD'83 GEO. | LAT-(N) 39.793964 | LONG-(W) 80.825057 | |
| NAD'83 UTM (M) | N. 4,404,955.9 | E. 532,101.0 | |

SCALE 1" = 2000' FILE NO. 8939P16HU.dwg
WILLETT S 16HU-REV2
DATE DECEMBER 1, 20 21
REVISED _____, 20 ____
OPERATORS WELL NO. WILLETT S 16HU
API WELL NO. 47-051-02423
STATE COUNTY PERMIT

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

01/28/2022

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN - CT CORPORATION
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5098 WASHINGTON ST. W, STE 407
FORT WORTH, TX 76107 CHARLESTON, WV 25313-1561

**WILLETT S LEASE
UTICA UNIT - 386.06 AC±
WELL 16HU
TUG HILL OPERATING**



12 Vinhorn Drive | P.O. Box 159 | Glenville, WV 26351 | 304.462.5614
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296
slsvv.com

| NO. | Lease ID | Parcel | Tag | Grantor, Lessor, Etc. | Deed Book/Page | |
|------|----------|----------|-----|--|----------------|-----|
| ✓ 1 | 10*23739 | 9-8-5 | A | APPALACHIAN BASIN MINERALS LP, ET AL | 1011 | 538 |
| ✓ 2 | 10*21602 | 9-8-6 | B | CAROL STACY SAUNDERS, ET AL | 959 | 289 |
| ✓ 3 | 10*21602 | 9-3-17 | C | CAROL STACY SAUNDERS, ET AL | 959 | 289 |
| ✓ 4 | 10*28092 | 9-8-7.1 | D | WV DEPART OF TRANSPORTATION DIV OF HIGHWAYS, ET AL | 1073 | 370 |
| ✓ 5 | 10*28808 | 9-8-7.1 | D | HOLLY MARIE EBERSOLE | 1078 | 47 |
| ✓ 6 | 10*38639 | 9-3-16 | E | RAYMOND D DOBBS | 677 | 229 |
| ✓ 7 | 10*38639 | 9-3-15 | F | RAYMOND D DOBBS | 677 | 229 |
| ✓ 8 | 10*22743 | 9-3-15.1 | G | MARSHALL COUNTY PUBLIC SERVICE DISTRICT 4 | 972 | 89 |
| ✓ 9 | 10*19922 | 9-3-14.1 | H | MARLENE GARIN, ET AL | 946 | 320 |
| ✓ 10 | 10*19737 | 9-3-14 | I | ALICE BUZZARD, ET AL | 948 | 195 |
| ✓ 11 | 10*19634 | 9-9-6 | J | JANICE L PIETERSE, ET AL | 960 | 153 |
| ✓ 12 | 10*22724 | 9-9-7.1 | K | RONI MICHELLE TOWE AND ROBERT T TOWE | 968 | 286 |
| ✓ 13 | 10*26738 | 9-9-7 | L | JAMES R THOMAS & DEBORAH L THOMAS | 1041 | 153 |
| ✓ 14 | 10*22615 | 9-9-9.1 | M | DAVID D MURRAY AND MARY ANN MURRAY, ET AL | 965 | 591 |
| ✓ 15 | 10*22615 | 9-9-9 | N | DAVID D MURRAY AND MARY ANN MURRAY, ET AL | 965 | 591 |
| ✓ 16 | 10*28968 | 9-9-8.2 | O | VINCENT PATRELLO AND AMANDA PATRELLO | 1080 | 560 |
| ✓ 17 | 10*23285 | 9-9-8.1 | P | DIANA MAE PIATT | 984 | 476 |
| ✓ 18 | 10*39474 | 9-9-8 | Q | SHERMAN E SR & AMARYLUSS J KNOX | 1120 | 493 |
| ✓ 19 | 10*17969 | 7-1-3 | R | BOUNTY MINERALS LLC, ET AL | 928 | 424 |
| ✓ 20 | 10*31110 | 7-1-5 | S | CNX GAS COMPANY LLC | 1098 | 608 |
| ✓ 21 | 10*17969 | 7-1-4 | T | BOUNTY MINERALS LLC, ET AL | 928 | 424 |
| ✓ 22 | 10*25518 | 7-8-2 | U | DANNY S KERNS, ET AL | 1010 | 532 |
| ✓ 23 | 10*25508 | 7-8-14 | V | THE AMY M TOULPS FAMILY TRUST OF 2013 DATED JUNE 14, 2013, ET AL | 827 | 119 |
| ✓ 24 | 10*25501 | 7-8-13 | W | AMP FUND III LP, ET AL | 925 | 459 |

FILE NO. 8939P16HU.dwg
WILLETT S 16HU-REV2

DATE DECEMBER 1, 2021

REVISED _____, 20_____

OPERATORS WELL NO. WILLETT S 16HU

API WELL NO. 47 — 051 — 02423
STATE COUNTY PERMIT



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



P.S.
677

Gregory A. Smith

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

DESIGNATED AGENT DARREN BROWN - CT CORPORATION
ADDRESS 5098 WASHINGTON ST. W, STE 407
CHARLESTON, WV 25313-1561

COUNTY NAME
PERMIT

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

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

(1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;

(2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

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

*See attached pages

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

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

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

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

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

| Lease ID | TMP | Tag | Grantor, Lessor, Etc. | Grantee, Lessee, ETC. | Royalty | Deed Book/Page | Assignment |
|----------|-------|-----|---|-----------------------|---------|----------------|------------|------------|------------|------------|------------|------------|------------|--|
| 10*21602 | 9-8-6 | B | CAROL STACY SAUNDERS | TH EXPLORATION LLC | 1/8+ | 959 289 | N/A |
| 10*21604 | 9-8-6 | B | WILLIAM EDWARD STACY AND JACQUELINE L STACY | TH EXPLORATION LLC | 1/8+ | 958 428 | N/A |
| 10*22616 | 9-8-6 | B | JAMES YOHO AND SANDRA YOHO | TH EXPLORATION LLC | 1/8+ | 968 281 | N/A |
| 10*22618 | 9-8-6 | B | DANIEL YOHO | TH EXPLORATION LLC | 1/8+ | 966 636 | N/A |
| 10*22721 | 9-8-6 | B | WINIFRED G TURNER | TH EXPLORATION LLC | 1/8+ | 988 134 | N/A |
| 10*22796 | 9-8-6 | B | MARLENE YOHO | TH EXPLORATION LLC | 1/8+ | 972 87 | N/A |
| 10*22880 | 9-8-6 | B | GREGORY K GLOVER | TH EXPLORATION LLC | 1/8+ | 977 85 | N/A |
| 10*22881 | 9-8-6 | B | MARLIS GLOVER | TH EXPLORATION LLC | 1/8+ | 977 87 | N/A |
| 10*23033 | 9-8-6 | B | MAXINE BEYSER | TH EXPLORATION LLC | 1/8+ | 977 346 | N/A |
| 10*23034 | 9-8-6 | B | NINA L KOVACS | TH EXPLORATION LLC | 1/8+ | 977 348 | N/A |
| 10*23107 | 9-8-6 | B | JOEL DAMON GLOVER | TH EXPLORATION LLC | 1/8+ | 983 620 | N/A |
| 10*23141 | 9-8-6 | B | DEBORAH A LOMBARDO | TH EXPLORATION LLC | 1/8+ | 984 7 | N/A |
| 10*23142 | 9-8-6 | B | KIMBERLY S GLOVER | TH EXPLORATION LLC | 1/8+ | 984 5 | N/A |
| 10*23161 | 9-8-6 | B | KATHLEEN J GLOVER | TH EXPLORATION LLC | 1/8+ | 983 618 | N/A |
| 10*23162 | 9-8-6 | B | AARON BOYLES AND TRACI BOYLES | TH EXPLORATION LLC | 1/8+ | 983 622 | N/A |
| 10*23163 | 9-8-6 | B | EDWIN WOOLLEY AND DEBORAH L WOOLLEY | TH EXPLORATION LLC | 1/8+ | 983 571 | N/A |
| 10*23176 | 9-8-6 | B | CAROL M YOHO | TH EXPLORATION LLC | 1/8+ | 984 9 | N/A |
| 10*23181 | 9-8-6 | B | MICHAEL L AND PEGGY ANNE GREENWOOD | TH EXPLORATION LLC | 1/8+ | 983 627 | N/A |
| 10*23192 | 9-8-6 | B | JEFFREY C YOHO | TH EXPLORATION LLC | 1/8+ | 984 472 | N/A |
| 10*23313 | 9-8-6 | B | DIANE DEVAULT | TH EXPLORATION LLC | 1/8+ | 988 136 | N/A |
| 10*23419 | 9-8-6 | B | GARY MCPHERON AND SHELLEY ANN MCPHERON | TH EXPLORATION LLC | 1/8+ | 988 492 | N/A |
| 10*23420 | 9-8-6 | B | SALLY LEE ORTIZ RIVERA | TH EXPLORATION LLC | 1/8+ | 988 490 | N/A |
| 10*23739 | 9-8-6 | B | APPALACHIAN BASIN MINERALS LP | TH EXPLORATION LLC | 1/8+ | 1011 538 | N/A |
| 10*23740 | 9-8-6 | B | PENNMARC RESOURCES II LP | TH EXPLORATION LLC | 1/8+ | 1011 532 | N/A |
| 10*23741 | 9-8-6 | B | MCCROW ENERGY PARTNERS II LLC | TH EXPLORATION LLC | 1/8+ | 1011 515 | N/A |
| 10*23742 | 9-8-6 | B | PURPLEBURGH VENTURES, LLC | TH EXPLORATION LLC | 1/8+ | 1011 536 | N/A |
| 10*23743 | 9-8-6 | B | WILDES MINERAL INTERESTS LLC | TH EXPLORATION LLC | 1/8+ | 1011 534 | N/A |
| 10*23749 | 9-8-6 | B | MARCELLUS TX MINERAL PRTRN LTD | TH EXPLORATION LLC | 1/8+ | 1012 193 | N/A |
| 10*24781 | 9-8-6 | B | DENISE MARIE ROGERS AND GEORGE M ROGERS | TH EXPLORATION LLC | 1/8+ | 1027 578 | N/A |
| 10*24782 | 9-8-6 | B | RICHARD A HEUSER | TH EXPLORATION LLC | 1/8+ | 1027 572 | N/A |
| 10*24783 | 9-8-6 | B | BRUCE W JOHNSON AND TERRI L JOHNSON | TH EXPLORATION LLC | 1/8+ | 1027 569 | N/A |
| 10*25224 | 9-8-6 | B | MAUREEN WILSON | TH EXPLORATION LLC | 1/8+ | 1030 141 | N/A |
| 10*25701 | 9-8-6 | B | TIMOTHY KRUS AND BARBARA KRUS | TH EXPLORATION LLC | 1/8+ | 1034 239 | N/A |
| 10*25716 | 9-8-6 | B | RUSSELL BREDBENNER | TH EXPLORATION LLC | 1/8+ | 1035 23 | N/A |
| 10*26631 | 9-8-6 | B | JOSEPH R ZBOZIEN | TH EXPLORATION LLC | 1/8+ | 1039 322 | N/A |
| 10*27106 | 9-8-6 | B | JASMINE LEIGH HALL PENA C/O ROBERT HALL | TH EXPLORATION LLC | 1/8+ | 1050 217 | N/A |
| 10*27229 | 9-8-6 | B | KENNETH ANDERSON BY DAVID C WHITE, SP COMM | TH EXPLORATION LLC | 1/8+ | 1068 311 | N/A |
| 10*28092 | 9-8-6 | B | WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS | TH EXPLORATION LLC | 1/8+ | 1073 370 | N/A |
| 10*28647 | 9-8-6 | B | BRYAN S LEHNER | TH EXPLORATION LLC | 1/8+ | 1076 65 | N/A |
| 10*29614 | 9-8-6 | B | JANE D BEARDEN AND WILLIAM L BEARDEN | TH EXPLORATION LLC | 1/8+ | 1096 371 | N/A |
| 10*29616 | 9-8-6 | B | UNKNOWN HEIRS AND ASSIGNS OF LAWRENCE B OSTREY | TH EXPLORATION LLC | 1/8+ | 1096 339 | N/A |
| 10*29622 | 9-8-6 | B | BRADLEY B LEHNER | TH EXPLORATION LLC | 1/8+ | 1096 359 | N/A |
| 10*29624 | 9-8-6 | B | RACHAEL MARIA MCLARDY | TH EXPLORATION LLC | 1/8+ | 1096 353 | N/A |
| 10*29626 | 9-8-6 | B | HARRY ALBERT RICHARDSON | TH EXPLORATION LLC | 1/8+ | 1096 365 | N/A |
| 10*29628 | 9-8-6 | B | JANET M SMITH | TH EXPLORATION LLC | 1/8+ | 1096 347 | N/A |
| 10*29630 | 9-8-6 | B | UNKNOWN INTEREST OWNERS OF THE BERNARD E KURLICH FAMILY TRUST | TH EXPLORATION LLC | 1/8+ | 1096 331 | N/A |
| 10*29632 | 9-8-6 | B | UNKNOWN INTEREST OWNERS OF THE ROBERT WISE LIVING TRUST | TH EXPLORATION LLC | 1/8+ | 1096 323 | N/A |
| 10*31002 | 9-8-6 | B | MARK F HEUSER | CHEVRON USA INC | 1/8+ | 791 247 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31005 | 9-8-6 | B | GARY KEITH BERGER | CHEVRON USA INC | 1/8+ | 793 358 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31006 | 9-8-6 | B | TERRY WITHEROW AND JAY WITHEROW | CHEVRON USA INC | 1/8+ | 793 375 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |

| | | | | | | | | | | | | | | |
|----------|-------|---|--|-----------------|------|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 10*31007 | 9-8-6 | B | CAROL D ELMORE | CHEVRON USA INC | 1/8+ | 793 | 383 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31008 | 9-8-6 | B | NORMA V PRATICO | CHEVRON USA INC | 1/8+ | 794 | 532 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31009 | 9-8-6 | B | MARGARET LEE HALL | CHEVRON USA INC | 1/8+ | 795 | 414 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31010 | 9-8-6 | B | JULIANNE ERDOS | CHEVRON USA INC | 1/8+ | 795 | 57 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31011 | 9-8-6 | B | MARVIN C WILSON | CHEVRON USA INC | 1/8+ | 795 | 350 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31012 | 9-8-6 | B | JAMES P OVIES | CHEVRON USA INC | 1/8+ | 797 | 368 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31013 | 9-8-6 | B | BERTHA LYNN KLUG | CHEVRON USA INC | 1/8+ | 797 | 548 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31014 | 9-8-6 | B | CHERYL FOX BRAUCH | CHEVRON USA INC | 1/8+ | 800 | 489 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31015 | 9-8-6 | B | CAROL FOX VALLANDINGHAM | CHEVRON USA INC | 1/8+ | 800 | 564 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31016 | 9-8-6 | B | JESSICA M CHAVEZ | CHEVRON USA INC | 1/8+ | 804 | 393 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31017 | 9-8-6 | B | PHILIP A WILSON | CHEVRON USA INC | 1/8+ | 805 | 421 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31018 | 9-8-6 | B | JUANITA S HATCH LIVING TRUST DTD 2/16/1998 MARY MARTHA HATCH ACTING AS TRUSTEE | CHEVRON USA INC | 1/8+ | 831 | 438 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31019 | 9-8-6 | B | EDWARD F WILSON | CHEVRON USA INC | 1/8+ | 813 | 564 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31020 | 9-8-6 | B | MATTHEW L GROSSAINT | CHEVRON USA INC | 1/8+ | 818 | 6 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31021 | 9-8-6 | B | TROY THOMAS WILSON | CHEVRON USA INC | 1/8+ | 828 | 352 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31022 | 9-8-6 | B | ELLA JEAN MCCARDLE | CHEVRON USA INC | 1/8+ | 828 | 374 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31027 | 9-8-6 | B | LOU ANN GROSSAINT | CHEVRON USA INC | 1/8+ | 829 | 470 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31029 | 9-8-6 | B | JESSE ALLEN WILSON | CHEVRON USA INC | 1/8+ | 831 | 355 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31034 | 9-8-6 | B | APRIL DAWN HOGAN | CHEVRON USA INC | 1/8+ | 835 | 248 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |

| | | | | | | | | | | | | | | |
|----------|--------|---|---|--------------------|------|------|-----|-----|-----|-----|-----|-----|-----|--|
| 10*31035 | 9-8-6 | B | KIMBERLY SUE PIERSON | CHEVRON USA INC | 1/8+ | 835 | 271 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31036 | 9-8-6 | B | JOSEPH RICHARD FOX | CHEVRON USA INC | 1/8+ | 800 | 546 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31043 | 9-8-6 | B | DIANE M BAYLESS | CHEVRON USA INC | 1/8+ | 798 | 97 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31044 | 9-8-6 | B | DENNIS M WILSON | CHEVRON USA INC | 1/8+ | 798 | 97 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31045 | 9-8-6 | B | DAVID H WILSON | CHEVRON USA INC | 1/8+ | 798 | 77 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31046 | 9-8-6 | B | SANDRA JEAN WILSON | CHEVRON USA INC | 1/8+ | 794 | 605 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31047 | 9-8-6 | B | MARY CHRISTINE MCKENNA | CHEVRON USA INC | 1/8+ | 795 | 49 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31048 | 9-8-6 | B | LAURENCE E WILSON JR | CHEVRON USA INC | 1/8+ | 800 | 154 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31049 | 9-8-6 | B | ROBERT L ARCHER | CHEVRON USA INC | 1/8+ | 803 | 45 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31050 | 9-8-6 | B | KATHERINE JEAN CONNELLY | CHEVRON USA INC | 1/8+ | 803 | 30 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31051 | 9-8-6 | B | STEVEN M ARCHER | CHEVRON USA INC | 1/8+ | 803 | 38 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31052 | 9-8-6 | B | WILLIAM R WISE | CHEVRON USA INC | 1/8+ | 805 | 407 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*27229 | 9-3-17 | B | KENNETH ANDERSON BY DAVID C WHITE, SP COMM | TH EXPLORATION LLC | 1/8+ | 1068 | 311 | N/A |
| 10*21602 | 9-3-17 | C | CAROL STACY SAUNDERS | TH EXPLORATION LLC | 1/8+ | 959 | 289 | N/A |
| 10*21604 | 9-3-17 | C | WILLIAM EDWARD STACY AND JACQUELINE L STACY | TH EXPLORATION LLC | 1/8+ | 958 | 428 | N/A |
| 10*22616 | 9-3-17 | C | JAMES YOHO AND SANDRA YOHO | TH EXPLORATION LLC | 1/8+ | 968 | 281 | N/A |
| 10*22618 | 9-3-17 | C | DANIEL YOHO | TH EXPLORATION LLC | 1/8+ | 966 | 636 | N/A |
| 10*22721 | 9-3-17 | C | WINIFRED G TURNER | TH EXPLORATION LLC | 1/8+ | 988 | 134 | N/A |
| 10*22796 | 9-3-17 | C | MARLENE YOHO | TH EXPLORATION LLC | 1/8+ | 972 | 87 | N/A |
| 10*22880 | 9-3-17 | C | GREGORY K GLOVER | TH EXPLORATION LLC | 1/8+ | 977 | 85 | N/A |
| 10*22881 | 9-3-17 | C | MARLIS GLOVER | TH EXPLORATION LLC | 1/8+ | 977 | 87 | N/A |
| 10*23033 | 9-3-17 | C | MAXINE BEYSER | TH EXPLORATION LLC | 1/8+ | 977 | 346 | N/A |
| 10*23034 | 9-3-17 | C | NINA L KOVACS | TH EXPLORATION LLC | 1/8+ | 977 | 348 | N/A |
| 10*23107 | 9-3-17 | C | JOEL DAMON GLOVER | TH EXPLORATION LLC | 1/8+ | 983 | 620 | N/A |
| 10*23141 | 9-3-17 | C | DEBORAH A LOMBARDO | TH EXPLORATION LLC | 1/8+ | 984 | 7 | N/A |
| 10*23142 | 9-3-17 | C | KIMBERLY S GLOVER | TH EXPLORATION LLC | 1/8+ | 984 | 5 | N/A |
| 10*23161 | 9-3-17 | C | KATHLEEN J GLOVER | TH EXPLORATION LLC | 1/8+ | 983 | 618 | N/A |
| 10*23162 | 9-3-17 | C | AARON BOYLES AND TRACI BOYLES | TH EXPLORATION LLC | 1/8+ | 983 | 622 | N/A |
| 10*23163 | 9-3-17 | C | EDWIN WOOLLEY AND DEBORAH L WOOLLEY | TH EXPLORATION LLC | 1/8+ | 983 | 571 | N/A |
| 10*23176 | 9-3-17 | C | CAROL M YOHO | TH EXPLORATION LLC | 1/8+ | 984 | 9 | N/A |
| 10*23181 | 9-3-17 | C | MICHAEL L AND PEGGY ANNE GREENWOOD | TH EXPLORATION LLC | 1/8+ | 983 | 627 | N/A |
| 10*23192 | 9-3-17 | C | JEFFREY C YOHO | TH EXPLORATION LLC | 1/8+ | 984 | 472 | N/A |
| 10*23313 | 9-3-17 | C | DIANE DEVAULT | TH EXPLORATION LLC | 1/8+ | 988 | 136 | N/A |
| 10*23419 | 9-3-17 | C | GARY MCPHERON AND SHELLEY ANN MCPHERON | TH EXPLORATION LLC | 1/8+ | 988 | 492 | N/A |

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|----------|--------|---|---|--------------------|------|------|-----|-----|-----|-----|-----|-----|-----|--|
| 10*23420 | 9-3-17 | C | SALLY LEE ORTIZ RIVERA | TH EXPLORATION LLC | 1/8+ | 988 | 490 | N/A |
| 10*24781 | 9-3-17 | C | DENISE MARIE ROGERS AND GEORGE M ROGERS | TH EXPLORATION LLC | 1/8+ | 1027 | 578 | N/A |
| 10*24782 | 9-3-17 | C | RICHARD A HEUSER | TH EXPLORATION LLC | 1/8+ | 1027 | 572 | N/A |
| 10*24783 | 9-3-17 | C | BRUCE W JOHNSON AND TERRI L JOHNSON | TH EXPLORATION LLC | 1/8+ | 1027 | 569 | N/A |
| 10*25224 | 9-3-17 | C | MAUREEN WILSON | TH EXPLORATION LLC | 1/8+ | 1030 | 141 | N/A |
| 10*25701 | 9-3-17 | C | TIMOTHY KRUS AND BARBARA KRUS | TH EXPLORATION LLC | 1/8+ | 1034 | 239 | N/A |
| 10*25716 | 9-3-17 | C | RUSSELL BREDBENNER | TH EXPLORATION LLC | 1/8+ | 1035 | 23 | N/A |
| 10*26406 | 9-3-17 | C | PURPLEBURGH VENTURES, LLC | TH EXPLORATION LLC | 1/8+ | 1033 | 117 | N/A |
| 10*26410 | 9-3-17 | C | MARCELLUS TX MINERAL PRTRNR LTD | TH EXPLORATION LLC | 1/8+ | 1034 | 242 | N/A |
| 10*26411 | 9-3-17 | C | PENNMARC RESOURCES II LP | TH EXPLORATION LLC | 1/8+ | 1034 | 244 | N/A |
| 10*26412 | 9-3-17 | C | MCCROW ENERGY PARTNERS II LLC | TH EXPLORATION LLC | 1/8+ | 1034 | 247 | N/A |
| 10*26413 | 9-3-17 | C | WILDES MINERAL INTERESTS LLC | TH EXPLORATION LLC | 1/8+ | 1034 | 250 | N/A |
| 10*26414 | 9-3-17 | C | APPALACHIAN BASIN MINERALS LP | TH EXPLORATION LLC | 1/8+ | 1034 | 218 | N/A |
| 10*26631 | 9-3-17 | C | JOSEPH R ZBOZIEN | TH EXPLORATION LLC | 1/8+ | 1039 | 322 | N/A |
| 10*27106 | 9-3-17 | C | JASMINE LEIGH HALL PENA C/O ROBERT HALL | TH EXPLORATION LLC | 1/8+ | 1050 | 217 | N/A |
| 10*27229 | 9-3-17 | C | KENNETH ANDERSON BY DAVID C WHITE, SP COMM | TH EXPLORATION LLC | 1/8+ | 1068 | 311 | N/A |
| 10*28647 | 9-3-17 | C | BRYAN S LEHNER | TH EXPLORATION LLC | 1/8+ | 1076 | 65 | N/A |
| 10*29614 | 9-3-17 | C | JANE D BEARDEN AND WILLIAM L BEARDEN | TH EXPLORATION LLC | 1/8+ | 1096 | 371 | N/A |
| 10*29616 | 9-3-17 | C | UNKNOWN HEIRS AND ASSIGNS OF LAWRENCE B OSTREY | TH EXPLORATION LLC | 1/8+ | 1096 | 339 | N/A |
| 10*29622 | 9-3-17 | C | BRADLEY B LEHNER | TH EXPLORATION LLC | 1/8+ | 1096 | 359 | N/A |
| 10*29624 | 9-3-17 | C | RACHAEL MARIA MCLARDY | TH EXPLORATION LLC | 1/8+ | 1096 | 353 | N/A |
| 10*29626 | 9-3-17 | C | HARRY ALBERT RICHARDSON | TH EXPLORATION LLC | 1/8+ | 1096 | 365 | N/A |
| 10*29628 | 9-3-17 | C | JANET M SMITH | TH EXPLORATION LLC | 1/8+ | 1096 | 347 | N/A |
| 10*29630 | 9-3-17 | C | UNKNOWN INTEREST OWNERS OF THE BERNARD E KURLICH FAMILY TRUST | TH EXPLORATION LLC | 1/8+ | 1096 | 331 | N/A |
| 10*29632 | 9-3-17 | C | UNKNOWN INTEREST OWNERS OF THE ROBERT WISE LIVING TRUST | TH EXPLORATION LLC | 1/8+ | 1096 | 323 | N/A |
| 10*31002 | 9-3-17 | C | MARK F HEUSER | CHEVRON USA INC | 1/8+ | 791 | 247 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31005 | 9-3-17 | C | GARY KEITH BERGER | CHEVRON USA INC | 1/8+ | 793 | 358 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31006 | 9-3-17 | C | TERRY WITHEROW AND JAY WITHEROW | CHEVRON USA INC | 1/8+ | 793 | 375 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31007 | 9-3-17 | C | CAROL D ELMORE | CHEVRON USA INC | 1/8+ | 793 | 383 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31008 | 9-3-17 | C | NORMA V PRATICO | CHEVRON USA INC | 1/8+ | 794 | 532 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31009 | 9-3-17 | C | MARGARET LEE HALL | CHEVRON USA INC | 1/8+ | 795 | 414 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31010 | 9-3-17 | C | JULIANNE ERDOS | CHEVRON USA INC | 1/8+ | 795 | 57 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31011 | 9-3-17 | C | MARVIN C WILSON | CHEVRON USA INC | 1/8+ | 795 | 350 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31012 | 9-3-17 | C | JAMES P OVIES | CHEVRON USA INC | 1/8+ | 797 | 368 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31013 | 9-3-17 | C | BERTHA LYNN KLUG | CHEVRON USA INC | 1/8+ | 797 | 548 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31014 | 9-3-17 | C | CHERYL FOX BRAUCH | CHEVRON USA INC | 1/8+ | 800 | 489 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |

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|----------|--------|---|--|-----------------|------|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 10*31015 | 9-3-17 | C | CAROL FOX VALLANDINGHAM | CHEVRON USA INC | 1/8+ | 800 | 564 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31016 | 9-3-17 | C | JESSICA M CHAVEZ | CHEVRON USA INC | 1/8+ | 804 | 393 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31017 | 9-3-17 | C | PHILIP A WILSON | CHEVRON USA INC | 1/8+ | 805 | 421 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31018 | 9-3-17 | C | JUANITA S HATCH LIVING TRUST DTD 2/16/1998 MARY MARTHA HATCH ACTING AS TRUSTEE | CHEVRON USA INC | 1/8+ | 831 | 438 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31019 | 9-3-17 | C | EDWARD F WILSON | CHEVRON USA INC | 1/8+ | 813 | 564 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31020 | 9-3-17 | C | MATTHEW L GROSSAINT | CHEVRON USA INC | 1/8+ | 818 | 6 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31021 | 9-3-17 | C | TROY THOMAS WILSON | CHEVRON USA INC | 1/8+ | 828 | 352 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31022 | 9-3-17 | C | ELLA JEAN MCCARDLE | CHEVRON USA INC | 1/8+ | 828 | 374 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31027 | 9-3-17 | C | LOU ANN GROSSAINT | CHEVRON USA INC | 1/8+ | 829 | 470 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31029 | 9-3-17 | C | JESSE ALLEN WILSON | CHEVRON USA INC | 1/8+ | 831 | 355 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31034 | 9-3-17 | C | APRIL DAWN HOGAN | CHEVRON USA INC | 1/8+ | 835 | 248 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31035 | 9-3-17 | C | KIMBERLY SUE PIERSON | CHEVRON USA INC | 1/8+ | 835 | 271 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31036 | 9-3-17 | C | JOSEPH RICHARD FOX | CHEVRON USA INC | 1/8+ | 800 | 546 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31043 | 9-3-17 | C | DIANE M BAYLESS | CHEVRON USA INC | 1/8+ | 798 | 97 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31044 | 9-3-17 | C | DENNIS M WILSON | CHEVRON USA INC | 1/8+ | 798 | 97 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31045 | 9-3-17 | C | DAVID H WILSON | CHEVRON USA INC | 1/8+ | 798 | 77 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31046 | 9-3-17 | C | SANDRA JEAN WILSON | CHEVRON USA INC | 1/8+ | 794 | 605 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31047 | 9-3-17 | C | MARY CHRISTINE MCKENNA | CHEVRON USA INC | 1/8+ | 795 | 49 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31048 | 9-3-17 | C | LAURENCE E WILSON JR | CHEVRON USA INC | 1/8+ | 800 | 154 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |

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|----------|---------|---|---|---------------------------|------|------|-----|--|---|--|---|--|--|--|
| 10*31049 | 9-3-17 | C | ROBERT L ARCHER | CHEVRON USA INC | 1/8+ | 803 | 45 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31050 | 9-3-17 | C | KATHERINE JEAN CONNELLY | CHEVRON USA INC | 1/8+ | 803 | 30 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31051 | 9-3-17 | C | STEVEN M ARCHER | CHEVRON USA INC | 1/8+ | 803 | 38 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31052 | 9-3-17 | C | WILLIAM R WISE | CHEVRON USA INC | 1/8+ | 805 | 407 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*28092 | 9-8-7.1 | D | WV DEPART OF TRANSPORTATION DIV OF HIGHWAYS | TH EXPLORATION LLC | 1/8+ | 1073 | 370 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*28808 | 9-8-7.1 | D | HOLLY MARIE EBERSOLE | TH EXPLORATION LLC | 1/8+ | 1078 | 47 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*38639 | 9-3-15 | F | RAYMOND D DOBBS | CHESAPEAKE APPALACHIA LLC | 1/8+ | 677 | 229 | Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 21/565 | Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110 | Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424 | Merger - SWN Exchange Title LLC merged with and into SWN Production Company LLC: 19/624 | Statoil USA Onshore Properties Inc changed its name to Equinor USA Onshore Properties Inc: 2/427 | SWN Production Company LLC to TH Exploration LLC: 49/635 | Equinor USA Onshore Properties Inc to TH Exploration LLC: 49/615 |
| 10*19737 | 9-3-14 | I | ALICE BUZZARD | TH EXPLORATION LLC | 1/8+ | 948 | 195 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19738 | 9-3-14 | I | JAMES R BLAIR | TH EXPLORATION LLC | 1/8+ | 946 | 318 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19739 | 9-3-14 | I | ROBERT C BLAKE AND LYN BLAKE | TH EXPLORATION LLC | 1/8+ | 946 | 313 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19740 | 9-3-14 | I | TERRY L BLAKE | TH EXPLORATION LLC | 1/8+ | 946 | 311 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19741 | 9-3-14 | I | JOHN PURDY AND BRENDA S PURDY | TH EXPLORATION LLC | 1/8+ | 946 | 308 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19742 | 9-3-14 | I | CAROLE J WOOD | TH EXPLORATION LLC | 1/8+ | 946 | 316 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19922 | 9-3-14 | I | MARLENE GARIN | TH EXPLORATION LLC | 1/8+ | 946 | 320 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19924 | 9-3-14 | I | CHARLES W DOBBS AND JUDITH M DOBBS | TH EXPLORATION LLC | 1/8+ | 946 | 322 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19991 | 9-3-14 | I | BRADLEY S SCHERICH AND LEIGH SCHERICH | TH EXPLORATION LLC | 1/8+ | 948 | 192 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19992 | 9-3-14 | I | GARY F BLAKE AND DORIS E BLAKE | TH EXPLORATION LLC | 1/8+ | 948 | 197 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*21323 | 9-3-14 | I | TODD SCHERICH AND WANDA D SCHERICH | TH EXPLORATION LLC | 1/8+ | 946 | 324 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*22723 | 9-3-14 | I | LINDA SUE BENNETT AND THOMAS BENNETT | TH EXPLORATION LLC | 1/8+ | 968 | 276 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*22769 | 9-3-14 | I | NANCY JO FENN | TH EXPLORATION LLC | 1/8+ | 968 | 274 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*22770 | 9-3-14 | I | REBECCA LYNN RITZ AND THOMAS A RITZ | TH EXPLORATION LLC | 1/8+ | 968 | 272 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*22822 | 9-3-14 | I | DARLA J KLUKAS | TH EXPLORATION LLC | 1/8+ | 974 | 182 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*22824 | 9-3-14 | I | PEGGY ANNETTE GARDNER & ROBERT W GARDNER | TH EXPLORATION LLC | 1/8+ | 974 | 180 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*23227 | 9-3-14 | I | ROGER F CROSS | TH EXPLORATION LLC | 1/8+ | 984 | 478 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*24396 | 9-3-14 | I | ELEANOR CHAMBERS | TH EXPLORATION LLC | 1/8+ | 1023 | 166 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*26711 | 9-3-14 | I | CNX GAS COMPANY LLC | TH EXPLORATION LLC | 1/8+ | 1074 | 593 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*28446 | 9-3-14 | I | TIMOTHY R LINKOUS | TH EXPLORATION LLC | 1/8+ | 1072 | 375 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*28700 | 9-3-14 | I | ARTHUR AND VERA WORKMAN IRREVOCABLE TRUST | TH EXPLORATION LLC | 1/8+ | 1077 | 41 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*28854 | 9-3-14 | I | CHARLES HAWKINS AND CONSTANCE HAWKINS | TH EXPLORATION LLC | 1/8+ | 1077 | 258 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*28949 | 9-3-14 | I | SAMUEL W PHIPPS AND ALLISON M PHIPPS | TH EXPLORATION LLC | 1/8+ | 1078 | 447 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19634 | 9-9-6 | J | JANICE L PIETERSE | TH EXPLORATION LLC | 1/8+ | 960 | 153 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19637 | 9-9-6 | J | RANDY K AND ALICE E BOWER | TH EXPLORATION LLC | 1/8+ | 961 | 501 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19703 | 9-9-6 | J | WILLIAM M BECKER AND KATHARINE B BECKER | TH EXPLORATION LLC | 1/8+ | 944 | 616 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19880 | 9-9-6 | J | R RICK HYRE | TH EXPLORATION LLC | 1/8+ | 944 | 623 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*19930 | 9-9-6 | J | TODD W BULLARD AND BETH H BULLARD | TH EXPLORATION LLC | 1/8+ | 949 | 270 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*21243 | 9-9-6 | J | NORMAN B AND JO ELLEN KAUBLE | TH EXPLORATION LLC | 1/8+ | 952 | 394 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*21404 | 9-9-6 | J | WILLIAM W HYRE AND NOREEN M HYRE | TH EXPLORATION LLC | 1/8+ | 953 | 542 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*21499 | 9-9-6 | J | SAMUEL J RICKEY | TH EXPLORATION LLC | 1/8+ | 953 | 250 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*22525 | 9-9-6 | J | JOHN P RICKEY & ROSE HOWELL RICKEY | TH EXPLORATION LLC | 1/8+ | 964 | 525 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*23294 | 9-9-6 | J | GLENN GORCZYCA AND JANE GORCZYCA | TH EXPLORATION LLC | 1/8+ | 988 | 103 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*26711 | 9-9-6 | J | CNX GAS COMPANY LLC | TH EXPLORATION LLC | 1/8+ | 1074 | 593 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*27266 | 9-9-6 | J | UNKNOWN HEIRS OF DONALD E RICKEY & ANITA M RICKEY | TH EXPLORATION LLC | 1/8+ | 1052 | 121 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*27947 | 9-9-6 | J | STONE HILL MINERALS HOLDINGS LLC | TH EXPLORATION LLC | 1/8+ | 1063 | 568 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*22724 | 9-9-7.1 | K | RONI MICHELLE TOWE AND ROBERT T TOWE | TH EXPLORATION LLC | 1/8+ | 968 | 286 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

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| 10*26738 | 9-9-7 | L | JAMES R THOMAS & DEBORAH L THOMAS | TH EXPLORATION LLC | 1/8+ | 1041 | 153 | N/A |
| 10*22615 | 9-9-9.1 | M | DAVID D MURRAY AND MARY ANN MURRAY | TH EXPLORATION LLC | 1/8+ | 965 | 591 | N/A |
| 10*22745 | 9-9-9.1 | M | BONNIE J JENKINS | TH EXPLORATION LLC | 1/8+ | 968 | 288 | N/A |
| 10*23314 | 9-9-9.1 | M | CYNTHIA WATSON | TH EXPLORATION LLC | 1/8+ | 988 | 499 | N/A |
| 10*23353 | 9-9-9.1 | M | SHARON E MCDONALD AND HAROLD S MCDONALD | TH EXPLORATION LLC | 1/8+ | 988 | 495 | N/A |
| 10*25718 | 9-9-9.1 | M | KATHLEEN JEANNE B JENKINS | TH EXPLORATION LLC | 1/8+ | 1035 | 13 | N/A |
| 10*25719 | 9-9-9.1 | M | NICHOLE M JENKINS | TH EXPLORATION LLC | 1/8+ | 1035 | 17 | N/A |
| 10*26494 | 9-9-9.1 | M | JOHN P JENKINS | TH EXPLORATION LLC | 1/8+ | 1037 | 434 | N/A |
| 10*29231 | 9-9-9.1 | M | COLE DALE GRIMM | TH EXPLORATION LLC | 1/8+ | 1078 | 45 | N/A |
| 10*29244 | 9-9-9.1 | M | SHARON ANN PETERSON | TH EXPLORATION LLC | 1/8+ | 1086 | 501 | N/A |
| 10*29833 | 9-9-9.1 | M | SKYPOINT RESOURCES LLC | TH EXPLORATION LLC | 1/8+ | 1103 | 556 | N/A |
| 10*31023 | 9-9-9.1 | M | LUANN N HIMMELFARB | CHEVRON USA INC | 1/8+ | 828 | 403 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31024 | 9-9-9.1 | M | DOUGLAS A WAYSON | CHEVRON USA INC | 1/8+ | 828 | 610 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31025 | 9-9-9.1 | M | DAWNETTA MARIE WAYSON | CHEVRON USA INC | 1/8+ | 828 | 616 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31026 | 9-9-9.1 | M | DONALD CARMICHAEL | CHEVRON USA INC | 1/8+ | 829 | 225 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31028 | 9-9-9.1 | M | DAVID W CHAPMAN | CHEVRON USA INC | 1/8+ | 829 | 470 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31030 | 9-9-9.1 | M | ROBERT BRANDT WAYSON | CHEVRON USA INC | 1/8+ | 831 | 362 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31031 | 9-9-9.1 | M | GREGORY L CHAPMAN | CHEVRON USA INC | 1/8+ | 831 | 490 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31032 | 9-9-9.1 | M | SARAH LEONA MCGLONE | CHEVRON USA INC | 1/8+ | 831 | 537 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31033 | 9-9-9.1 | M | JUDITH ELLEN DOTY | CHEVRON USA INC | 1/8+ | 834 | 426 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31037 | 9-9-9.1 | M | LINDA S COLEMAN | CHEVRON USA INC | 1/8+ | 836 | 319 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31038 | 9-9-9.1 | M | MARGARET ANN JONES | CHEVRON USA INC | 1/8+ | 837 | 364 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31039 | 9-9-9.1 | M | PATRICK P TRUEX | CHEVRON USA INC | 1/8+ | 847 | 514 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31040 | 9-9-9.1 | M | JOSEPH B PATRELLO AND JUDITH M PATRELLO | CHEVRON USA INC | 1/8+ | 848 | 472 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31042 | 9-9-9.1 | M | DANIEL W CHAPMAN | CHEVRON USA INC | 1/8+ | 915 | 564 | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*22615 | 9-9-9 | N | DAVID D MURRAY AND MARY ANN MURRAY | TH EXPLORATION LLC | 1/8+ | 965 | 591 | N/A |
| 10*22745 | 9-9-9 | N | BONNIE J JENKINS | TH EXPLORATION LLC | 1/8+ | 968 | 288 | N/A |
| 10*23314 | 9-9-9 | N | CYNTHIA WATSON | TH EXPLORATION LLC | 1/8+ | 988 | 499 | N/A |
| 10*23353 | 9-9-9 | N | SHARON E MCDONALD AND HAROLD S MCDONALD | TH EXPLORATION LLC | 1/8+ | 988 | 495 | N/A |
| 10*25718 | 9-9-9 | N | KATHLEEN JEANNE B JENKINS | TH EXPLORATION LLC | 1/8+ | 1035 | 13 | N/A |

| | | | | | | | | | | | | | | |
|----------|---------|---|---------------------------------------|------------------------|------|------|-----|-----|-----|-----|-----|-----|-----|--|
| 10*25719 | 9-9-9 | N | NICHOLE M JENKINS | TH EXPLORATION LLC | 1/8+ | 1035 | 17 | N/A |
| 10*26494 | 9-9-9 | N | JOHN P JENKINS | TH EXPLORATION LLC | 1/8+ | 1037 | 434 | N/A |
| 10*28968 | 9-9-9 | N | VINCENT PATRELLO AND AMANDA PATRELLO | TH EXPLORATION LLC | 1/8+ | 1080 | 560 | N/A |
| 10*29231 | 9-9-9 | N | COLE DALE GRIMM | TH EXPLORATION LLC | 1/8+ | 1078 | 45 | N/A |
| 10*29244 | 9-9-9 | N | SHARON ANN PETERSON | TH EXPLORATION LLC | 1/8+ | 1086 | 501 | N/A |
| 10*29833 | 9-9-9 | N | SKYPOINT RESOURCES LLC | TH EXPLORATION LLC | 1/8+ | 1103 | 556 | N/A |
| 10*31023 | 9-9-9 | N | LUANN N HIMMELFARB | CHEVRON USA INC | 1/8+ | 828 | 403 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31024 | 9-9-9 | N | DOUGLAS A WAYSON | CHEVRON USA INC | 1/8+ | 828 | 610 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31025 | 9-9-9 | N | DAWNETTA MARIE WAYSON | CHEVRON USA INC | 1/8+ | 828 | 616 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31026 | 9-9-9 | N | DONALD CARMICHAEL | CHEVRON USA INC | 1/8+ | 829 | 225 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31028 | 9-9-9 | N | DAVID W CHAPMAN | CHEVRON USA INC | 1/8+ | 829 | 470 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31030 | 9-9-9 | N | ROBERT BRANDT WAYSON | CHEVRON USA INC | 1/8+ | 831 | 362 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31031 | 9-9-9 | N | GREGORY L CHAPMAN | CHEVRON USA INC | 1/8+ | 831 | 490 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31032 | 9-9-9 | N | SARAH LEONA MCGLONE | CHEVRON USA INC | 1/8+ | 831 | 537 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31033 | 9-9-9 | N | JUDITH ELLEN DOTY | CHEVRON USA INC | 1/8+ | 834 | 426 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31037 | 9-9-9 | N | LINDA S COLEMAN | CHEVRON USA INC | 1/8+ | 836 | 319 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31038 | 9-9-9 | N | MARGARET ANN JONES | CHEVRON USA INC | 1/8+ | 837 | 364 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31039 | 9-9-9 | N | PATRICK P TRUEX | CHEVRON USA INC | 1/8+ | 847 | 514 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*31042 | 9-9-9 | N | DANIEL W CHAPMAN | CHEVRON USA INC | 1/8+ | 915 | 564 | N/A | N/A | N/A | N/A | N/A | N/A | Chevron USA Inc to TH Exploration II LLC: 45/593 |
| 10*23285 | 9-9-8.1 | P | DIANA MAE PIATT | TH EXPLORATION LLC | 1/8+ | 984 | 476 | N/A |
| 10*39474 | 9-9-8 | Q | SHERMAN E SR & AMARYLISS J KNOX | TH EXPLORATION LLC | 1/8+ | 1120 | 493 | N/A |
| 10*17969 | 7-1-4 | T | BOUNTY MINERALS LLC | TH EXPLORATION LLC | 1/8+ | 928 | 424 | N/A |
| 10*19490 | 7-1-4 | T | BRIAN C AND SARA M LUTZ | TH EXPLORATION LLC | 1/8+ | 943 | 19 | N/A |
| 10*19705 | 7-1-4 | T | LOUIS J ELIAS AND LOUIS J ELIAS JR | TH EXPLORATION LLC | 1/8+ | 944 | 633 | N/A |
| 10*19744 | 7-1-4 | T | JILL L HENNEN AND ALEXANDER O BARNETT | TH EXPLORATION LLC | 1/8+ | 944 | 635 | N/A |
| 10*21448 | 7-1-4 | T | JAMES L BLAKE | TH EXPLORATION LLC | 1/8+ | 957 | 264 | N/A |
| 10*25589 | 7-1-4 | T | CHESTNUT HOLDINGS INC | FOSSIL CREEK OHIO, LLC | 1/8+ | 848 | 256 | N/A | N/A | N/A | N/A | N/A | N/A | Fossil Creek Ohio LLC to American Petroleum Partners Operating LLC: 40/477 |
| 10*26562 | 7-1-4 | T | MARTHA SUE FORBES | TH EXPLORATION LLC | 1/8+ | 1038 | 510 | N/A | N/A | N/A | N/A | N/A | N/A | American Petroleum Partners Operating LLC to TH Exploration LLC: 43/503 |

| | | | | | | | | | | | | | | |
|----------|--------|---|--|---------------------------------|------|------|-----|-----|-----|-----|-----|--|--|---|
| 10*26563 | 7-1-4 | T | SCOTT SHOTT AIF JOY A SHOTT | TH EXPLORATION LLC | 1/8+ | 1038 | 513 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*26632 | 7-1-4 | T | MORGAN GIBSON | TH EXPLORATION LLC | 1/8+ | 1039 | 319 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*26636 | 7-1-4 | T | THOMAS SHOTT | TH EXPLORATION LLC | 1/8+ | 1039 | 316 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*26691 | 7-1-4 | T | DANIEL C SHOTT | TH EXPLORATION LLC | 1/8+ | 1041 | 218 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*26970 | 7-1-4 | T | THE ESTATE OF JOHN C SHOTT | TH EXPLORATION LLC | 1/8+ | 1046 | 190 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*26971 | 7-1-4 | T | GRACE R SHOTT-CLARDY | TH EXPLORATION LLC | 1/8+ | 1046 | 194 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*27090 | 7-1-4 | T | HUGH I SHOTT II AIF BETTY SHOTT | TH EXPLORATION LLC | 1/8+ | 1053 | 9 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*27091 | 7-1-4 | T | BRIDGITTE BLAYKE JONES | TH EXPLORATION LLC | 1/8+ | 1050 | 204 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*27092 | 7-1-4 | T | JAMES H SHOTT III | TH EXPLORATION LLC | 1/8+ | 1050 | 201 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*28172 | 7-1-4 | T | BETTY BROWN GORDON | TH EXPLORATION LLC | 1/8+ | 1067 | 394 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*28329 | 7-1-4 | T | UNKNOWN HEIRS OF JOSEPH HITE BILLES AND THE BLODWEN H COURTNEY REVOCABLE TRUST | TH EXPLORATION LLC | 1/8+ | 1068 | 135 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*28630 | 7-1-4 | T | UNKNOWN INTEREST OWNERS OF THE NANCY BROWN HEREFORD REVOCABLE LIVING TRUST | TH EXPLORATION LLC | 1/8+ | 1072 | 408 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*28898 | 7-1-4 | T | PAIGE FRANCIS | TH EXPLORATION LLC | 1/8+ | 1076 | 314 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*28929 | 7-1-4 | T | SUSAN SHRIVER | TH EXPLORATION LLC | 1/8+ | 1077 | 14 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*30043 | 7-1-4 | T | STONE HILL MINERALS HOLDINGS LLC | TH EXPLORATION LLC | 1/8+ | 1098 | 366 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 10*25518 | 7-8-2 | U | DANNY S KERNS | AMERICAN PETROLEUM PARTNERS LLC | 1/8+ | 1010 | 532 | N/A | N/A | N/A | N/A | N/A | N/A | American Petroleum Partners Operating LLC to TH Exploration LLC: 43/515 |
| 10*25520 | 7-8-2 | U | DEENA J PALOMO | AMERICAN PETROLEUM PARTNERS LLC | 1/8+ | 1009 | 357 | N/A | N/A | N/A | N/A | N/A | N/A | American Petroleum Partners Operating LLC to TH Exploration LLC: 43/515 |
| 10*25522 | 7-8-2 | U | REGINA D FIGUEROA | AMERICAN PETROLEUM PARTNERS LLC | 1/8+ | 1010 | 535 | N/A | N/A | N/A | N/A | N/A | N/A | American Petroleum Partners Operating LLC to TH Exploration LLC: 43/515 |
| 10*25508 | 7-8-14 | V | THE AMY M TOUPS FAMILY TRUST OF 2013 DATED JUNE 14, 2013 | FOSSIL CREEK OHIO, LLC | 1/8+ | 827 | 119 | N/A | N/A | N/A | N/A | Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/337 | Gulfport Energy Corporation and Fossil Creek Ohio LLC to American Petroleum Partners Operating LLC: 36/588 | American Petroleum Partners Operating LLC to TH Exploration LLC: 43/515 |
| 10*25509 | 7-8-14 | V | ELIZABETH A PADDEN | FOSSIL CREEK OHIO, LLC | 1/8+ | 827 | 123 | N/A | N/A | N/A | N/A | Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/337 | Gulfport Energy Corporation and Fossil Creek Ohio LLC to American Petroleum Partners Operating LLC: 36/588 | American Petroleum Partners Operating LLC to TH Exploration LLC: 43/515 |
| 10*25510 | 7-8-14 | V | JOHN M PADDEN | FOSSIL CREEK OHIO, LLC | 1/8+ | 827 | 121 | N/A | N/A | N/A | N/A | Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/337 | Gulfport Energy Corporation and Fossil Creek Ohio LLC to American Petroleum Partners Operating LLC: 36/588 | American Petroleum Partners Operating LLC to TH Exploration LLC: 43/515 |
| 10*25501 | 7-8-13 | W | AMP FUND III LP | AMERICAN PETROLEUM PARTNERS LLC | 1/8+ | 925 | 459 | N/A | N/A | N/A | N/A | N/A | N/A | American Petroleum Partners Operating LLC to TH Exploration LLC: 43/503 |



December 2, 2021

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

RE: Willett S-16HU

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.

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

Sincerely,

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

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

CERTIFICATE OF CONSENT AND EASEMENT

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, hereby consents and grants 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 (parcels 9-8-5 and 9-8-6).

Executed this 9th day of May, 2019.

Marshall County
Jan Pest, Clerk
Instrument 1454068
05/13/2019 @ 01:53:39 PM
RIGHT OF WAY W/O CONSIDERATION
Book 1040 @ Page 561
Pages Recorded 2
Recording Cost \$ 11.00

LLC
CNX LAND, INC.
By: [Signature]

Name: ERIC A. LAUSE

Title: Assistant Vice President

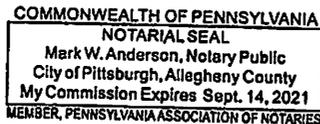
COMMONWEALTH OF PENNSYLVANIA

SS:

COUNTY OF WASHINGTON

On this, the 9th day of May, 2019, before me, a notary public, the undersigned officer, personally appeared Eric A. Lause who acknowledged himself/herself to be the Assistant Vice President of CNX Land, Inc. and that he/she as such, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the company by himself/herself as Assistant Vice President.

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



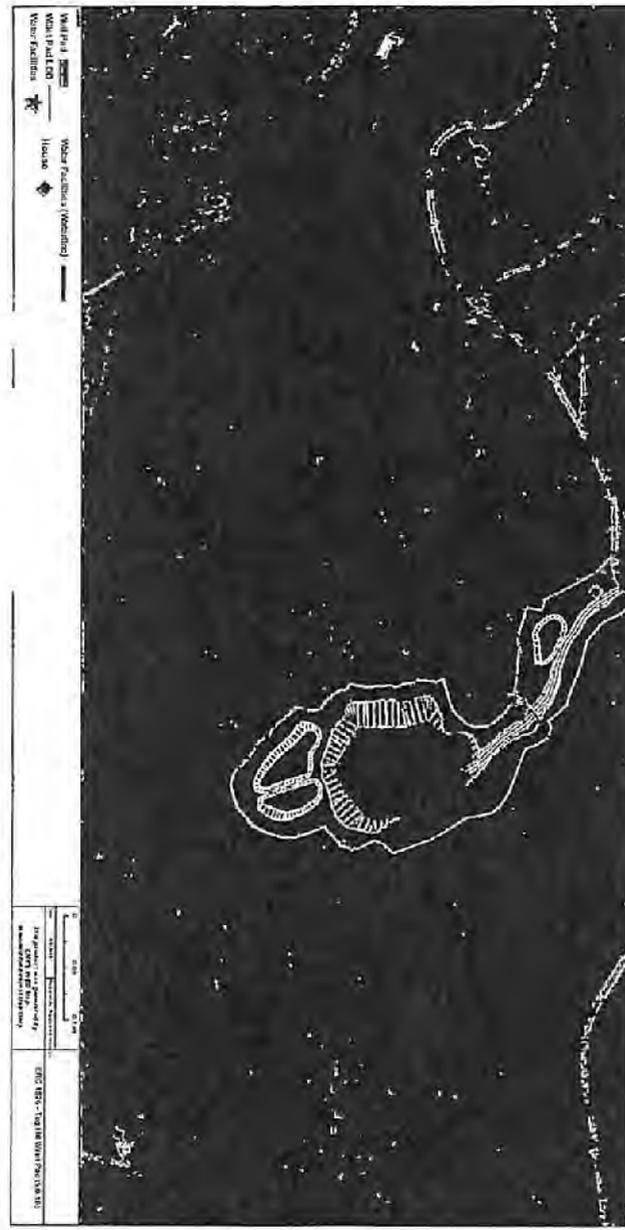
My Commission Expires: 9/14/2021
Signature/Notary Public: [Signature]
Name/Notary Public (print): Mark W. Anderson

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

4838-2618-8605v2

ERC 1526 - Willet Pad

PLAT



4838-2618-8605v2

ERC 1526 - Willet Pad

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 9th day of May, 2019, was presented for and by me, admitted to record in my office upon the above certificate as to the parties therein named this 13th day of May, 2019 at 1:53 o'clock P.M.

TESTE: Jan Pest Clerk

ASSIGNMENT AND CONVEYANCE

This Assignment and Conveyance (this "*Assignment*") is from EQUINOR USA ONSHORE PROPERTIES, INC., a Delaware corporation ("*Assignor*"), to TH Exploration, LLC, a Texas limited liability company ("*Assignee*"), and is executed on October 18, 2021 (the "*Effective Date*"). Assignor and Assignee may be referred to herein collectively as the "*Parties*," or individually as a "*Party*." Capitalized terms used herein but not otherwise defined herein (including in Section 3.7) shall have the meanings given such terms in that certain Acreage Trade Agreement between the Assignor and the Assignee dated June 15, 2021 (the "*Acreage Trade Agreement*").

**ARTICLE 1
ASSIGNMENT OF ASSETS**

Section 1.1 Assignment. For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor hereby GRANTS, BARGAINS, ASSIGNS, CONVEYS AND TRANSFERS unto Assignee all of Assignor's right, title and interest in and to (i) the oil and gas leases described in more detail on Exhibit A attached hereto (the "*Leases*") INsofar AND ONLY INsofar as they cover those lands described on Exhibit A and Exhibit A-1 (the "*Leasehold Rights*") and (ii) any surface use agreements that relate to such Leasehold Rights (collectively with the Leasehold Rights, the "*Conveyed Assets*").

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

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

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

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

Section 2.2 Disclaimers of Warranties and Representations.

STATE OF WEST VIRGINIA §
§
COUNTY OF MARSHALL §

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "**Assignment**") is made and entered into this 23rd day of April, 2019 (the "**Effective Date**"), by and between **AMERICAN PETROLEUM PARTNERS OPERATING, LLC**, (hereinafter "**Assignor**") and **TH EXPLORATION, LLC** (hereinafter "**Assignee**") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated November 15, 2018 (the "**Acreage Trade Agreement**"). Capitalized terms used but not defined herein and defined in the Acreage Trade Agreement shall have the meanings given to such terms in the Acreage Trade Agreement.

WITNESSETH:

WHEREAS, Assignor desires to assign, set over, and transfer to Assignee all of Assignor's right, title, and interest in and to those certain Oil and Gas Leases situated in Marshall County, West Virginia, as described in **Exhibit A-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.

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

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

Assignor represents and warrants that Assignor has paid any and all bonuses, rentals, royalties, overriding royalties, and other payments required by the Leases which were due for the period in which Assignor held its interests in the Leases, and that Assignor has fully performed all conditions necessary to maintain the Leases in full force and effect during such period, free and clear of all Encumbrances, except for and subject only to Permitted Encumbrances.

3. **Successors and Assigns**. The terms of this Assignment shall be binding upon and inure to the benefit of the parties hereto and each of their respective successors



September 1, 2021

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

RE: Willett S-16HU

Subject: Marshall County Route 62/1 and County Route 90

Dear Taylor:

Tug Hill Operating, LLC (THO) hereby submits this letter as confirmation that THO has obtained the right to drill, extract and produce the minerals under Marshall County Route 62/1 and County Route 90 in the area reflected on the Willett S-16HU 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.

Sincerely,

A handwritten signature in cursive script that reads "Amy Morris".

Amy Morris
Permit Specialist – Appalachia Region
Cell 304-376-0111
Email: amorris@tug-hilop.com

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

Date of Notice Certification: 12/02/2021

API No. 47- 051 - _____
Operator's Well No. Willett S-16HU
Well Pad Name: Willett

Notice has been given:

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

| | | | | |
|-------------|-----------------------------------|---------------------------|------------------------------|---------------------|
| State: | <u>West Virginia</u> | UTM NAD 83 | Easting: | <u>529,418.72</u> |
| County: | <u>Marshall</u> | | Northing: | <u>4,408,171.18</u> |
| District: | <u>Meade</u> | Public Road Access: | <u>CR 62 New Bethel Road</u> | |
| Quadrangle: | <u>Glen Easton 7.5'</u> | Generally used farm name: | <u>CNX Land, LLC</u> | |
| Watershed: | <u>Middle Fish Creek - HUC 10</u> | | | |

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

| | |
|---|---|
| <p>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:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><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</p> <p style="padding-left: 40px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p> | <p>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> |
|---|---|

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.

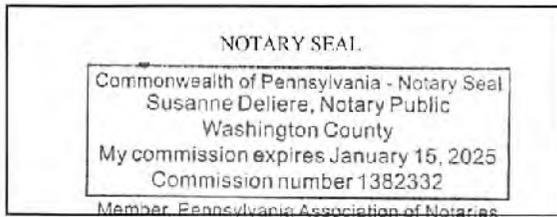
01/28/2022

Certification of Notice is hereby given:

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

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

Address: 380 Southpointe Boulevard, Plaza II, Suite 200
Canonsburg, PA 15317
Facsimile: 724-338-2030
Email: amorris@tug-hilop.com



Subscribed and sworn before me this 20th day of December 2021
Susanne Deliere Notary Public
My Commission Expires 1/15/2025

Oil and Gas Privacy Notice:

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

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

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

Date of Notice: 12/1/2021 **Date Permit Application Filed:** 12/2/2021

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: CNX Land Resources, LLC Attn: Casey Saunders /

Address: 1000 Consol Energy Drive
1000 Consol Energy Drive

Name: _____

Address: _____

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

Name: _____

Address: _____

Name: _____

Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: _____

Address: _____

COAL OWNER OR LESSEE

Name: Consolidation Coal Company /

Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

COAL OPERATOR

Name: Marshall County Coal Resources, Inc. Attn: Steve Bair /

Address: 46226 National Road
St. Clairsville, OH 43950

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

Name: *see attached

Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: _____

Address: _____

*Please attach additional forms if necessary

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

Well Location Restrictions

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

examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

Water Well Testing:

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

Water Testing Laboratories:

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

Written Comment:

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

01/28/2022

Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

WW-6A
(8-13)

API NO. 47-051 -
OPERATOR WELL NO. Willatt S-16HU
Well Pad Name: Willatt

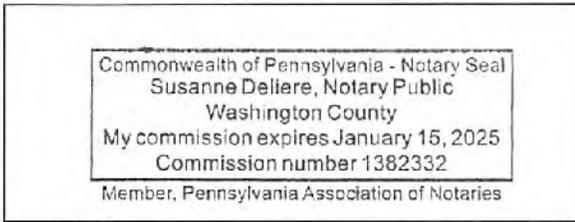
Notice is hereby given by:

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

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 deprivacyofficer@wv.gov.



Subscribed and sworn before me this 12th day of November 2021
Susanne Deliere Notary Public
My Commission Expires 1/15/2025

Exhibit WW-6A**Supplement Pg. 1A**

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

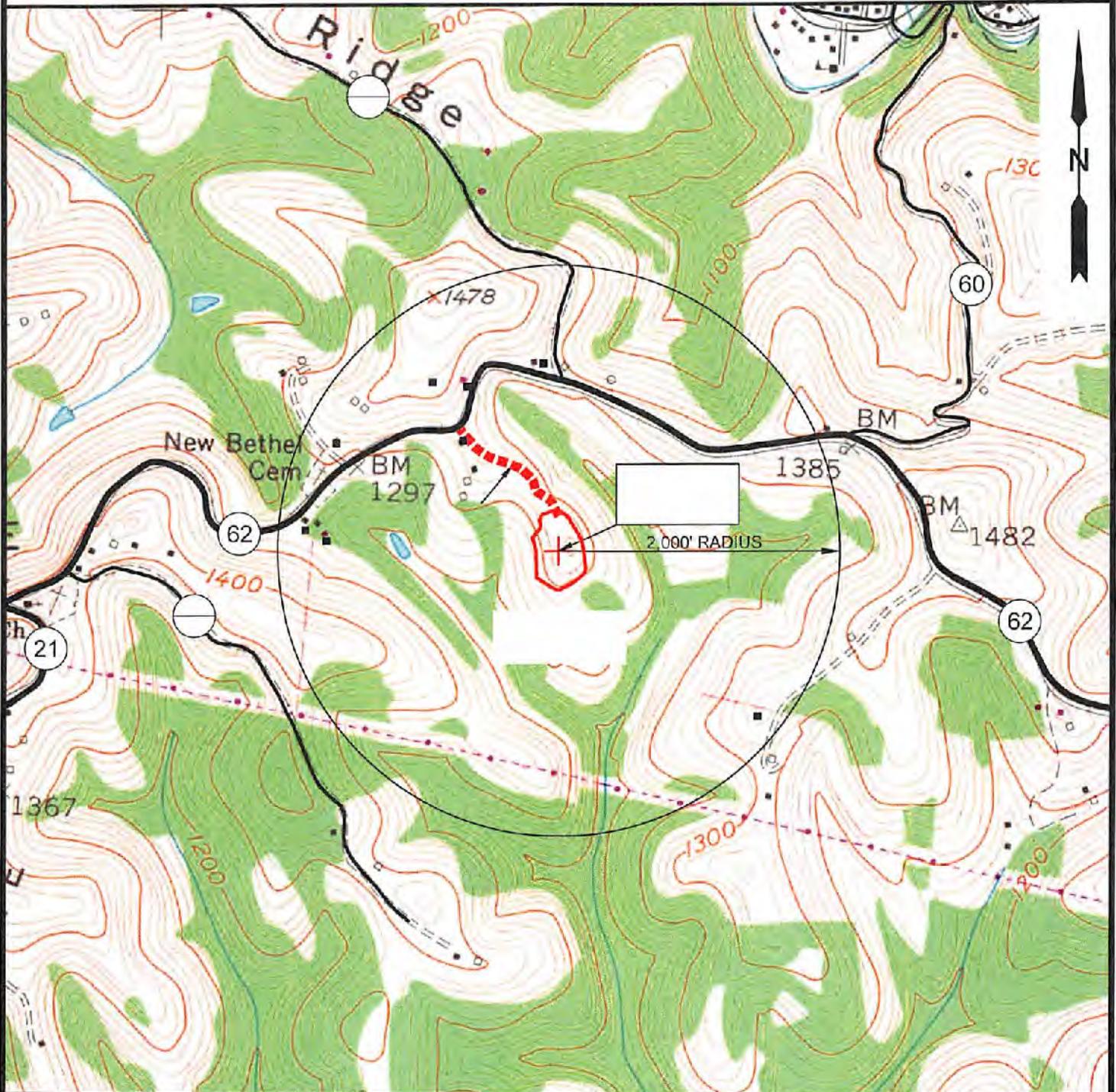
Residences within Two-Thousand Feet (2,000')

Well: Willett S – 16HU
 District: Meade
 State: WV

There are eight (8) residences, no business or commercial sites, no churches, no schools or emergency facilities within two-thousand feet (2,000') of the above referenced well location.

| | | |
|---|---|--|
| Residence (#1) TM 8 Pcl. 6 CNX Land, LLC Phone: None Found Physical Address: 819 New Bethel Rd Glen Easton, WV 26039 Tax Address: 1000 Consol Energy Dr. Canonsburg, PA 15317-6506 | Residence (#2) TM 8 Pcl. 6.1 Kayla E. Bratton Phone: 304-845-8266 Physical Address: Kayla Bratton (Reverse Address) 860 New Bethel Rd Glen Easton, WV 26039 Tax Address: Same | Residence (#3) TM 8 Pcl. 5.2 Amy Evans & Karen Whetzal Phone: 304-686-2827; 304-843-0902 (Larry Conkle) Physical Address: Larry Conkle (Reverse Address) 756 New Bethel Rd Glen Easton, WV 26039 Tax Address: Same |
| Residence (#4) TM 3 Pcl. 17 CNX Land, LLC Phone: 304-845-0038 (Leah Kestner) Physical Address: Leah Kestner (Reverse Address) 40 Carmichael Ln Glen Easton, WV 26039 Tax Address: 1000 Consol Energy Dr. Canonsburg, PA 15317-6506 | Residence (#5) TM 8 Pcl. 9 James Richard Blake, Et Ux Phone: None Found – Reverse Address Physical Address: 295 Homestead Ln. Glen Easton, WV 26039 Tax Address: Same | Residence (#6) TM 8 Pcl. 5.1 Raymond E. & Cindy L. White Phone: 304-845-4529 (Raymond White) Physical Address: Ruth Siburt (Reverse Address) 575 New Bethel Rd Glen Easton, WV 26039 Tax Address: 656 New Bethel Rd. Glen Easton, WV 26039 |
| Residence (#7) TM 3 Pcl. 19 Raymond E. & Cindy L. White Phone: 304-845-4529 (Raymond White); 903-276-5846 (Gary Whitlatch) Physical Address: Gary Whitlatch (Reverse Address) 569 New Bethel Rd Glen Easton, WV 26039 Tax Address: 656 New Bethel Rd. Glen Easton, WV 26039 | Residence (#8) TM 3 Pcl. 18.2 Raymond E. & Cindy L. White Phone: 304-845-4529; 304-843-5087 (Matthew Meyer) Physical Address: Matthew Meyer (Reverse Address) 692 New Bethel Rd Glen Easton, WV 26039 Tax Address: 656 New Bethel Rd Glen Easton, WV 26039 | |

PROPOSED WILLETT S - 16HU



NOTE: THERE APPEARS TO BE EIGHT (8) POSSIBLE WATER SOURCES WITHIN 2,000'.



12 Vinhorn Drive | P.O. Box 150 | Glenville, WV 26031 | 304.482.5634
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
 254 East Beckley Bypass | Beckley, WV 25801 | 304.755.5296
 slswv.com

| | | | |
|------------------|----------|-------------------------|------------|
| TOPO SECTION: | | OPERATOR: | |
| GLEN EASTON 7.5' | | PREPARED FOR: | |
| COUNTY | DISTRICT | TUG HILL OPERATING, LLC | |
| MARSHALL | MEADE | 390 SOUTHPOINTE BLVD | |
| | | SUITE 200 | |
| | | CANONSBURG, PA 15317 | |
| DRAWN BY | JOB NO. | DATE | SCALE |
| K.G.M. | 8939 | 12/01/2021 | 1" = 1000' |



TUG HILL
OPERATING

01/28/2022

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: 6/4/2019 **Date of Planned Entry:** 6/11/2019

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: CNX Land Resources, LLC Attn: Casey Saunders
Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

Name: _____
Address: _____

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: Consolidation Coal Company
Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

MINERAL OWNER(s)

Name: Appalachian Basin Minerals, LP *See attached list
Address: 8235 Douglas Avenue, Suite 815
Dallas, TX 75225

*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: 39.82306349; -80.65626349
Public Road Access: New Bathel Road (County Route 62)
Watershed: Middle Fish Creek
Generally used farm name: CNX Land Resources, 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 57th 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.

Notice is hereby given by:

Well Operator: Tug Hill Operating, LLC
Telephone: 724-749-8388
Email: amiller@tug-hillcp.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.

01/28/2022

WW-6A3 Notice of Entry for Plat Survey

Willet Pad

Additional Mineral Owners

Carol Vallandingham
2430 Venetian Way
Burlington, KY 41005

Cheryl Brauch
6670 Snead Ln.
Florence, KY 41042

Teresa R. Fox
106 Brookside Ave
Ewing, NJ 08638

Juanita S. Hatch
1437 North Overland Trails Dr.
Washington, UT 84780

Bruce Johnson
6272 Highland Meadows Dr
Medina, OH 44256

Diane DeVault
9315 Brandywine Rd
Northfield, OH 44067

Bertha Lynn Klug
47 Shutler Ln.
Proctor, WV 26055

Marcellus TX Mineral Partners, Ltd.
307 West 7th St, Ste 1110
Fort Worth, TX 76102

McCrow Energy Partners II, LLC
8235 Douglas Ave., Ste 815
Dallas, TX 75225

Matthew Grossaint
4820 132 PI SE
Mill Creek, WA 96012

Lou Ann Grossaint
1920 S. Atlantic St
Boise, ID 83705

Rachel Marie McLardy
5808 Medusa St
P.O. Box 931
Sechelt, British Columbia, VON 3A0

01/28/2022

PennMarc Resources II, LP ✓
2 East Market St., Ste 1
Clearfield, PA 16830

Purpleburgh Ventures, LLC ✓
4675 Carfefree Trail
Parker, CO 80134

Wildes Mineral Interests, LLC ✓
3517 Gillon Ave.
Dallas, TX 75205

Phillip A. Wilson
1715 Lancaster Dr ✓
Youngstown, OH 44511

Jessica M. Chavez
5525 Alta Verde Cir ✓
Arlington, TX 76017

Edward F. Wilson
2933 Hastings Dr
Grand Prairie, TX 75052

Denise Marie Rogers
9671 King Graves Rd NE
Warren, OH 44484

Julianne Erdos ✓
119 Noran Cir
Bedford, OH 44146

The Robert Wise Living Trust ✓
Trustee: Shirley Hagenbaugh
529 Genoa Dr
Kissimmee, FL 34759

Harry Albert Richardson ✓
19819 10th Ave NW
Shoreline, WA 98177

Rev. Jane D. Bearden
19106 Timothy's Manor Ct
Parkton, MD 21120 ✓

Janet M. Smith
122 Kandahar Dr ✓
East Aurora, NY 14052

Brad Lehner ✓
2570 Chasewood Ct
Aurora, IL 60502

Bryan S. Lehner
372 5th Ave Apt 4J ✓
New York, NY 10018

01/28/2022

Barbara Krus
421 Fox Chapel Dr
Lutherville Timonium, MD 21093

Maureen Wilson
12 Juliet Ln Apt 102
Nottingham, MD 21236

Russell Bredbenner
965 Seybert St
Hazelton, PA 18201

Joseph R. Zbozien
704 Pontiac Ave
Brooklyn, MD 21225

Jasmine Lee Hall Pena
c/o Robert A Hall
4400 Falls Rd
Baltimore, MD 21211

William Edward Stacy
116 Ocoee Falls Dr
Chapel Hill, NC 27517

Carol Stacy Saunders
4149 Andros Way
Oceanside, CA 92056

Carol D. Elmore
6461 Mesquite Dr
Midlothian, TX 76065

James S. Wilson
6306 Farley Dr
San Diego, CA 92122

Margaret Lee Hall
2910 Avenida De Auytan
Camarillo, CA 93010

Marvin Wilson
214 Saint Andrews Cir
Oxford, MS 38655

James Ovies
1204 5th St
Moundsville, WV 26041

Rick Heuser
162 Lawrence Lane
Reynoldsburg, OH 43068

Mark Heuser
209 Cherokee Ct
Pickerington, OH 43147

01/28/2022

6A3

Cindy Lee Richmond
157 Richmond Ln
Glen Easton, WV 26039

Berger Boys, LLC
1305 Center St
Moundsville, WV 26041

Ella Jean McCardle
348 Fairmont Ave
Wheeling, WV 26003

Jesse Allen Wilson
49 Forest Hill Dr
Glen Dale, WV 26038

Troy Thomas Wilson
49 Forest Hill Dr
Glen Dale, WV 26038

April Dawn Hogan
5032 Castleman Run Rd
Bethany, WV 26032

Kimberly Sue Pierson
30 Forest Hill Dr
Glen Dale, WV 26038

Kenneth R. Anderson
1706 N Washington Ave
Springfield, MO 65803

Charles Pratico
25 Hamilton Ave
Princeton, NJ 08542

Marietta Agocs
50 Orourke Dr Apt O
Trenton, NJ 08691

Eileen Sennett
10 Orchard Dr
Chesterfield, NJ 08515

Patricia Cassady
46 Heather Narrows
Toms River, NJ 08755

Sharon Bucci
120 7th Ave
Seaside Park, NJ 08752

Amy Pratico
19 E Railroad Ave
Jamesburg, NJ 08831

01/28/2022

Abigail Constance ✓
612 East Rd
Middletown, NJ 07748

Rachel Constance ✓
36 Cherokee Ave
Rockaway, NJ 07866

Lawrence Bernard Ostry Estate, by
Rachael Marie McLardy as Trustee ✓
5808 Medusa Street, PO Box 931
Sechely, British Columbia, V0N 3A0

The Bernard E. Kurlich Family Trust ✓
c/o Richard P. Martin Co. L.P.A.
3603 Darrow Rd.
Stow, OH 44224

Joseph Richard Fox ✓
2116 Autumn Way
Melbourne, FL 32935

Norma V. Pratico ✓
821 River Road
Yardley, PA 19067

James R. Blair ✓
1400 10th Street
Moundsville, WV 26041

01/28/2022



PLANNED ADDITIVES TO BE USED IN FRACTURING OR STIMULATION

Willett Wells

| PRODUCT NAME: | CHEMICAL DESCRIPTION: | PRODUCT USE: | HAZARDOUS COMPONENT: |
|----------------------|----------------------------------|---------------------|--|
| GBW-20C | Hemicellulase Breaker | Breaker - Water | None |
| ALPHA 1427 | | Biocide | Glutaraldehyde – CAS#000111-30-8 Quaternary ammonium chloride CAS# 007173-51-5 Alky dimethyl benzyl ammonium Chloride (C12-16) – CAS#068424-85-1 Ethanol – CAS# 000064-17-5 Water – CAS# 007732-18-5 |
| FRAC SAND | Silica Sand (various Mesh sizes) | Proppant | Crystalline silica (quartz) CAS# 14808-60-7 |
| S-8C, Sand | Silica Sand (100 mesh) | Sand | Silica – CAS# 14808-60-7 |
| GW-3LDF | | Gellant - Water | Petroleum Distillate Blend – Proprietary, (Not Associated with Diesel Fuel) Guar gum – CAS# 009000-30-0 |
| FRW-18 | | Friction Reducer | Hydrotreated light distillate CAS# 064742-47-8 |
| Scaletrol | | Scale Inhibitor | Ethylene glycol – CAS# 000107-21-1 Diethylene glycol – CAS# 000111-46-6 |



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

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

July 6, 2021

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

Subject: DOH Permit for the Willett Pad, Marshall County
Willett S-16HU Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2019-0352 which has been issued to Tug Hill Operating for access to the State Road for a well site located off Marshall County Route 62 SLS MP 0.80.

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

Very Truly Yours,

A handwritten signature in blue ink that reads "Gary K. Clayton".

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

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

01/28/2022

