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west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Tuesday, July 24, 2018  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

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

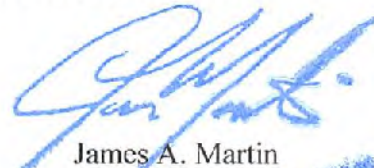
Re: Permit Modification Approval for TEN HIGH 1N-2HM  
47-051-01934-00-00

**Lateral Extension and Surface Move**

TUG HILL OPERATING, LLC

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before 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: TEN HIGH 1N-2HM  
Farm Name: LAWRENCE & SHIRLEY CONKLE ESTS  
U.S. WELL NUMBER: 47-051-01934-00-00  
Horizontal 6A New Drill  
Date Modification Issued: July 24, 2018

Promoting a healthy environment.

08/03/2018

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: Ten High 1N-2HM      Well Pad Name: Ten High

3) Farm Name/Surface Owner: Lawrence & Shirley Conkle, ests      Public Road Access: Shepherd Ridge Lane CR 21/9

4) Elevation, current ground: 1310'      Elevation, proposed post-construction: 1310'

5) Well Type (a) Gas  Oil \_\_\_\_\_ Underground Storage \_\_\_\_\_

Other \_\_\_\_\_

(b) If Gas Shallow  Deep \_\_\_\_\_

Horizontal  \_\_\_\_\_

6) Existing Pad: Yes or No Yes

*JW*  
*2/21/18*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus is the target formation at a depth of 6713' - 6765' thickness of 52' and anticipated pressure of approx. 3800 psi

8) Proposed Total Vertical Depth: 6,865'

9) Formation at Total Vertical Depth: Onondaga

10) Proposed Total Measured Depth: 15,329'

11) Proposed Horizontal Leg Length: 8,219'

12) Approximate Fresh Water Strata Depths: 70', 1026'

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

14) Approximate Saltwater Depths: 2,180'

15) Approximate Coal Seam Depths: Sewickly Coal - 935' and Pittsburgh Coal - 1020'

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

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

(a) If Yes, provide Mine Info: Name: Marshall County Coal Co. / Marshall County Mine  
Depth: 1020' TVD and 303' subsea level  
Seam: Pittsburgh #8  
Owner: Murray Energy / Consolidated Coal Co.

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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	13 3/8"	NEW	J55	54.5#	1,175'	1,175' ✓	1166ft^3(CTS)
Coal	13 3/8"	NEW	J55	54.5#	1,175'	1,175'	1166ft^3(CTS)
Intermediate	9 5/8"	NEW	J55	36#	2,980'	2,980'	993ft^3(CTS)
Production	5 1/2"	NEW	P110	20#	13,9'	15,329'	3911ft^3(CTS)
Tubing	2 3/8"	NEW	N80	4.7#		6,618'	
Liners							

*Jan 2/21/18*

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	13 3/8"	17 1/2"	.33	2,730	2,384	SEE #24	1.2
Coal	13 3/8"	17 1/2"	.33	2,730	2,384	SEE#24	1.2
Intermediate	9 5/8"	12 1/4"	.352	3,520	2,816	SEE#24	1.19
Production	5 1/2"	8 7/8_8 3/4	.361	12,640	10,112	SEE#24	1.17/1.19
Tubing	2 3/8"		.19	11,200	8,960		
Liners							

**PACKERS**

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

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*Ju*  
*2/21/18*

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

Drill through the Marcellus and TD Pilot Hole 100' into the Onondaga. Log vertical section and run a solid cement plug back to proposed KOP. Drill curve and lateral per proposed well plan, run and cement production casing. Perform CBL from 60 deg to surface, make cleanout run, and stimulate.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Well to be completed with approximately 20,547,500 lb proppant and 317,679 bbl of water. Max rate = 80 bpm; max psi = 9,000#.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 16.20

22) Area to be disturbed for well pad only, less access road (acres): 5.92

23) Describe centralizer placement for each casing string:

Will run 3 centralizers on surface casing at equal distance. Intermediate 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:

\*See Attachment

25) Proposed borehole conditioning procedures:

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

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## WW-6B Attachment to #24

**Conductor, Coal and Fresh Water Casing Cement:***Premium NE-1 + 2% CaCl*

- Premium NE-1 – Class A Portland API Spec
- CaCl – Calcium Chloride

**Intermediate Casing:***Premium NE-1 + 2% bwoc CaCl<sub>2</sub> + 46.5% Fresh Water*

- Premium NE-1 – Class A Portland API spec
- CaCl<sub>2</sub> – Calcium Chloride
- Cello Flake – Fluid Loss Preventer

**Kick Off Plug:***Class H Cement + 1% CD-32 + .7% Sodium Metasilicate + .1% R-3 + .75 gal/100sk FP-13L + 38% Fresh Water*

- Class H – Increased Compressive Strength Cement
- Sodium Metasilicate – Free Water Control; Early Strength Additive
- R-3 – Cement Retarder
- FP-13L – Anti-Foaming Agent
- CaCl<sub>2</sub> – Calcium Chloride
- Cello Flake – Fluid Loss Preventer

**Production Casing Cement:***Lead: 50:50 (Poz:Premium NE-1) + .2% R-3 + .2% MPA-170 + .75 gal/100sk FP-13L**Tail: 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*

- Poz – Fly Ash
- Premium NE-1 – Class A Portland API spec
- R-3 – Cement Retarder
- MPA-170 – Gelling Agent
- FP-13L – Anti-Foaming Agent
- ASA-301 – Free Water Control Agent
- BA-10A – Bonding Agent
- ASCA-1 – Solubility Additive

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

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

## Data Sources Reviewed:

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

Contacted Devin Ducoeur 724-705-0444, [dducoeur@dpslandservices.com](mailto:dducoeur@dpslandservices.com) DPS GIS (12/19/2016) to have him make maps of the wellbores with his information. DPS utilizes WVGES maps for their mapping seems it as the best publicly available. See attached map he provided.

## Request maps for:

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

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

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



*Handwritten signature and date: 2/23/18*

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

**Ten High 1N-2HM**

**Casing**

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	13 3/8"	J55	17 1/2"	1,175'	CTS
Intermediate	9 5/8"	J55	12 1/4"	2,985'	CTS
Production	5 1/2"	P110	8 7/8 x 8 3/4"	15,329'	CTS

**Cement**

- Conductor: Premium NE-1 + 2% bwoc CaC12 + 46.5% Fresh Water – Conductor Cement mixed at 15.6 ppg, Y=1.2
- Surface: Premium NE-1 + 2% bwoc CaC12 + 46.5% Fresh Water – Surface Cement mixed at 15.6 ppg, Y=1.2
- Intermediate: Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 15.6 ppg, Y=1.19
- Kick Off Plug: Class H Cement + 1% CD-32 + .7% Sodium Metasilicate + .1% R-3 + .75 gal/100sk FP-13L - KOP Plug
- Production: 50:50 Poz: Premium NE-1 + .1% bwoc ASA-301 + 60lb/sk ASCA-1 + .35% bwoc BA-10A + .25% bwoc MPA-170, 44 lb sack + .5% bwoc R-3 + .75 gals/100sk FP-13L – Production Cement mixed at 15.2ppg, Y = 1.19

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**WELL NAME:** Ten High 1N-2HM  
**STATE:** West Virginia **COUNTY:** Marshall  
**DISTRICT:** Meade  
**DT Elev:** 1,310' **GL Elev:** 1,310'  
**TD:** 15,329'  
**TH Latitude:** 39.80675268  
**TH Longitude:** -80.68102695  
**BL Latitude:** 39.82620699  
**BL Longitude:** -80.69743599

30" Csg @ 120' MD / 120' TVD

13 3/8" Csg @ 1,175' MD / 1,175' TVD

9 5/8" Csg @ 2,985' MD / 2,980' TVD

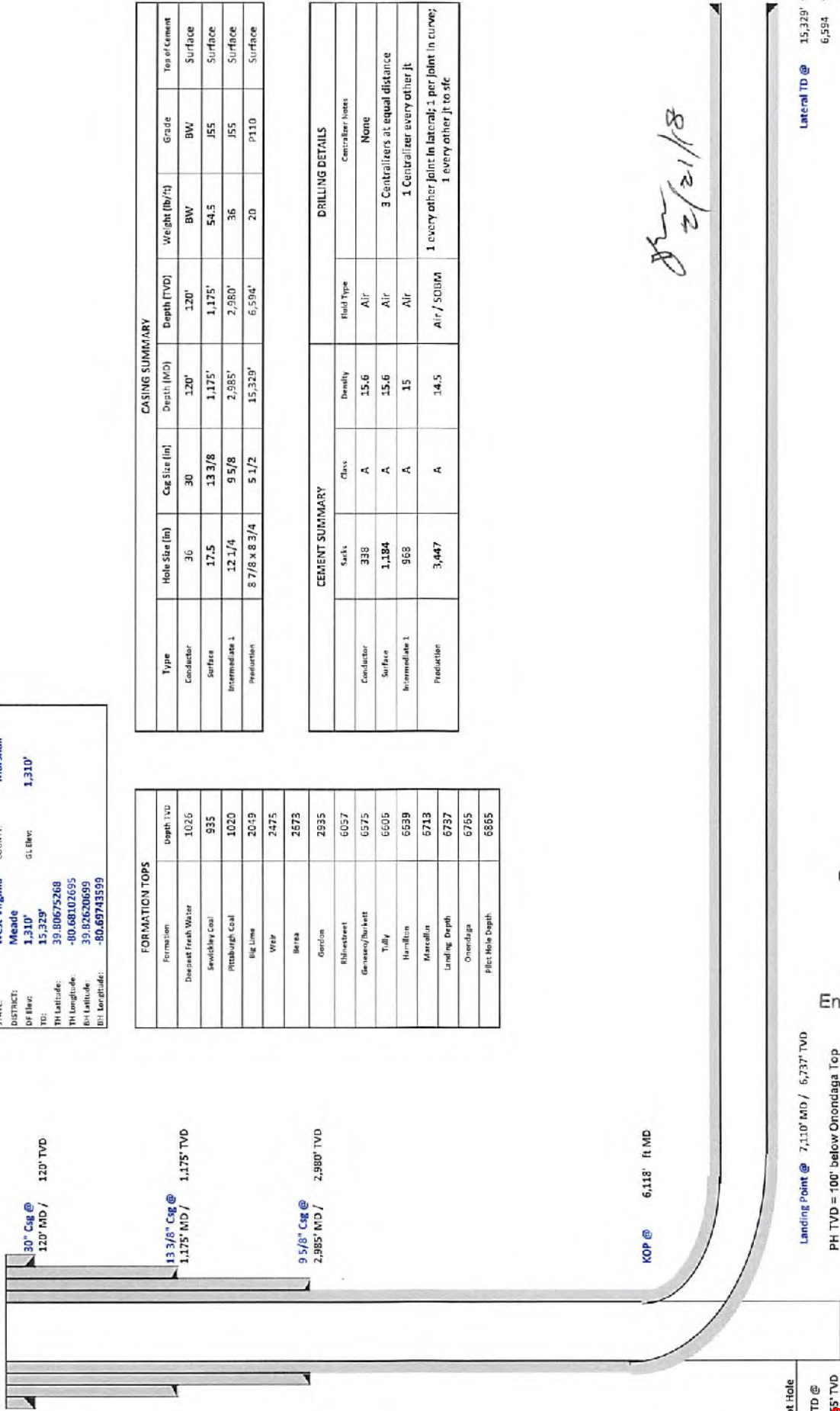
KOP @ 6,118' ft MD

Formation	Depth (TVD)
Deepest Fresh Water	1036
Swickley coal	935
Pittsburgh coal	1020
Big Limestone	2019
Wep	2475
Berks	2673
Gardens	2935
Rhinestreet	6057
Genesee/Burkett	6575
Tully	6605
Hamilton	6539
Marcellus	6713
Landing Depth	6737
Onondaga	6765
Pilot Hole Depth	6865

CASING SUMMARY							
Type	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cement
Conductor	30	30	120'	120'	BW	BW	Surface
Surface	17.5	13 3/8	1,175'	1,175'	54.5	J55	Surface
Intermediate 1	12.1/4	9 5/8	2,985'	2,980'	36	J55	Surface
Production	8 7/8 x 8 3/4	5 1/2	15,329'	6,594'	20	P110	Surface

CEMENT SUMMARY				DRILLING DETAILS	
Surk	Class	Density	Fluid Type	Centralizer Notes	
Conductor	A	15.6	Air	None	
Surface	A	15.6	Air	3 Centralizers at equal distance	
Intermediate 1	A	15	Air	1 Centralizer every other jt	
Production	A	14.5	Air / SOBM	1 every other joint in lateral; 1 per joint in curve; 1 every other jt to etc.	

*Handwritten signature and date: 2/21/18*



Lateral TD @ 15,329' ft MD  
 6,594' ft TVD

Landing Point @ 7,110' MD / 6,737' TVD  
 PH TVD = 100' below Onondaga Top

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PH TD @ 6,594' TVD  
 8/03/2018

SI-01934H00



SI-01934 MOD

Well: Ten High 1N-02HM (J)  
 Site: Ten High  
 Project: Marshall County, West Virginia  
 Design: rev5



SECTION DETAILS

Sec	MD	Inc	Azi	TV3	+N-S	+E-W	Dip	T-Face	V-Sect	Annotation
2	1400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3	1693.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 2'100" build
4	5213.86	5.00	182.96	549.66	-10.94	-5.38	2.00	192.60	-223.39	Begin 3'7100" build
5	8146.41	1.15	182.85	540.00	-241.70	-76.78	0.00	0.00	-243.77	Begin 11.15" lateral section
6	7109.54	91.00	329.81	5089.22	-473.73	-106.45	0.00	0.00	-537.60	Begin 10'7100" build
7	15326.89	91.00	329.81	5737.00	-50.88	-474.95	10.00	136.26	242.89	Begin 31.00" lateral section
8				5654.00	7057.90	-4632.26	0.00	0.00	8450.02	PBHLTD 15326.89 MD/6594.00 TVD

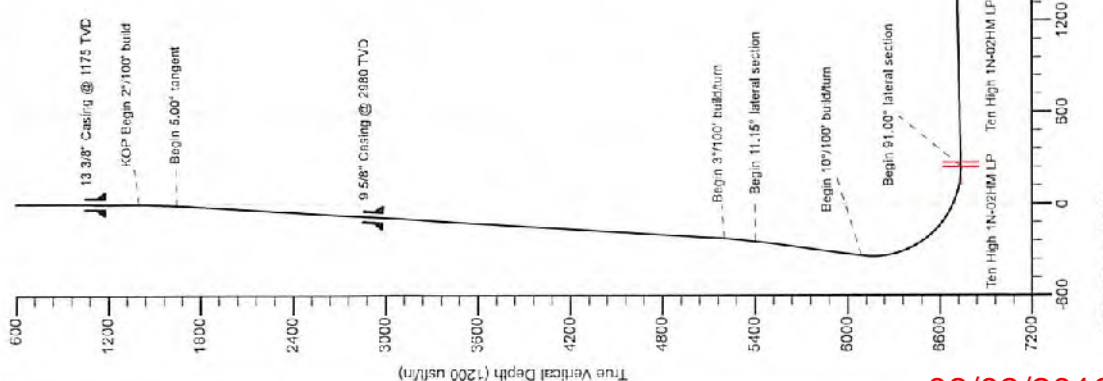
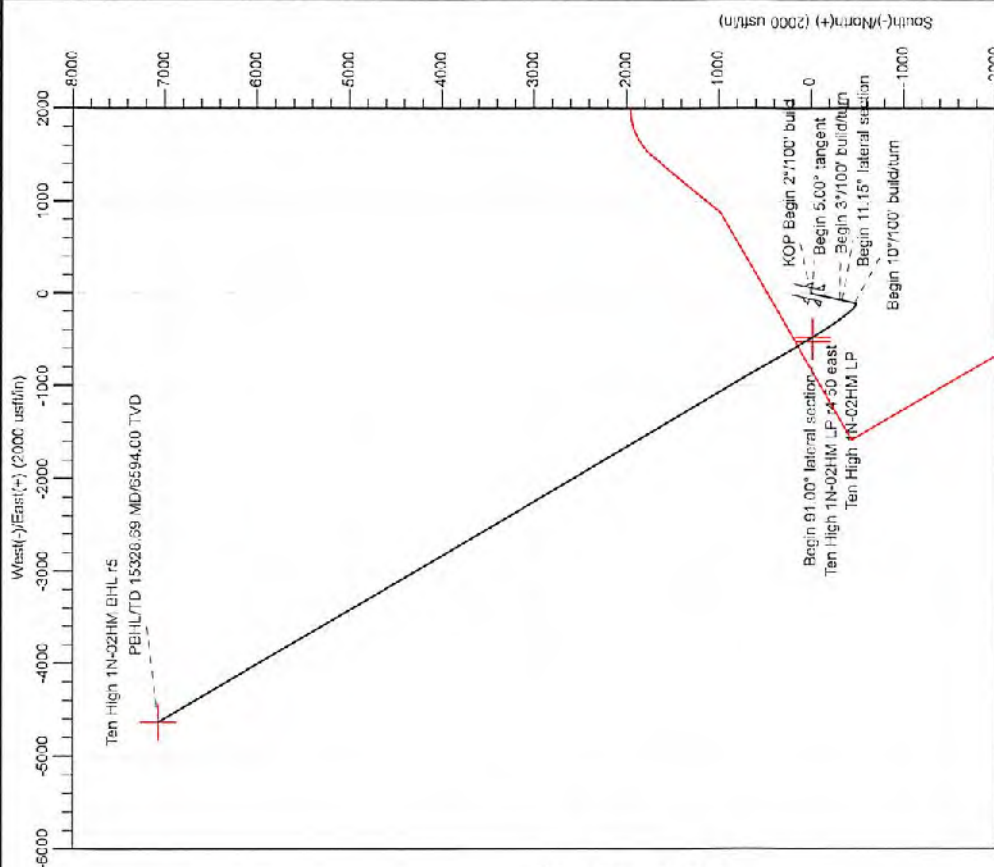
Geodetic System: Universal Transverse Mercator (US Survey Feet)  
 Datum: NAD83 West Virginia - HARN  
 Ellipsoid: GRS 1980  
 Zone: Zone 17N (84 W to 78 W)

System Datum: Mean Sea Level  
 Depth Reference: GL @ 1310.00ust  
 Northing 14456325.13 Easting 3630675263 Longitude -80.69102695

Total Cor (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 0.92°



Adjust to Grid North  
 True North -0.20°  
 Magnetic North -0.92°  
 Magnetic Field  
 Strength: 52156.55mT  
 Dip Angle: 66.89°  
 Date: 06/2017  
 Model: IGRF2015



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WW-6B Attachment to #24

**Conductor, Coal and Fresh Water Casing Cement:**

*Premium NE-1 + 2% CaCl*

- Premium NE-1 – Class A Portland API Spec
- CaCl – Calcium Chloride

**Intermediate Casing:**

*Premium NE-1 + 2% bwoc CaCl<sub>2</sub> + 46.5% Fresh Water*

- Premium NE-1 – Class A Portland API spec
- CaCl<sub>2</sub> – Calcium Chloride
- Cello Flake – Fluid Loss Preventer

**Kick Off Plug:**

*Class H Cement + 1% CD-32 + .7% Sodium Metasilicate + .1% R-3 + .75 gal/100sk FP-13L + 38% Fresh Water*

- Class H – Increased Compressive Strength Cement
- Sodium Metasilicate – Free Water Control; Early Strength Additive
- R-3 – Cement Retarder
- FP-13L – Anti-Foaming Agent
- CaCl<sub>2</sub> – Calcium Chloride
- Cello Flake – Fluid Loss Preventer

**Production Casing Cement:**

Lead: *50:50 (Poz:Premium NE-1) + .2% R-3 + .2% MPA-170 + .75 gal/100sk FP-13L*

Tail: *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*

- Poz – Fly Ash
- Premium NE-1 – Class A Portland API spec
- R-3 – Cement Retarder
- MPA-170 – Gelling Agent
- FP-13L – Anti-Foaming Agent
- ASA-301 – Free Water Control Agent
- BA-10A – Bonding Agent
- ASCA-1 – Solubility Additive

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Permit well - Ten High 1N-2HM

Wells within 500' Buffer

Note: Well spots depicted on Area of Review map (page 3) 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
4705101934	Tug Hill Operating	6737' TVD planned	None	None	No, Permitted Marcellus well	Permitted Marcellus well. Not yet drilled
4705101944	Tug Hill Operating	6737' TVD planned	None	None	No, Permitted Marcellus well	Permitted Marcellus well. Not yet drilled
4705101945	Tug Hill Operating	6737' TVD planned	None	None	No, Permitted Marcellus well	Permitted Marcellus well. Not yet drilled
4705101943	Tug Hill Operating	6737' TVD planned	None	None	No, Permitted Marcellus well	Permitted Marcellus well. Not yet drilled
4705101964	Tug Hill Operating	6737' TVD planned	None	None	No, Permitted Marcellus well	Permitted Marcellus well. Not yet drilled
4705101973	Tug Hill Operating	6737' TVD planned	None	None	No, Permit submitted Marcellus well	Permit submitted Marcellus well. Not yet drilled
4705101974	Tug Hill Operating	6737' TVD planned	None	None	No, Permit submitted Marcellus well	Permit submitted Marcellus well. Not yet drilled
4705101975	Tug Hill Operating	6737' TVD planned	None	None	No, Permit submitted Marcellus well	Permit submitted Marcellus well. Not yet drilled
4705101976	Tug Hill Operating	6737' TVD planned	None	None	No, Permit submitted Marcellus well	Permit submitted Marcellus well. Not yet drilled
4705101960	Tug Hill Operating	11878' TVD planned	None	None	No, Permit submitted Utica well	Permit submitted Utica well. Not yet drilled
4705101961	Tug Hill Operating	11878' TVD planned	None	None	No, Permit submitted Utica well	Permit submitted Utica well. Not yet drilled
4705101965	Tug Hill Operating	11878' TVD planned	None	None	No, Permit submitted Utica well	Permit submitted Utica well. Not yet drilled
4705101966	Tug Hill Operating	11878' TVD planned	None	None	No, Permit submitted Utica well	Permit submitted Utica well. Not yet drilled
4705100838	Hope Natural Gas	Unknown	Unknown	Unknown	Unknown but unlikely, Appears to be an old shallow producing well that has since been plugged	Old well, records are incomplete. A field survey was conducted to locate this well and evidence of this well was found.



**"Pipeline"**

Select County: (051) Marshall | Select data types:  (Check All)

Enter Permit #: 00838

Location  Production  Plugging  
 Depth/Correlation  Stratigraphy  Sample  
 Pay/Show Water  Logs  Blm Hole Log

Table Descriptions: [County Code Translations](#), [Permit Numbering System](#), [License Types](#), [Geology Information](#), [Geological](#), [Geological Data](#), [Plugging Data](#)

WV Geological & Economic Survey | Well: County = 51 Permit = 00838

Well Reassignment Information: Reassigned From  
 OLD\_COUNTY: 051 PERMIT: 00838 NEW\_COUNTY: 051 PERMIT: 00838

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LONG_DD	UTME	UTMN
4705100838	Marshall	00838	00838	11N-2HM	11N-2HM	39 11 35.27	80 55 50.27	526173.4	4407109

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_COMPI
4705100838	12/4/1998		Plugging	Completed: Ronald & Theresa Moore	94-2	(A-3)				McBroy Coal Company
4705100838				Original Log: Completed: A M Anguish						Hope Natural Gas Company

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTH
4705100838	12/4/1998	11/15/1998	1175	Ground Level						not available	unknown
4705100838							unclassified	unclassified		not available	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 Stratigraphy data for this well

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

Plugging Information:  
 API: 4705100838 | PUG\_DT: 12/4/1998 | DEPTH\_PBT: 0

There is no Sample data for this well

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**WVGES**  
"Pipeline"

Select County: (051) Marshall  
Enter Permit #: 40024  
Get Data Reset

Select datatypes: (Check All)  
 Location  Production  Plugging  
 Owner/Completion  Stratigraphy  Sample  
 Pay/ShowWater  Logs  Btm Hole Loc

[Table Descriptions](#)  
[County Code Translations](#)  
[Permit Numbering Schemas](#)  
[Usage Notes](#)  
[Contact Information](#)  
[Disclaimer](#)  
[WVGES Main](#)  
[Pipeline Plus - New](#)

WV Geological & Economic Survey: **Well: County = 51 Permit = 40024**

**Location Information:** [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LONG_DD	UTME	UTMN
4725140024	Marshall	40024	Meigs	Glen Easton	Cameron	32.870936	-80.690723	526472.1	4406812

There is no Bottom Hole Location data for this well  
 There is no Owner/Completion data for this well  
 There is no Owner/Completion data for this well  
 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

**Stratigraphy Information:**

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4725140024	Original Log	Pittsburgh coal	CBM Drift Hole	1025	Reasonable	7	Reasonable	1343	unknown

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

**WVGES**  
"Pipeline"

Select County: (051) Marshall  
Enter Permit #: 00833  
Get Data Reset

Select datatypes: (Check All)  
 Location  Production  Plugging  
 Owner/Completion  Stratigraphy  Sample  
 Pay/ShowWater  Logs  Btm Hole Loc

[Table Descriptions](#)  
[County Code Translations](#)  
[Permit Numbering Schemas](#)  
[Usage Notes](#)  
[Contact Information](#)  
[Disclaimer](#)  
[WVGES Main](#)  
[Pipeline Plus - New](#)

WV Geological & Economic Survey: **Well: County = 51 Permit = 00833**

**Well Reassignment Information: Reassigned From**

OLD_COUNTY	OLD_PERMIT	NEW_COUNTY	NEW_PERMIT
51	30023	51	833

**Location Information:** [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LONG_DD	UTME	UTMN
4725100833	Marshall	833	Meigs	Glen Easton	Cameron	29.869795	-80.690153	525530.6	4426700.9

There is no Bottom Hole Location data for this well

**Owner Information:**

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CD_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AY	COMPLETION	PROP_VD	PROP_TRGT_FM	TRM_EST
4725100833	8/23/1907	Original Log	Completed	Daniel Jones	1	142	Daniel Jones		Daniel Jones	Beran, L.H.				
4725100833	7/23/1908	Plugging	Completed	Dexter F & Besse Hall	55-4 (M-22)					Milroy Coal Company				

**Completion Information:**

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMI	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TYD	1MD	NEW_FTO	G_B6	
4725100833	9/23/1907	7/13/1907	1230	Barometer	Cameron-Daniel	UDev	undf	BerLsHURN	Gordon	Unclassified	Oil	Cable Tool	Shot	2973		2973	
4725100833	7/23/1908	7/7/1908	1229	Ground Level						Gas	unknown	unknown					

**Pay/ShowWater Information:**

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	O_BEF	O_AFT	O_BEF	O_AFT	WATER_QNTY
4725100833	8/23/1907	Pay	Oil	Vertical	Gordon		2920	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 Stratigraphy data for this well  
 There is no Wireline (E-Log) data for this well

**Plugging Information:**

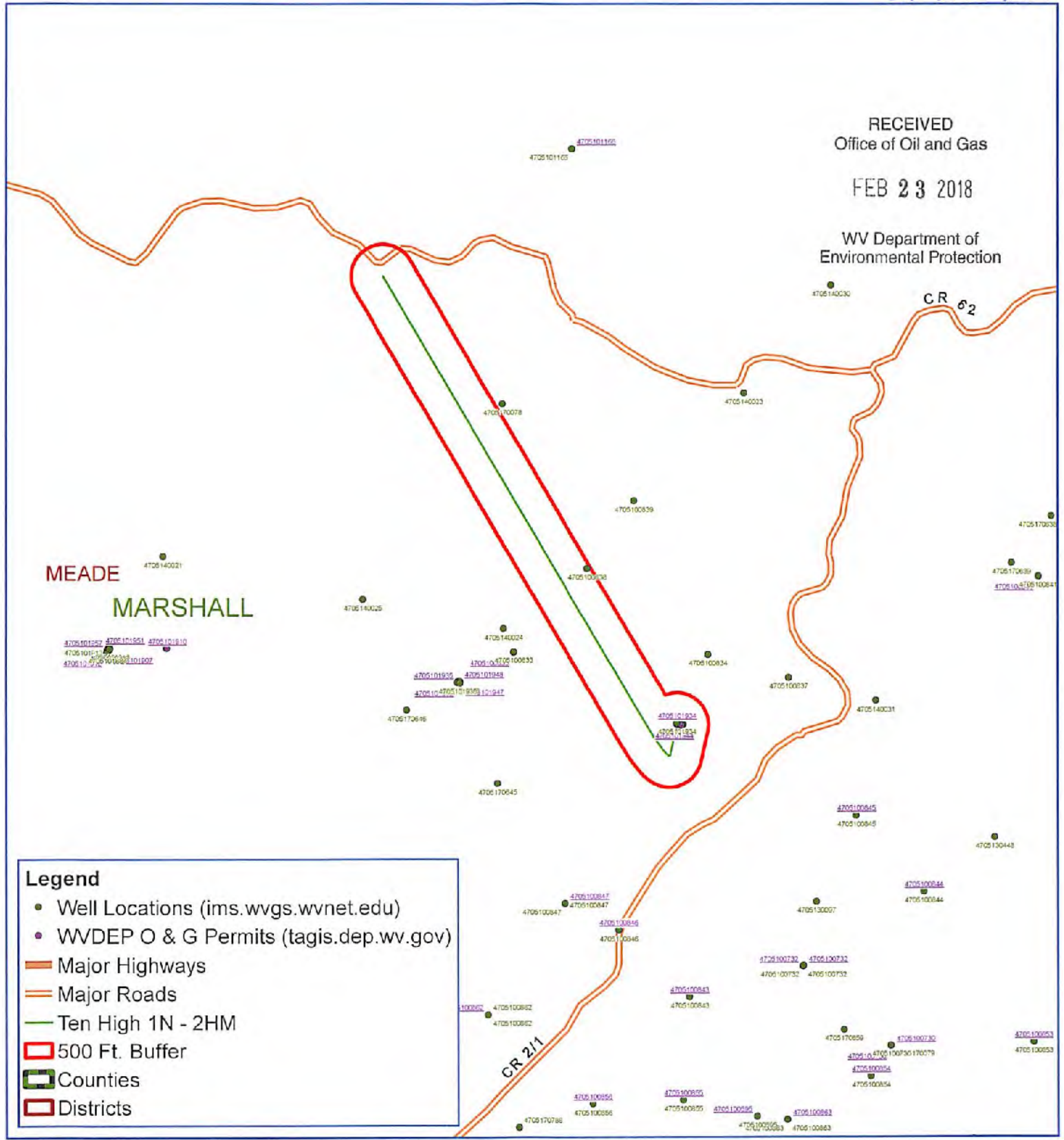
API	PLG_DT	DEPTH_PBT
4725100833	5/13/1928	0
4725100833	7/23/1908	0

There is no Sample data for this well

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**Legend**

- Well Locations ([ims.wvgs.wvnet.edu](http://ims.wvgs.wvnet.edu))
- WVDEP O & G Permits ([tagis.dep.wv.gov](http://tagis.dep.wv.gov))
- Major Highways
- Major Roads
- Ten High 1N - 2HM
- 500 Ft. Buffer
- Counties
- Districts



# Ten High 1N-2HM Meade District Marshall County, WV



Map Created: February 15, 2016  
Map Current As Of: February 15, 2018

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

WW-9  
(4/16)

API Number 47 - 051 - \_\_\_\_\_  
Operator's Well No. Ten High 1N-2HM

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Tug Hill Operating, LLC OP Code 494510851

Watershed (HUC 10) Fish Creek Quadrangle Glen Easton 7.5

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

Will a pit be used? Yes  No

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

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

Proposed Disposal Method For Treated Pit Wastes:

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

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

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

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

Additives to be used in drilling medium? Barite for weight

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

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

-Landfill or offsite name/permit number? Wetzel County Sanitary Landfill (SNF-1021 / WV0106186) and Westmoreland Sanitary Landfill, LLC (SAV1406 / PA DEP BCP1366426)

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 \_\_\_\_\_

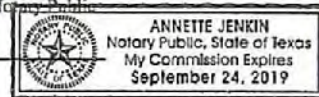
Company Official (Typed Name) Sean Gasser

Company Official Title Engineer

Subscribed and sworn before me this 18th day of April, 2017

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

Annette Jenkin  
9/24/2019



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Tug Hill Operating, LLC

Proposed Revegetation Treatment: Acres Disturbed 16.20 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: *Jan Trichler*

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

Title: *Oil + Gas Inspector* Date: *4/21/17*

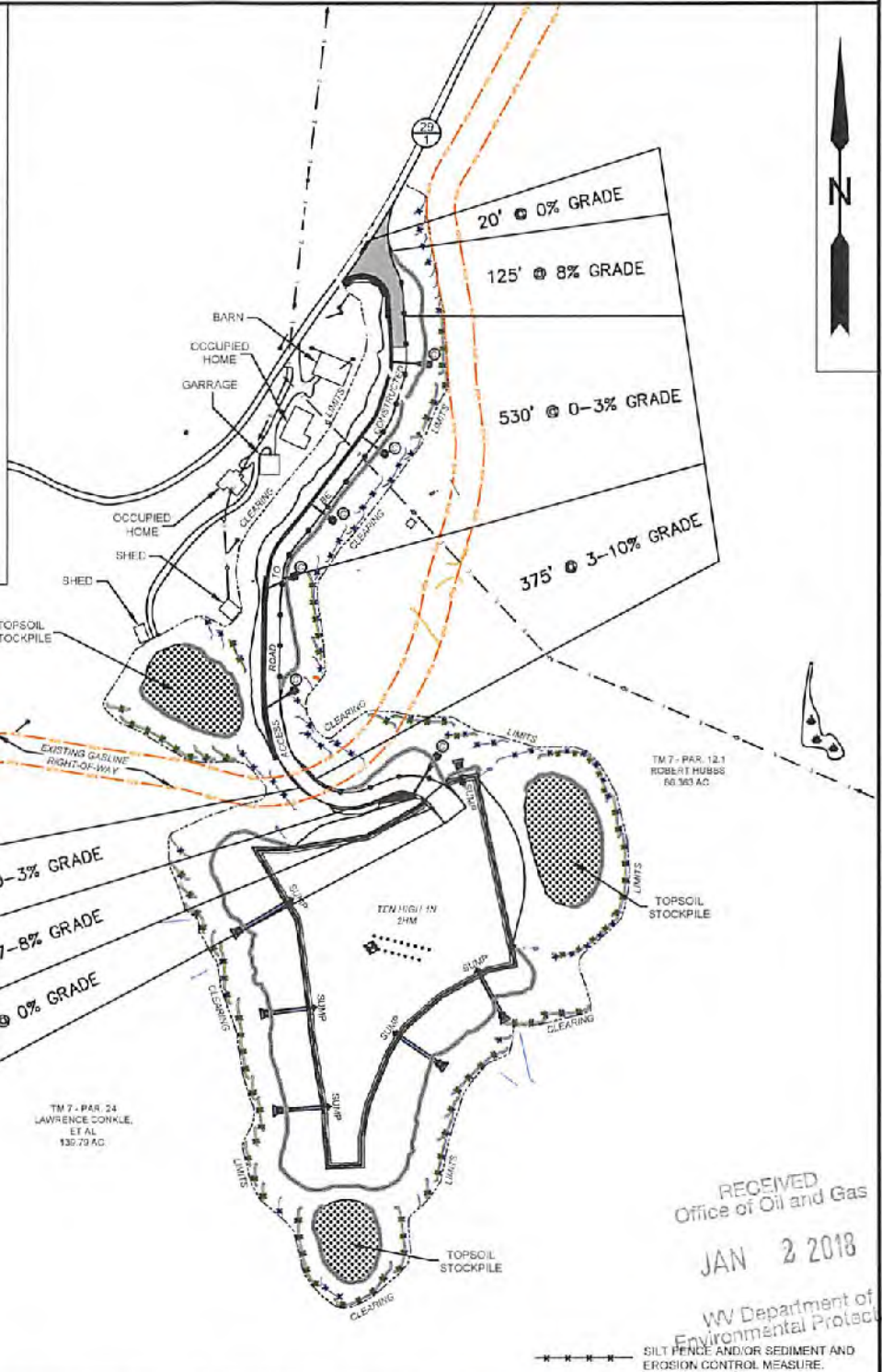
Field Reviewed?  Yes  No

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# PROPOSED TEN HIGH 1N - 2HM

**NOTES:**

1. DENOTES INSTALL 18" PVC CULVERT AND APPLY APPROPRIATE SEDIMENT OUTLET CONTROL (RIP RAP SPLASH PAD)
2. DRAWING NOT TO SCALE
3. REFERENCE IS HEREBY MADE TO THE WV D.E.P. OFFICE OF OIL & GAS, "EROSION AND SEDIMENT CONTROL FIELD MANUAL" FOR REQUIREMENTS AND BMPs FOR AVERAGE FIELD CONDITIONS CONCERNING THE MAINTENANCE OF EXISTING ROADS AND THE CONSTRUCTION OF PROPOSED ROADS. FIELD CONDITIONS MAY REQUIRE VARIANCE FROM THESE GUIDELINES AND THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION TO THE INSPECTOR AND THE OPERATOR SHOULD THESE CONDITIONS OCCUR.
4. INSTALL CULVERTS AS SHOWN ON RECLAMATION PLAN OR AS FIELD CONDITIONS REQUIRE.
5. ENTRANCES ONTO PUBLIC ROADS SHALL BE CONSTRUCTED OR MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATIONS. ADDITIONAL PERMITS MAY BE REQUIRED.
6. TEMPORARILY SEED AND MULCH ALL SLOPS UPON CONSTRUCTION OF LOCATION.
7. ALL CUT AND FILL SLOPES ARE 2H : 1V SLOPE.
8. ALL TREES 6-INCHES AND ABOVE ARE TO BE CUT AND STACKED. BRUSH SLASHINGS ARE TO BE UTILIZED DOWN SLOPE OF SITE AND STRUCTURES TO ACT AS A CONTROL BARRIER IF AVAIL ABLE.
9. SEE HEAVEN HILL 3 SITE PLAN PREPARED BY KELLEY SURVEYING, DATED 2/24/2017 FOR COMPLETE CONSTRUCTION & EROSION AND SEDIMENT CONTROL DETAILS.



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Land & Energy Development  
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www.slsurveys.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR: TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317	
COUNTY	DISTRICT	DATE	SCALE
MARSHALL	MEADE	12-28-17	1" = 300'
DRAWN BY	JOB NO.		
K.G.M.	8655		

**TUG HILL**  
OPERATING

08/03/2018





**Well Site Safety Plan**  
Tug Hill Operating, LLC

*jm*  
*12/29/17*

Well Name: Ten High 1N-2HM

Pad Location: Ten High

Marshall County, West Virginia

UTM (meters), NAD83, Zone 17:

Northing-4,406,357.67

Easting -527,304.07

December 2017

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

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

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

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

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**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. Miller *Amy Miller*  
 Its: Regulatory Analyst - Appalachia Region

51-01934 mao

WW-6A1 Supplement

Well Name or No.	Tract	Grantor, Lessee, est.	Grantee, Lessee, est.	Royalty	Deed Book/Pg	Assignment	Assignment	Assignment
10-16410	A	Gaston, Lessee, est.	Gaston, Lessee, est.	1/8	905	326	N/A	N/A
10-16410	A	AMY PAUL & JACQUE MUM	THE EXPLORATION LLC	1/8	777	59	N/A	Chesron to Trg HIB 58/148
10-16410	A	AMIE GOODENOUGH	CHEVRON USA INC	1/8	849	645	N/A	Chesron to Trg HIB 58/148
10-16410	A	BRIGIDA I VIVERTES	THE EXPLORATION LLC	1/8	909	508	N/A	N/A
10-16410	A	DALE BRIAN GOODMAN	THE EXPLORATION LLC	1/8	904	635	N/A	N/A
10-16410	A	DALE MOORE	THE EXPLORATION LLC	1/8	905	518	N/A	N/A
10-16410	A	DAVE SHAWN HEINS AND AMY LYNN HEINS	THE EXPLORATION LLC	1/8	905	470	N/A	N/A
10-16410	A	DEBRA J PALOMO	THE EXPLORATION LLC	1/8	904	632	N/A	N/A
10-16410	A	EARL D WELLMAN	THE EXPLORATION LLC	1/8	905	528	N/A	N/A
10-16410	A	HELEN ARIZONA MOORE HENDRICKS	THE EXPLORATION LLC	1/8	904	654	N/A	N/A
10-16410	A	HOWARD LUBIN AND MARY LUBIN	THE EXPLORATION LLC	1/8	904	524	N/A	N/A
10-16410	A	HUBERT DEAN KUSH AND ANGELA KUSH	THE EXPLORATION LLC	1/8	904	465	N/A	N/A
10-16410	A	ILBERT F HENDERSON JR AND GABRIEL HENDERSON	THE EXPLORATION LLC	1/8	843	482	N/A	N/A
10-16410	A	DEBRA V HENDERSON	THE EXPLORATION LLC	1/8	843	384	N/A	Chesron to Trg HIB 58/148
10-16410	A	DAVE LEE CORNELL	CHEVRON USA INC	1/8	905	322	N/A	N/A
10-16410	A	DAVE W KUSH AND VERA B KUSH, HUSBAND AND WIFE	THE EXPLORATION LLC	1/8	904	459	N/A	N/A
10-16410	A	LOTT D WOOD	THE EXPLORATION LLC	1/8	907	592	N/A	N/A
10-16410	A	LOTT D WOOD	THE EXPLORATION LLC	1/8	909	81	N/A	N/A
10-16410	A	LOTT D WOOD AND GUYBOND H MOORE	THE EXPLORATION LLC	1/8	909	81	N/A	N/A
10-16410	A	MARIE EDWARD AND MARIE A GOODMAN	THE EXPLORATION LLC	1/8	905	435	N/A	N/A
10-16410	A	MARIE EDWARD	THE EXPLORATION LLC	1/8	905	435	N/A	N/A
10-16410	A	REGINA D FERGUSON AND DAVID FERGUSON	THE EXPLORATION LLC	1/8	919	217	N/A	N/A
10-16410	A	ROBERTA ANN AND DAVID S GIBB	THE EXPLORATION LLC	1/8	885	511	N/A	Chesron to Trg HIB 58/148
10-16410	A	ROY A CONNELL SR	CHEVRON USA INC	1/8	885	511	N/A	N/A
10-16410	A	THE DOYLE F WOOD REVOCABLE TRUST BY MICHAEL CHARLES WOOD AS TRUSTEE	THE EXPLORATION LLC	1/8	904	641	N/A	N/A
10-16410	A	FRENERA ANNE HUGHES	CHEVRON USA INC	1/8	883	343	N/A	N/A
10-16410	B	RONALD AND EMMA MOORE	FRENERGY, INC	1/8	811	449	N/A	Chesron to Trg HIB 58/148
10-16410	C	AMIE GOODENOUGH	CHEVRON USA INC	1/8	777	59	N/A	Chesron to Trg HIB 58/148
10-16410	D	BERNIE FLETCHER AND CAROLYN FLETCHER, HUSBAND AND WIFE	FRENERGY, INC	1/8	661	154	N/A	Chesron to Trg HIB 58/148
10-16410	D	SHERWOOD YANTER	THE EXPLORATION LLC	1/8	748	268	N/A	Chesron to Trg HIB 58/148
10-16410	E	DEAN P ROBERT AND SYDNEY ROBERT	THE EXPLORATION LLC	1/8	908	197	N/A	Chesron to Trg HIB 58/148
10-16410	E	SISSAN HEISS	THE EXPLORATION LLC	1/8	859	203	N/A	Chesron to Trg HIB 58/148
10-16410	E	MICHAEL J SPONDEL	CHEVRON U.S.A. INC.	1/8	859	160	N/A	Chesron to Trg HIB 58/148
10-16410	E	JOHN OWEN BOITZ	THE EXPLORATION LLC	1/8	909	229	N/A	N/A
10-16410	E	SANDRA E TRULL	THE EXPLORATION LLC	1/8	909	231	N/A	N/A
10-16410	E	SAVANNA HURSON	THE EXPLORATION LLC	1/8	908	239	N/A	N/A
10-16410	E	MAURIE BILLY JACKSON PIERSCOTT	THE EXPLORATION LLC	1/8	908	239	N/A	N/A
10-16410	E	ROBERT MIDDLE JACKSON	THE EXPLORATION LLC	1/8	908	239	N/A	N/A
10-16410	E	ROBERT STEPHEN DUNGEONS	THE EXPLORATION LLC	1/8	908	239	N/A	N/A
10-16410	E	MAART DUBAERTH DUNGEONS	THE EXPLORATION LLC	1/8	908	239	N/A	N/A
10-16410	E	SCOTTIA HURSON	THE EXPLORATION LLC	1/8	908	239	N/A	N/A
10-16410	E	ROBERT J RISBY	THE EXPLORATION LLC	1/8	908	241	N/A	N/A
10-16410	E	ROBERT L AND RAINITA L COLE	THE EXPLORATION LLC	1/8	908	241	N/A	N/A
10-16410	E	MARION L AND DEWY CAMPBELL	THE EXPLORATION LLC	1/8	908	245	N/A	N/A
10-16410	E	ALEX RUSSELL AND TRICE A CAMPBELL	THE EXPLORATION LLC	1/8	908	251	N/A	N/A
10-16410	E	AVANA MARIE JACKSON	THE EXPLORATION LLC	1/8	908	253	N/A	N/A
10-16410	E	WILSON ANDREW JACKSON	THE EXPLORATION LLC	1/8	908	253	N/A	N/A
10-16410	E	JAMES KEVIN JACKSON AND JULIE JACKSON	THE EXPLORATION LLC	1/8	911	303	N/A	N/A
10-16410	E	YVONNE L WENTMAN	THE EXPLORATION LLC	1/8	911	320	N/A	N/A
10-16410	E	DEBBY P AND DARRELL ETEL ROLIV	THE EXPLORATION LLC	1/8	911	70	N/A	N/A
10-16410	E	LESTER C AND CORINNE S WOODSON	THE EXPLORATION LLC	1/8	911	243	N/A	N/A
10-16410	E	KEVIN ETEL YERBY	THE EXPLORATION LLC	1/8	911	243	N/A	N/A
10-16410	E	CHRIST BUNBER	THE EXPLORATION LLC	1/8	912	355	N/A	N/A
10-16410	E	KEVIN ETEL YERBY	THE EXPLORATION LLC	1/8	912	355	N/A	N/A
10-16410	E	JESSIE LEBN JR AND TERESA GAIL EZZLE	THE EXPLORATION LLC	1/8	921	118	N/A	N/A
10-16410	E	HENRI WEL JACKSON REY BUNBER	THE EXPLORATION LLC	1/8	921	118	N/A	N/A
10-16410	E	THOMAS M BEEVES JR AND TRINA M BEEVES	THE EXPLORATION LLC	1/8	921	307	N/A	N/A
10-16410	E	THOMAS G AND DAVID W BAVISS	THE EXPLORATION LLC	1/8	921	143	N/A	N/A
10-16410	E	SANDRA JEAN WILSON	THE EXPLORATION LLC	1/8	921	524	N/A	N/A

Operator's Well No. Ten High 1N - 2HM

08/03/2018

WW-6A1 Supplement

Operator's Well No. Ten High 1N - 2HM

License Name or No.	Tax	Parent	Genitor, Assgn, etc.	Genitor, Lessee, etc.	Realty	Deed Book/Pg	Assignment	Assignment
LO-17274	E	9-5-4	DAVID H WILSON	THE EXPLORATION LLC	1/8-	921	474	N/A
LO-17275	E	9-5-4	JOHN I BEVES AND MONA S BEVES	THE EXPLORATION LLC	1/8-	921	579	N/A
LO-17276	E	9-5-4	BERTHA EBEL LWALIT	THE EXPLORATION LLC	1/8-	921	526	N/A
LO-17277	E	9-5-4	MARCEL E EBEL	THE EXPLORATION LLC	1/8-	921	121	N/A
LO-17278	E	9-5-4	MILTON HOWARD EBEL JR AND OLIVERTHA A EBEL	THE EXPLORATION LLC	1/8-	921	129	N/A
LO-17279	E	9-5-4	DEBRA M WILSON	THE EXPLORATION LLC	1/8-	921	476	N/A
LO-17280	E	9-5-4	DAVID JACOBSON	THE EXPLORATION LLC	1/8-	921	522	N/A
LO-17281	E	9-5-4	PHILIP S BURKE	THE EXPLORATION LLC	1/8-	921	150	N/A
LO-17282	E	9-5-4	TERESA EBEL EALVA AND DAVID L BALVA	THE EXPLORATION LLC	1/8-	921	487	N/A
LO-17283	E	9-5-4	MARION J JACOBSON	THE EXPLORATION LLC	1/8-	921	350	N/A
LO-17284	E	9-5-4	MARION ANN JACOBSON ROBERT GOSWAMI	THE EXPLORATION LLC	1/8-	921	91	N/A
LO-17285	E	9-5-4	LESTER T BEVES AND LOREY T BEVES	THE EXPLORATION LLC	1/8-	921	379	N/A
LO-17286	E	9-5-4	JAMES WICKERT EBEL AND DAVID O EBEL	THE EXPLORATION LLC	1/8-	921	121	N/A
LO-17287	E	9-5-4	KATHRYN L ROBERT T EBEL	THE EXPLORATION LLC	1/8-	921	529	N/A
LO-17288	E	9-5-4	JAMES R H THURLEY AND SHARON D WARD	THE EXPLORATION LLC	1/8-	921	540	N/A
LO-17289	E	9-5-4	HESE ALLEN JACOBSON AND ELIZABETH O JACOBSON	THE EXPLORATION LLC	1/8-	921	297	N/A
LO-17290	E	9-5-4	MARYLANN B BARBARA T BOSSAY	THE EXPLORATION LLC	1/8-	921	109	N/A
LO-17291	E	9-5-4	JAMES M JACOBSON	THE EXPLORATION LLC	1/8-	921	345	N/A
LO-17292	E	9-5-4	MARY CHRISTINE MCCREARY	THE EXPLORATION LLC	1/8-	921	332	N/A
LO-17293	E	9-5-4	FRAN PRESLEY EBEL	THE EXPLORATION LLC	1/8-	921	116	N/A
LO-17294	E	9-5-4	LEANN ANNE GOBBY STORCH	THE EXPLORATION LLC	1/8-	921	216	N/A
LO-17295	E	9-5-4	STEPHANIE SCHREIER AND GEOFFREY SCHREIER	THE EXPLORATION LLC	1/8-	921	14	N/A
LO-17296	E	9-5-4	BARBARA A BUZZARD	THE EXPLORATION LLC	1/8-	921	24	N/A
LO-17297	E	9-5-4	GARY T WARD AND SHARON D WARD	THE EXPLORATION LLC	1/8-	921	19	N/A
LO-17298	E	9-5-4	ROBERT T LEADBETTER AND M REBECCA LEADBETTER	THE EXPLORATION LLC	1/8-	921	885	N/A
LO-17299	E	9-5-4	JASHELIA NINE AND REBECCA NINE	THE EXPLORATION LLC	1/8-	921	694	N/A
LO-17300	E	9-5-4	BEVAN P RIBBY AND STEVAN RIBBY	THE EXPLORATION LLC	1/8-	921	197	N/A
LO-17301	E	9-5-4	SUZAN NELSON	THE EXPLORATION LLC	1/8-	921	203	N/A
LO-17302	E	9-5-4	MICHAEL J SYMNER	CHERON U.S.A. INC.	1/8-	465	186	N/A
LO-17303	E	9-5-4	JOHN OHL BOULZ	THE EXPLORATION LLC	1/8-	909	180	N/A
LO-17304	E	9-5-4	SANDRA K THULL	THE EXPLORATION LLC	1/8-	909	229	N/A
LO-17305	E	9-5-4	MARIE ELLI JACOBSON FIBROTTI	THE EXPLORATION LLC	1/8-	909	231	N/A
LO-17306	E	9-5-4	ELVIE ANNE JACOBSON	THE EXPLORATION LLC	1/8-	909	239	N/A
LO-17307	E	9-5-4	ROBERT STEPHEN BERGGES	THE EXPLORATION LLC	1/8-	909	234	N/A
LO-17308	E	9-5-4	MARY ELIZABETH BERGGES	THE EXPLORATION LLC	1/8-	909	228	N/A
LO-17309	E	9-5-4	CONTRIA HUDSON	THE EXPLORATION LLC	1/8-	909	239	N/A
LO-17310	E	9-5-4	ROBERT T RIBBY	THE EXPLORATION LLC	1/8-	909	241	N/A
LO-17311	E	9-5-4	DAVID L AND ELAURALA LOMA	THE EXPLORATION LLC	1/8-	909	584	N/A
LO-17312	E	9-5-4	MARGON AND PAUL CAMERON	THE EXPLORATION LLC	1/8-	909	245	N/A
LO-17313	E	9-5-4	KERSTEN AND DORE A CAMERON	THE EXPLORATION LLC	1/8-	909	248	N/A
LO-17314	E	9-5-4	WILSON WALTER JACOBSON	THE EXPLORATION LLC	1/8-	909	251	N/A
LO-17315	E	9-5-4	WILSON WALTER JACOBSON	THE EXPLORATION LLC	1/8-	909	353	N/A
LO-17316	E	9-5-4	JAMES KEITH THOMAS AND VICKI J THOMAS	THE EXPLORATION LLC	1/8-	921	343	N/A
LO-17317	E	9-5-4	JAMES KEITH THOMAS AND VICKI J THOMAS	THE EXPLORATION LLC	1/8-	921	93	N/A
LO-17318	E	9-5-4	DEBRA P AND BARBARA EBEL HEART	THE EXPLORATION LLC	1/8-	921	528	N/A
LO-17319	E	9-5-4	WINGYUA WHITMAN	THE EXPLORATION LLC	1/8-	921	70	N/A
LO-17320	E	9-5-4	LESTER G AND CONSTANCE B NICKOLSON	THE EXPLORATION LLC	1/8-	921	343	N/A
LO-17321	E	9-5-4	LAURE EBEL PERRY	THE EXPLORATION LLC	1/8-	921	355	N/A
LO-17322	E	9-5-4	OSWY O WILSON	THE EXPLORATION LLC	1/8-	921	137	N/A
LO-17323	E	9-5-4	HESE LEON JR AND TERESA GAIL EBEL	THE EXPLORATION LLC	1/8-	921	118	N/A
LO-17324	E	9-5-4	HESE WEL JACOBSON KEAT BARNES	THE EXPLORATION LLC	1/8-	921	197	N/A
LO-17325	E	9-5-4	JAMES M BEVES JR AND MIRA M BEVES	THE EXPLORATION LLC	1/8-	921	341	N/A
LO-17326	E	9-5-4	THOMAS G AND DAVID W BARTLES	THE EXPLORATION LLC	1/8-	921	524	N/A
LO-17327	E	9-5-4	SANDRA DEAN WILSON	THE EXPLORATION LLC	1/8-	921	474	N/A
LO-17328	E	9-5-4	DAVID H WILSON	THE EXPLORATION LLC	1/8-	921	474	N/A

Cherone to the DEB 308748

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Lease Name or No.	Tag	Part	Grantor, Lessee, est.	Grantee, Lessee, est.	Royalty	Deed Book/pt	Assignment	Assignment	Assignment
107-1275	F	9-5	Gantion, Lessee, est.	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1276	F	9-5	JERRY REEVES AND KODIA G REEVES	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1277	F	9-5	BERNITA EZZEL WVAIT	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1278	F	9-5	MICHAEL J EZZEL	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1279	F	9-5	MELTON HOWARD EZZEL JR AND ELIZABETH A EZZEL	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1280	F	9-5	DERNIS M WILSON	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1281	F	9-5	RANDY J WILSON	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1282	F	9-5	PHILIPS BLAKE	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1283	F	9-5	TRISSA EZZEL BAWA AND DAVID L BAWA	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1284	F	9-5	NELDA S JACKSON	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1285	F	9-5	MARGIE ANN JACKSON ROBERTS GRAYMAN	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1292	F	9-5	JERRY L REEVES AND JORYL REEVES	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1327	F	9-5	LARRY MICHAEL EZZEL AND LUCILLE D EZZEL	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1351	F	9-5	KATHERINE L ROBER T DREBEL	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1354	F	9-5	HAMES R S BUCKER AND ROBERTSON	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1364	F	9-5	KESE ALI S JACKSON AND ELIZABETH D JACKSON	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1366	F	9-5	NATHAN J BARON AND T DEOSTI	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1368	F	9-5	DAVID M JACKSON	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1784	F	9-5	WANT CHRISTINE HOZDROVA	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1784	F	9-5	JEAN MARGE COHRER STORCH	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1784	F	9-5	JEAN MARGE COHRER STORCH	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1784	F	9-5	LARRY D RALPH AND MARGY L TRAUT	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1784	F	9-5	STEPHANE SCHERER AND GODFRIED SCHERER	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1784	F	9-5	BABYAN A BUZZANO	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1784	F	9-5	GARY WARD AND SHARON D WARD	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1784	F	9-5	ROBERT A LEADRETTI AND M REBECCA LEADRETTI	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1784	F	9-5	LARUE ENRIKES AND REBECCA ENRIKES	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1784	F	9-5	JOSUEA ENRIKES AND SUSAN RICHY	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-1784	F	9-5	OLYAN RICHY AND SUSAN RICHY	HH EXPLORATION LLC	1/8	921	N/A	N/A	N/A
107-15482	G	9-5	SUSAN REYSON	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1594	G	9-5	IVAN T GOBERY	CHESSPAKE APPELLACIA LLC	1/8	695	N/A	Chevrolet to Chevron; 50/451	Chevron to TIG HIE; 58/439
107-1595	G	9-5	JOSEPH D DALMAN	CHESSPAKE APPELLACIA LLC	1/8	695	N/A	Chevron to TIG HIE; 58/439	Chevron to TIG HIE; 58/439
107-1595	G	9-5	JOHN E GOBERY	CHESSPAKE APPELLACIA LLC	1/8	695	N/A	Chevrolet to Chevron; 50/451	Chevron to TIG HIE; 58/439
107-1597	G	9-5	VAREN S GAST	CHESSPAKE APPELLACIA LLC	1/8	694	N/A	Chevrolet to Chevron; 50/451	Chevron to TIG HIE; 58/439
107-1598	G	9-5	KODI WAZEL COVINA	CHESSPAKE APPELLACIA LLC	1/8	695	N/A	Chevrolet to Chevron; 50/451	Chevron to TIG HIE; 58/439
107-1599	G	9-5	PATRY JO NANI	CHESSPAKE APPELLACIA LLC	1/8	694	N/A	Chevrolet to Chevron; 50/451	Chevron to TIG HIE; 58/439
107-1599	G	9-5	JOHN OWEN POLTZ	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-15720	G	9-5	SANDRA X TRILL	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1604	G	9-5	MAITTE RUTH JACKSON MESCOTT	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1811	G	9-5	RUBY SIBULE JACKSON	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1812	G	9-5	ROBERT STEPHEN DRIBBERS	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1813	G	9-5	MARY ELIZABETH DRIBBERS	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1814	G	9-5	CECILIA HURSON	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1815	G	9-5	ROBERT RICHY	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1844	G	9-5	BARBARA L AND DARLITA LOUIS	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1845	G	9-5	MARION AND BILLY CAMPBELL	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1846	G	9-5	LIERA TUSEL AND JONAS A CAMPBELL	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1847	G	9-5	MARL MARIE JACKSON	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1848	G	9-5	WILSON MARGERY JACKSON	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1849	G	9-5	ROBERT O M ELLEN COLLINS	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1850	G	9-5	FRANCIS THOMAS AND VERA J HARRIS	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1851	G	9-5	MICHAEL PYTE	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1852	G	9-5	CHRISTY AND GAIL ANN PYTE	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1853	G	9-5	DECKI AND MERRILEE PYTE	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1854	G	9-5	JOHN S AND PATRICIA S DUNO	HH EXPLORATION LLC	1/8	908	N/A	N/A	N/A
107-1855	G	9-5	CHRISTY AND PATRICIA S DUNO	HH EXPLORATION LLC	1/8	927	N/A	N/A	N/A
107-1856	G	9-5	CHRISTY ANN TRACY	HH EXPLORATION LLC	1/8	927	N/A	N/A	N/A
107-1857	G	9-5	SHARLETT PYTE BLAKE	HH EXPLORATION LLC	1/8	927	N/A	N/A	N/A
107-1858	G	9-5	JOHN C COLLINS	HH EXPLORATION LLC	1/8	927	N/A	N/A	N/A

Operator's Well No. Ten High 1N - 2HM

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Operator's Well No. Ten High 1N - 2HM

Lease Name or No.	Tag	Part	Grantor, Lessee, etc.	Grantee, Lessee, etc.	Royalty	Direct Cost/yr	Assignment	Assignment	Assignment
10*1690	G	9-4	RICHARD ORTIZ	THE EXPLOATION LLC	1/8	921	352	N/A	N/A
10*1670	G	9-4	DOHIA EARLE BRASSETT	THE EXPLOATION LLC	1/8	921	155	N/A	N/A
10*1678	G	9-4	CHARLES EARLE AND ALVIN K RINE	THE EXPLOATION LLC	1/8	808	274	N/A	N/A
10*1647	G	9-4	WILLIAM DALE BRASSETT	THE EXPLOATION LLC	1/8	921	96	N/A	N/A
10*1677	G	9-4	HARRICK B CAMPBELL & BOBINA O CAMPBELL	THE EXPLOATION LLC	1/8	942	491	N/A	N/A
10*1680	G	9-4	JAMES ROBERT JACKSON AND JULIE JACKSON	THE EXPLOATION LLC	1/8	921	564	N/A	N/A
10*1682	G	9-4	CHRISTOPHER AND TAMMY DEJARDON	THE EXPLOATION LLC	1/8	921	485	N/A	N/A
10*1684	G	9-4	WILLIAM N AND SHERIE D WALTON	THE EXPLOATION LLC	1/8	921	510	N/A	N/A
10*1685	G	9-4	VERNONA WIRTHMAH	THE EXPLOATION LLC	1/8	921	528	N/A	N/A
10*1687	G	9-4	DANN TULLER AND SUSAN STORTS TULLER	THE EXPLOATION LLC	1/8	921	513	N/A	N/A
10*1688	G	9-4	MICHAEL LOBITZ	THE EXPLOATION LLC	1/8	921	349	N/A	N/A
10*1681	G	9-4	HAROLD W FOLE	THE EXPLOATION LLC	1/8	921	857	N/A	N/A
10*1681	G	9-4	THESELOE EUGER	THE EXPLOATION LLC	1/8	921	147	N/A	N/A
10*1681	G	9-4	SHELL BARRETT HERCOT	THE EXPLOATION LLC	1/8	921	516	N/A	N/A
10*1682	G	9-4	DENNIS D & HELENE G ANDERSON	THE EXPLOATION LLC	1/8	921	203	N/A	N/A
10*1683	G	9-4	ROSA F AND LEROY A STORTS	THE EXPLOATION LLC	1/8	921	497	N/A	N/A
10*1683	G	9-4	THESELOE EUGER	THE EXPLOATION LLC	1/8	921	472	N/A	N/A
10*1683	G	9-4	ROBERT FOUNSI	THE EXPLOATION LLC	1/8	921	52	N/A	N/A
10*1683	G	9-4	JAMES B FOUNSI AND LYNN M MCKOVERY	THE EXPLOATION LLC	1/8	921	73	N/A	N/A
10*1683	G	9-4	TRIA WOODR	THE EXPLOATION LLC	1/8	921	394	N/A	N/A
10*1688	G	9-4	MICHAEL W STORTS AND JESSICA M STORTS	THE EXPLOATION LLC	1/8	921	504	N/A	N/A
10*1679	G	9-4	MARIE E AND LESLEY A STORTS	THE EXPLOATION LLC	1/8	921	501	N/A	N/A
10*1680	G	9-4	BREVELY ANN STORTS	THE EXPLOATION LLC	1/8	921	498	N/A	N/A
10*1682	G	9-4	MARY BARCOW OLVE	THE EXPLOATION LLC	1/8	921	105	N/A	N/A
10*1682	G	9-4	DENNIS P AND BARBARA EZZLE HORTY	THE EXPLOATION LLC	1/8	921	70	N/A	N/A
10*1682	G	9-4	LESTER G AND CONSTANCE B RICHOLSON	THE EXPLOATION LLC	1/8	921	943	N/A	N/A
10*1687	G	9-4	FRANCO COCHERON	THE EXPLOATION LLC	1/8	921	102	N/A	N/A
10*1687	G	9-4	LAURE EZZLE PERNY	THE EXPLOATION LLC	1/8	921	555	N/A	N/A
10*1689	G	9-4	BRIETANN RICHARDSON	THE EXPLOATION LLC	1/8	921	578	N/A	N/A
10*1691	G	9-4	MARTELLEN FOUNSI AND LAUREN FOUNSI	THE EXPLOATION LLC	1/8	921	79	N/A	N/A
10*1695	G	9-4	THOMAS RAMON	THE EXPLOATION LLC	1/8	912	75	N/A	N/A
10*1710	G	9-4	CHRYL L BAERGER	THE EXPLOATION LLC	1/8	921	137	N/A	N/A
10*1715	G	9-4	JESSE LEON JR AND TERESA GAIL EZZLE	THE EXPLOATION LLC	1/8	921	118	N/A	N/A
10*1715	G	9-4	HERN NELL JACKSON KENT DAKES	THE EXPLOATION LLC	1/8	921	139	N/A	N/A
10*1715	G	9-4	JAMES H REEVES JR AND MIRA M REEVES	THE EXPLOATION LLC	1/8	921	567	N/A	N/A
10*1715	G	9-4	THOMAS G AND DEANNE W BARTLESS	THE EXPLOATION LLC	1/8	921	141	N/A	N/A
10*1728	G	9-4	SANDRA JEAN WALSON	THE EXPLOATION LLC	1/8	921	524	N/A	N/A
10*1728	G	9-4	DAVID H WALSON	THE EXPLOATION LLC	1/8	921	96	N/A	N/A
10*1728	G	9-4	IGOR H REEVES AND MONA G REEVES	THE EXPLOATION LLC	1/8	921	474	N/A	N/A
10*1728	G	9-4	BERTHA EZZLE WYATT	THE EXPLOATION LLC	1/8	921	973	N/A	N/A
10*1728	G	9-4	MICHAEL EZZLE	THE EXPLOATION LLC	1/8	921	526	N/A	N/A
10*1727	G	9-4	ASHELY W FOUNSI	THE EXPLOATION LLC	1/8	921	121	N/A	N/A
10*1716	G	9-4	MICHAEL LOBITZ	THE EXPLOATION LLC	1/8	921	76	N/A	N/A
10*1716	G	9-4	ANDREW M ORTIZ	THE EXPLOATION LLC	1/8	921	128	N/A	N/A
10*1716	G	9-4	FRANK W WALSON	THE EXPLOATION LLC	1/8	921	346	N/A	N/A
10*1716	G	9-4	TERESA WALSON	THE EXPLOATION LLC	1/8	921	478	N/A	N/A
10*1716	G	9-4	ROBERT WALSON	THE EXPLOATION LLC	1/8	921	464	N/A	N/A
10*1716	G	9-4	SCOTT WALSON	THE EXPLOATION LLC	1/8	921	522	N/A	N/A
10*1716	G	9-4	SCOTT WALSON AND MARGY JEAN ALLEN	THE EXPLOATION LLC	1/8	921	534	N/A	N/A
10*1716	G	9-4	HELENE HONOROVICK	THE EXPLOATION LLC	1/8	921	357	N/A	N/A
10*1716	G	9-4	FRANK W WALSON	THE EXPLOATION LLC	1/8	921	99	N/A	N/A
10*1716	G	9-4	FRANK W WALSON	THE EXPLOATION LLC	1/8	921	130	N/A	N/A
10*1716	G	9-4	TERESA EZZLE PERLA AND DAVID L PERLA	THE EXPLOATION LLC	1/8	921	487	N/A	N/A
10*1716	G	9-4	RICHARD PINE	THE EXPLOATION LLC	1/8	921	859	N/A	N/A
10*1716	G	9-4	WELDON JACKSON	THE EXPLOATION LLC	1/8	921	850	N/A	N/A
10*1716	G	9-4	MARGIE ANN JACKSON ROBBINS GRAYMAN	THE EXPLOATION LLC	1/8	921	91	N/A	N/A

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Operator's Well No. Ten High 1N - 2HM

08/03/2018

Lease Name or No.	Tag	Period	Operator/Lessor, etc.	Grantee, Lessee, etc.	Royalty	Deed Book/Pg	Assignment	Assignment	Assignment
LD-17265	G	9-5-4	JERRY L. REEVES AND JOEY REEVES	TH DEVELOPMENT LLC	1/8	921	370	N/A	N/A
LD-17267	G	9-5-4	JAMES MICHAEL EZZEL AND LUCILLE D EZZEL	TH DEVELOPMENT LLC	1/8	921	111	N/A	N/A
LD-17268	G	9-5-4	CHERYL BARNHART KING	TH DEVELOPMENT LLC	1/8	952	160	N/A	N/A
LD-17269	G	9-5-4	JOHN BREVOLIA AND PATRICIA A BREVOLIA	TH DEVELOPMENT LLC	1/8	921	144	N/A	N/A
LD-17270	G	9-5-4	MICHAEL T BARKIN	TH DEVELOPMENT LLC	1/8	921	381	N/A	N/A
LD-17271	G	9-5-4	MARTIN L & ROBERT L TREL	TH DEVELOPMENT LLC	1/8	921	519	N/A	N/A
LD-17272	G	9-5-4	JAMES R & THAYER E BRIDGEMAN	TH DEVELOPMENT LLC	1/8	921	340	N/A	N/A
LD-17273	G	9-5-4	JESSE ALLEN JACOBSON AND ELIZABETH D JACOBSON	TH DEVELOPMENT LLC	1/8	921	106	N/A	N/A
LD-17274	G	9-5-4	JAMES M JACOBSON	TH DEVELOPMENT LLC	1/8	921	325	N/A	N/A
LD-17275	G	9-5-4	SMAN PRESLEY EZZEL	TH DEVELOPMENT LLC	1/8	921	116	N/A	N/A
LD-17276	G	9-5-4	HOLLY SUE GUTSBERG	TH DEVELOPMENT LLC	1/8	925	80	N/A	N/A
LD-17277	G	9-5-4	CHRISTOPHER A HARRIS AND JACQUE F HARRIS	TH DEVELOPMENT LLC	1/8	927	267	N/A	N/A
LD-17278	G	9-5-4	DALE WARD AND CYNTHIA WARD	TH DEVELOPMENT LLC	1/8	927	364	N/A	N/A
LD-17279	G	9-5-4	THE ESTATE OF AGNES REBE EZZEL CLARK BY DANIEL M EDWARDS, EXECUTOR	TH DEVELOPMENT LLC	1/8	942	63	N/A	N/A
LD-17280	G	9-5-4	REBEKAH WALKER	TH DEVELOPMENT LLC	1/8	928	48	N/A	N/A
LD-17281	G	9-5-4	ROBERT L WALKER & SHERAL SUE WALKER	TH DEVELOPMENT LLC	1/8	948	212	N/A	N/A
LD-17282	G	9-5-4	DAVID D WARD AND MARCEL T WARD	TH DEVELOPMENT LLC	1/8	928	24	N/A	N/A
LD-17283	G	9-5-4	BRADLEY A BUDZIO	TH DEVELOPMENT LLC	1/8	928	19	N/A	N/A
LD-17284	G	9-5-4	DAVID WARD AND SHARON D WARD	TH DEVELOPMENT LLC	1/8	928	136	N/A	N/A
LD-17285	G	9-5-4	JOYCE K OWENS	TH DEVELOPMENT LLC	1/8	928	141	N/A	N/A
LD-17286	G	9-5-4	DOANNE WELCH	TH DEVELOPMENT LLC	1/8	928	99	N/A	N/A
LD-17287	G	9-5-4	WENDY J SWANER	TH DEVELOPMENT LLC	1/8	928	277	N/A	N/A
LD-17288	G	9-5-4	LAURENCE DUGGINS HANDBERSON	TH DEVELOPMENT LLC	1/8	928	185	N/A	N/A
LD-17289	G	9-5-4	MARCY CAMPBELL HOWLEY	TH DEVELOPMENT LLC	1/8	928	187	N/A	N/A
LD-17290	G	9-5-4	DEBRA L CAMPBELL HOWLEY	TH DEVELOPMENT LLC	1/8	928	192	N/A	N/A
LD-17291	G	9-5-4	ROBERTA BONE AND REBECCA BONE	TH DEVELOPMENT LLC	1/8	927	634	N/A	N/A
LD-17292	H	9-5-4.1	GONITA ANNA HAZEL - SR	CHESSVALE APPALACHIA LLC	1/8	695	527	Chessvale to Chevron: 50/451	Chevron to Tug Hill: 50/451
LD-17293	H	9-5-4.1	PAUL PATRY JO - SR	CHESSVALE APPALACHIA LLC	1/8	695	519	Chevron to Tug Hill: 50/451	Chevron to Tug Hill: 50/451
LD-17294	H	9-5-4.1	SCOTT STEPHANIE L FT VEH - SR	CHESSVALE APPALACHIA LLC	1/8	694	561	Chevron to Tug Hill: 50/451	Chevron to Tug Hill: 50/451
LD-17295	H	9-5-4.1	GOLBY JOHN E - SR	CHESSVALE APPALACHIA LLC	1/8	685	321	N/A	N/A
LD-17296	H	9-5-4.1	DAVIAN JOSEPH D - SR	CHESSVALE APPALACHIA LLC	1/8	695	529	Chessvale to Chevron: 50/451	Chevron to Tug Hill: 50/451
LD-17297	H	9-5-4.1	STONCI JZAN AIF JOHN HERMAN STONCH - SR	TH DEVELOPMENT LLC	1/8	695	519	Chessvale to Chevron: 50/451	Chevron to Tug Hill: 50/451
LD-17298	H	9-5-4.1	GAET TADEN S - SR	CHESSVALE APPALACHIA LLC	1/8	694	534	N/A	N/A
LD-17299	H	9-5-4.1	LEONETTE ROBERT A ET UX - SR	TH DEVELOPMENT LLC	1/8	835	524	Chessvale to Chevron: 50/451	Chevron to Tug Hill: 50/451

STATE OF WEST VIRGINIA §  
§  
COUNTY OF MARSHALL §

Jan Pest  
MARSHALL County 12:43:01 PM  
Instrument No 1404676  
Date Recorded 05/20/2016  
Document Type AGN  
Pages Recorded 20  
Book-Page 36-148  
Recording Fee \$20.00  
Additional \$8.00

**ASSIGNMENT AND CONVEYANCE**

THIS ASSIGNMENT AND CONVEYANCE (the "Assignment") is made and entered into this 17th day of May, 2016 (the "Effective Date"), by and between CHEVRON U.S.A. INC. (hereinafter "Assignor") and TH EXPLORATION, LLC (hereinafter "Assignee") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated May 2, 2016 (the "Acreage Trade Agreement"). Capitalized terms used but not defined herein and defined in the Acreage Trade Agreement shall have the meanings given to such terms in the Acreage Trade Agreement.

**WITNESSETH:**

WHEREAS, Assignor desires to assign, set over, and transfer to Assignee all of Assignor's right, title, and interest in and to those certain Oil and Gas Leases situated in Marshall County, West Virginia, as described in Exhibit "A", and as depicted in Exhibits "A-1" and "A-2", attached hereto and made a part hereof (hereinafter the "Leases"); and

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

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

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

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

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

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Oil and Gas  
#217 JAN 2 2018  
for new  
WV Department of  
Environmental Protection



**COPY**

AFFIDAVIT

STATE OF TEXAS §  
  § SS  
COUNTY OF TARRANT §

On this 18<sup>th</sup> day of October, 2016, before me, the undersigned authority, personally appeared David D. Kalish ("Affiant") who being first duly sworn under oath, deposes and saith:

1. TH Exploration, LLC, TH Exploration II, LLC and TH Exploration III, LLC are wholly owned subsidiaries of THQ Appalachia I, LLC.
2. Tug Hill Operating, LLC provides oil and gas operations services to THQ Appalachia I, LLC under an Operating Services Agreement dated July 23, 2014.
3. David D. Kalish, the Affiant, is the Vice President of Tug Hill Operating, LLC, THQ Appalachia I, LLC, TH Exploration, LLC, TH Exploration II, LLC and TH Exploration III, LLC, and;
3. Tug Hill Operating, LLC is authorized to operate and maintain the assets owned by THQ Appalachia I, LLC, including, as referenced above, TH Exploration, LLC, TH Exploration II, LLC, and TH Exploration III, LLC, including oil and gas leases, wells, pipelines, surface facilities, and other all other assets that support the business of THQ Appalachia I, LLC, and;
4. Specifically, Tug Hill Operating, LLC is authorized to submit and obtain well work permits and carry out all activities pursuant to such work permits for assets owned by TH Exploration, LLC, TH Exploration II, LLC, TH Exploration III, LLC.

FURTHER, AFFIANT SAITH NOT.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this 18<sup>th</sup> day of October, 2016.

David D. Kalish  
Affiant: David D. Kalish

JURAT

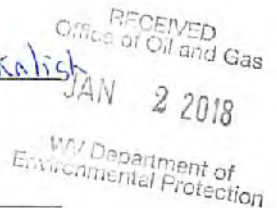
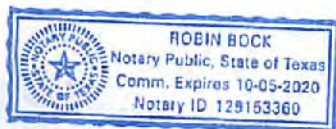
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Document Type NIS  
Pages Recorded 1  
Book-Page 28-62  
Recording Fee \$5.00  
Additional \$5.00

STATE OF TEXAS §  
  § SS  
COUNTY OF TARRANT §

Sworn and subscribed to (or affirmed) before me on this, the 18<sup>th</sup> day of October, 2016, by David D. Kalish

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

My Commission Expires: 10-05-2020  
Signature/Notary Public: Robin Bock  
Name/Notary Public (Print): Robin Bock



**COPY**

AFFIDAVIT

STATE OF TEXAS       §  
                                  § SS  
COUNTY OF TARRANT   §

On this 18<sup>th</sup> day of October, 2016, before me, the undersigned authority, personally appeared David D. Kalish ("Affiant") who being first duly sworn under oath, deposes and saith:

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3. David D. Kalish, the Affiant, is the Vice President of Tug Hill Operating, LLC, THQ Appalachia I, LLC, TH Exploration, LLC, TH Exploration II, LLC and TH Exploration III, LLC, and;
3. Tug Hill Operating, LLC is authorized to operate and maintain the assets owned by THQ Appalachia I, LLC, including, as referenced above, TH Exploration, LLC, TH Exploration II, LLC, and TH Exploration III, LLC, including oil and gas leases, wells, pipelines, surface facilities, and other all other assets that support the business of THQ Appalachia I, LLC, and;
4. Specifically, Tug Hill Operating, LLC is authorized to submit and obtain well work permits and carry out all activities pursuant to such work permits for assets owned by TH Exploration, LLC, TH Exploration II, LLC, TH Exploration III, LLC.

RECEIVED  
Office of Oil and Gas

FEB 23 2018

FURTHER, AFFIANT SAITH NOT.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this 18<sup>th</sup> day of October, 2016.

WV Department of  
Environmental Protection

David D. Kalish  
Affiant: David D. Kalish

JURAT

Jan Pest  
MARSHALL County 03:44:28 PM  
Instrument No 1416299  
Date Recorded 10/19/2016  
Document Type HIS  
Pages Recorded 1  
Book-Page 28-62  
Recording Fee \$5.00  
Additional \$6.00

STATE OF TEXAS       §  
                                  § SS  
COUNTY OF TARRANT   §

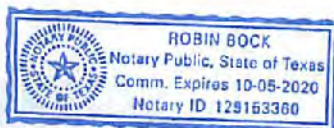
Sworn and subscribed to (or affirmed) before me on this, the 18<sup>th</sup> day of October, 2016, by David D. Kalish

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

My Commission Expires: 10-05-2020

Signature/Notary Public: Robin Bock

Name/Notary Public (Print): Robin Bock



**MEMORANDUM OF AGREEMENT**

This Memorandum of Agreement is entered into this 16<sup>th</sup> day of February, 2018, between TUG HILL OPERATING, LLC (THQ), a Texas limited liability company, whose address is 1320 S. University Blvd., Suite 500, Fort Worth, TX 76107 and CHEVRON U.S.A., INC. (Chevron), a Pennsylvania corporation, whose address is 700 Cherrington Parkway, Coraopolis, PA 15108.

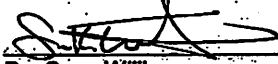
**PARTIES AND AGREEMENT REFERENCE:** THQ and Chevron entered into a letter agreement ("Letter Agreement") dated February 16<sup>th</sup>, 2018 (the "Commencement Date") outlining pursuit of definitive agreements to allow THQ the right to permit, drill, extract, produce and market oil and gas from those certain oil and gas interests controlled by Chevron in the Meade District of Marshall County, West Virginia, as more fully described in Exhibit A attached hereto, made a part hereof, and incorporated herein by reference.

1. **TERM:** The rights granted in the Letter Agreement will terminate upon the earlier of (i) one hundred eighty (180) days from the Commencement Date, (ii) Chevron's revocation of the rights granted in the Letter Agreement, or (iii) the parties entering into the definitive agreement described in the Letter Agreement. Upon termination of the Letter Agreement under subsection (i) or (ii) of the immediately preceding sentence, THQ will record a surrender of this Memorandum and withdraw any related well work permit requests.

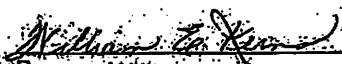
2. **MEMORANDUM FOR RECORDING PURPOSES ONLY:** This Memorandum is for recording purposes only and does not supplement or supersede the parties' respective rights set forth in the Letter Agreement or other agreements.

IN WITNESS WHEREOF, the parties have signed their names hereto as of the date first above written.

Tug Hill Operating, LLC

  
By: Sean Willis  
Its: VP, Engineering &  
Development Manager - Appalachia

Chevron U.S.A., Inc.

  
By: William E. Kerns  
Its: Attorney-in-Fact

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Office of Oil and Gas

FEB 23 2018

WV Department of  
Environmental Protection

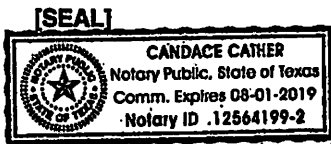
Marshall County  
Jan Pest, Clerk  
Instrument 1436705  
02/16/2018 @ 02:16:57 PM  
AGREEMENT  
Book 960 @ Page 409  
Pages Recorded 2  
Recording Cost \$ 11.00

Prepared by Tug Hill Operating, LLC  
1320 S. University Dr., Suite 500, Fort Worth, TX 76107

STATE OF Texas :

COUNTY OF Tarrant :

Before me, <sup>cgc</sup> Sean Willis Cardace Cather, a Notary Public, on this day personally appeared Sean Willis, known to me to be the VP, Engineering & Development Manager Tug Hill Operating LLC, subscribed to the foregoing instrument, and acknowledged to me that he/she executed the instrument for the purposes and consideration therein expressed as his/her free act and deed. Given under my hand and seal of office this 14<sup>th</sup> day of February, 2018. My Commission expires: 08/01/2019.

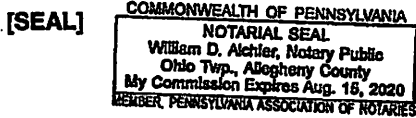


Cardace Cather  
Notary Public

STATE OF Pennsylvania :

COUNTY OF Allegheny :

Before me, William D. Acheier, a Notary Public, on this day personally appeared William F. Kelos, known to me to be the Attorney-in-Fact of Chevron U.S.A. Inc., subscribed to the foregoing instrument, and acknowledged to me that he/she executed the instrument for the purposes and consideration therein expressed as his/her free act and deed. Given under my hand and seal of office this 12<sup>th</sup> day of February, 2018. My Commission expires: 8-15-2020.



William D. Acheier  
Notary Public

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Office of Oil and Gas  
FEB 23 2018

WV Department of  
Environmental Protection

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 14<sup>th</sup> day of February, 2018, was presented for and by me, admitted to record in my office upon the above certificate as to the parties therein named this 16<sup>th</sup> day of February, 2018 at 2:10 o'clock P. M.

TESTE: Jan Pest Clerk.

DPS LAND SERVICE  
6000 TOWN CENTER BLVD STE 145  
DANBURG, PA 15317-5841

BOOK 0036 PAGE 0148

STATE OF WEST VIRGINIA §  
§  
COUNTY OF MARSHALL §

Jon Post  
MARSHALL County 12:43:01 PM  
Instrument No 1404876  
Date Recorded 05/20/2016  
Document Type ASB  
Pages Recorded 20  
Book-Page 36-148  
Recording Fee \$20.00  
Additional \$8.00

ASSIGNMENT AND CONVEYANCE

**THIS ASSIGNMENT AND CONVEYANCE** (the "**Assignment**") is made and entered into this 17th day of May, 2016 (the "**Effective Date**"), by and between **CHEVRON U.S.A. INC.** (hereinafter "**Assignor**") and **TH EXPLORATION, LLC** (hereinafter "**Assignee**") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated May 2, 2016 (the "**Acreage Trade Agreement**"). Capitalized terms used but not defined herein and defined in the Acreage Trade Agreement shall have the meanings given to such terms in the Acreage Trade Agreement.

WITNESSETH:

WHEREAS, Assignor desires to assign, set over, and transfer to Assignee all of Assignor's right, title, and interest in and to those certain Oil and Gas Leases situated in Marshall County, West Virginia, as described in Exhibit "A", and as depicted in Exhibits "A-1" and "A-2", attached hereto and made a part hereof (hereinafter the "Leases"); and

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

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

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

RECEIVED  
Office of Oil and Gas  
FEB 23 2018

**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.

WV Department of  
Environmental Protection

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

#217  
for new

WW-PN  
(11-18-2015)

**Horizontal Natural Gas Well Work Permit  
Application Notice By Publication**

**Notice is hereby given:**

Pursuant to West Virginia Code 22-6A-10(e) prior to filing an application for a permit for a horizontal well the applicant shall publish in the county in which the well is located or is proposed to be located a Class II legal advertisement.

**Paper:** Moundsville Daily Echo

**Public Notice Date:** February 23 & March 02, 2017

The following applicant intends to apply for a horizontal natural well work permit which disturbs three acres or more of surface excluding pipelines, gathering lines and roads or utilizes more than two hundred ten thousand gallons of water in any thirty day period.

**Applicant:** Tug Hill Operating, LLC

**Well Number:** TEN HIGH 1N-2HM

**Address:** 380 Southpointe Blvd, Southpointe Plaza II, Suite 200

Canonsburg, PA 15317

**Business Conducted:** Natural gas production.

**Location –**

State: West Virginia

County: Marshall

District: Meade

Quadrangle: Glen Easton 7.5'

UTM Coordinate NAD83 Northing: 4,406,363.91

UTM coordinate NAD83 Easting: 527,305.49

Watershed: Fish Creek

**Coordinate Conversion:**

To convert the coordinates above into longitude and latitude, visit: [http://tagis.dep.wv.gov/convert/llutm\\_conus.php](http://tagis.dep.wv.gov/convert/llutm_conus.php)

**Electronic notification:**

To receive an email when applications have been received or issued by the Office of Oil and Gas, visit <http://www.dep.wv.gov/insidedep/Pages/DEPMailingLists.aspx> to sign up.

**Reviewing Applications:**

Copies of the proposed permit application may be reviewed at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE Charleston, WV 25304 (304-926-0450). Full copies or scans of the proposed permit application will cost \$15, whether mailed or obtained at DEP headquarters. Copies may be requested by calling the office or by sending an email to [DEP.comments@wv.gov](mailto:DEP.comments@wv.gov).

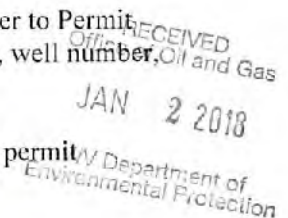
**Submitting Comments:**

Comments may be submitted online at <https://apps.dep.wv.gov/oog/comments/comments.cfm>, or by letter to Permit Review, Office of Oil and Gas, 601 57<sup>th</sup> Street, SE Charleston, WV 25304. Please reference the county, well number and operator when using this option.

Regardless of format for comment submissions, they must be received no later than thirty days after the permit application is received by the Office of Oil and Gas.

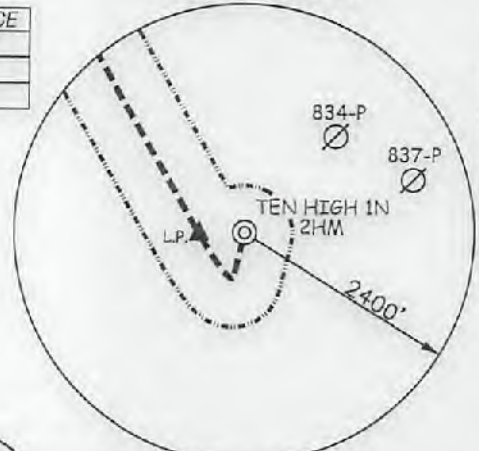
For information related to horizontal drilling visit: [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx)

08/03/2018



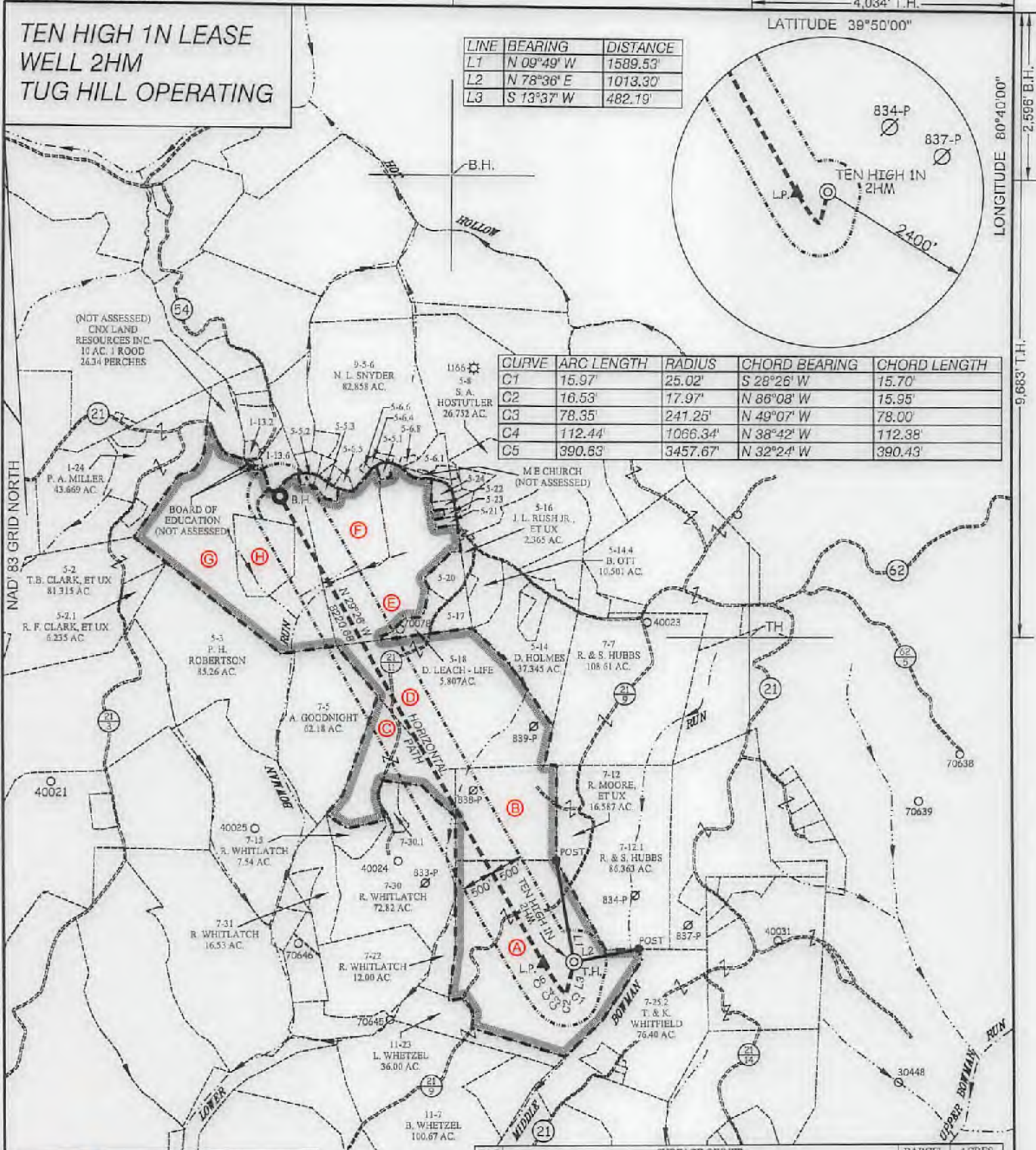
**TEN HIGH 1N LEASE  
WELL 2HM  
TUG HILL OPERATING**

LINE	BEARING	DISTANCE
L1	N 09°49' W	1589.53'
L2	N 78°36' E	1013.30'
L3	S 13°37' W	482.19'



CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	15.97'	25.02'	S 28°26' W	15.70'
C2	16.53'	17.97'	N 86°08' W	15.95'
C3	78.35'	241.25'	N 49°07' W	78.00'
C4	112.44'	1066.34'	N 38°42' W	112.38'
C5	390.63'	3457.67'	N 32°24' W	390.43'

NAD'83 GRID NORTH



**SLS**  
Land & Energy Development  
Solutions from the ground up.  
P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26351 • (304) 482-5634  
www.slsurveys.com

TAG	SURFACE OWNER	PARCEL	ACRES
A	LAWRENCE & SHIRLEY CONKLE ESTS	9-7-24	139.79
B	RONALD MOORE, ET UX	9-7-13	51.49
C	ARNIE GOODNIGHT, ET UX	9-7-14	39.55
D	TERESA L. HORNER WITH JERRY G. & CAROLYN K. FLETCHER (LIFE ESTATE)	9-7-6	103.30
E	MICHAEL JOSEPH SNYDER	9-5-5.4	64.00
F	MICHAEL JOSEPH SNYDER	9-5-5	35.02
G	ELMER ASTON	9-5-4	108.225
H	CONSOLIDATION COAL COMPANY	9-5-4.1	22.775

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

NAD'83 S.P.C.(FT)	N. 478,141.34	E. 1,636,716.66
NAD'83 GEO.	LAT-(N) 39.806753	LONG-(W) 80.681027
NAD'83 UTM (M)	N. 4,408,357.67	E. 527,304.07

**LANDING POINT**

NAD'83 S.P.C.(FT)	N. 478,128.4	E. 1,636,241.3
NAD'83 GEO.	LAT-(N) 39.806700	LONG-(W) 80.682718
NAD'83 UTM (M)	N. 4,408,351.3	E. 527,159.3

**BOTTOM HOLE**

NAD'83 S.P.C.(FT)	N. 485,266.1	E. 1,632,201.6
NAD'83 GEO.	LAT-(N) 39.828207	LONG-(W) 80.697438
NAD'83 UTM (M)	N. 4,408,512.0	E. 525,692.2

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

P.S. 677 *Gregory A. Smith*

**LEGEND**

- LEASE LINE
- SURFACE LINE
- WELL LATERAL
- OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- TAX MAP-PARCEL
- SURFACE OWNER (SEE TABLE)
- LEASE # (SEE WW-6A1)

SCALE 1" = 2000' FILE NO. 8655P2HMR5.dwg  
 DATE APRIL 20, 20 17  
 REVISED 06/15/17, 09/12/17, 12/28/17 & 02/19/18  
 OPERATORS WELL NO. TEN HIGH 1N-2HM  
 API WELL NO. 47 — 051 — 01934 MOD  
 NO. STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
 DIVISION OF ENVIRONMENTAL PROTECTION  
 OFFICE OF OIL AND GAS  
 H6A

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

COUNTY PERMIT

08/03/2018

TEN HIGH 1N LEASE  
WELL 2HM  
TUG HILL OPERATING

8,642' B.H. 4,034' T.H.

LATITUDE 39°50'00"

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
 NAD'83 S.P.C.(FT) N. 478,141.34 E. 1,636,716.86  
 NAD'83 GEO. LAT-(N) 39.806753 LONG-(W) 80.681027  
 NAD'83 UTM (M) N. 4,406,357.67 E. 527,304.07  
**LANDING POINT**  
 NAD'83 S.P.C.(FT) N. 478,128.4 E. 1,636,241.3  
 NAD'83 GEO. LAT-(N) 39.806700 LONG-(W) 80.682718  
 NAD'83 UTM (M) N. 4,406,351.3 E. 527,159.3  
**BOTTOM HOLE**  
 NAD'83 S.P.C.(FT) N. 485,289.1 E. 1,632,201.6  
 NAD'83 GEO. LAT-(N) 39.826207 LONG-(W) 80.697436  
 NAD'83 UTM (M) N. 4,408,512.0 E. 525,892.2

B.H.

LONGITUDE 80°40'00"

2,596' B.H.

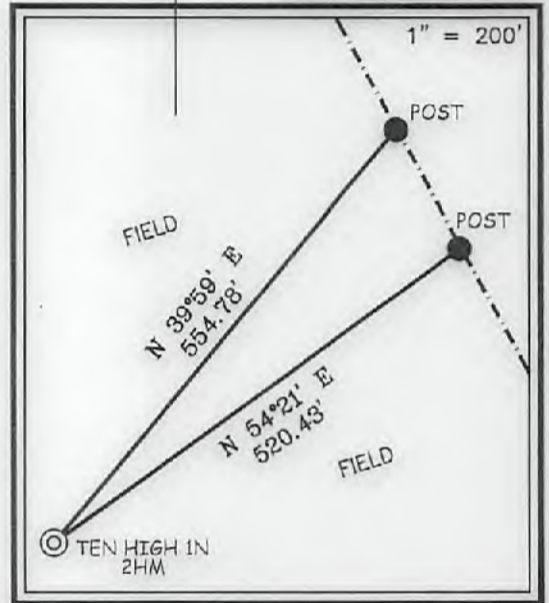
9,683' T.H.

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
9-1-13.2	RANDALL A. KERESKES	1.518
9-1-13.6	GERALD E. LOGSDON, ET UX	7.621
9-5-5.1	DAVID M. TOLER, ET UX	0.985
9-5-5.2	PETER PARKER	0.873
9-5-5.3	MICHAEL J. & NANCY L. SNYDER	1.870
9-5-6.1	JON B. CRAWFORD	4.679
9-5-6.4	NANCY L. SNYDER	0.694
9-5-6.5	LINDA GORBY DELBERT	1.087
9-5-6.6	NANCY L. SNYDER	0.420
9-5-6.8	NANCY L. SNYDER	0.691
9-5-17	CARLA SUE CROW	5.341
9-5-20	KEITH WILSON - DONALD E. LEACH (LIFE ESTATE)	6.924
9-5-21	RALPH E. WELLMAN, ET UX	1.00
9-5-22	RALPH E. WELLMAN, ET UX	0.5
9-5-23	RALPH E. WELLMAN, ET UX	1.00
9-5-24	ALVIE & MARCELLA DARRAH	1.986
9-7-30.1	ANDREW COREY WHITLATCH	4.55

NOTES ON SURVEY

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'

REFERENCES



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 APRIL 20, 20 17  
 REVISED 06/15/17, 09/12/17, 12/28/17 & 02/19/18  
 OPERATORS WELL NO. TEN HIGH 1N-2HM  
 API WELL NO. 47 - 051 - 01934 moo  
 STATE COUNTY PERMIT H6A

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. 8655P2HMR5.dwg  
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'

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



WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ IF "GAS" PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
 LOCATION: GROUND = 1,321.00' ELEVATION PROPOSED = 1,310.06' WATERSHED MIDDLE BOWMAN RUN OF FISH CREEK (HUC-10)  
 DISTRICT MEADE COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'  
 SURFACE OWNER LAWRENCE & SHIRLEY CONKLE ESTS ACREAGE 139.79±  
 ROYALTY OWNER ANDY PAUL & JACKIE KUHN, ET AL - SEE WW-6A1 ACREAGE 139.79±  
 PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_ OTHER \_\_\_  
 PHYSICAL CHANGE IN WELL (SPECIFY) TARGET FORMATION MARCELLUS ESTIMATED DEPTH TVD: 6,865' / TMD: 15,329'

COUNTY NAME PERMIT

08/03/2018

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

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



Supplemental

51-01934



April 18, 2017

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

RE: Ten High 1N-2HM

Subject: Marshall County Route 21/9 and 21/11 Road Crossing Letter

Dear Laura:

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 21/9 and 21/11 in the area reflected on the Ten High 1N-2HM 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 304-689-7676, or by email at [jwhite@tug-hilop.com](mailto:jwhite@tug-hilop.com).

Sincerely,

A handwritten signature in cursive script that reads "Jonathan White".

Jonathan White  
Regulatory Analyst – Appalachia Region  
Cell 304-689-7676  
Email: [jwhite@tug-hilop.com](mailto:jwhite@tug-hilop.com)

380 SOUTHPOINTE BLVD • SUITE 200 • CANONSBURG, PA 15317 • T 724.485-2000 • F 724.338.2030

08/03/2018

51-01934

WW-PN  
(11-18-2015)

**Horizontal Natural Gas Well Work Permit  
Application Notice By Publication**

**Notice is hereby given:**

Pursuant to West Virginia Code 22-6A-10(e) prior to filing an application for a permit for a horizontal well the applicant shall publish in the county in which the well is located or is proposed to be located a Class II legal advertisement.

**Paper:** Moundsville Daily Echo

**Public Notice Date:** February 23 & March 02, 2017

The following applicant intends to apply for a horizontal natural well work permit which disturbs three acres or more of surface excluding pipelines, gathering lines and roads or utilizes more than two hundred ten thousand gallons of water in any thirty day period.

**Applicant:** Tug Hill Operating, LLC **Well Number:** TEN HIGH 1N-2HM

**Address:** 380 Southpointe Blvd, Southpointe Plaza II, Suite 200  
Canonsburg, PA 15317

**Business Conducted:** Natural gas production.

**Location --**

**State:** West Virginia **County:** Marshall  
**District:** Meade **Quadrangle:** Glen Easton 7.5'  
**UTM Coordinate NAD83 Northing:** 4,406,363.91  
**UTM coordinate NAD83 Easting:** 527,305.49  
**Watershed:** Fish Creek

**Coordinate Conversion:**

To convert the coordinates above into longitude and latitude, visit: [http://tagis.dep.wv.gov/convert/llutm\\_conus.php](http://tagis.dep.wv.gov/convert/llutm_conus.php)

**Electronic notification:**

To receive an email when applications have been received or issued by the Office of Oil and Gas, visit <http://www.dep.wv.gov/insidedep/Pages/DEPMailingLists.aspx> to sign up.

**Reviewing Applications:**

Copies of the proposed permit application may be reviewed at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE Charleston, WV 25304 (304-926-0450). Full copies or scans of the proposed permit application will cost \$15, whether mailed or obtained at DEP headquarters. Copies may be requested by calling the office or by sending an email to [DEP.comments@wv.gov](mailto:DEP.comments@wv.gov).

**Submitting Comments:**

Comments may be submitted online at <https://apps.dep.wv.gov/oog/comments/comments.cfm>, or by letter to Permit Review, Office of Oil and Gas, 601 57<sup>th</sup> Street, SE Charleston, WV 25304. Please reference the county, well number, and operator when using this option.

Regardless of format for comment submissions, they must be received no later than thirty days after the permit application is received by the Office of Oil and Gas.

For information related to horizontal drilling visit: [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx)



Thursday, February 23, 2017 - Mound

LEGAL ADVERTISEMENT

Horizontal Natural Gas Well Work Permit

Application Notice By Publication Notice is hereby given: Pursuant to West Virginia Code 23-6A-10(e) prior to filing an application for a permit for a horizontal well the applicant shall publish in the county in which the well is located or is proposed to be located a Class II legal advertisement.

Paper: Moundsville Daily Echo Public Notice Date: February 23 & March 02, 2017

The following applicant intends to apply for a horizontal natural well permit which disturbs three acres or more of surface including pipelines, gathering lines and roads or utilizes more than two hundred ten thousand gallons of water in any thirty day period.

Applicant: Tug Hill Operating, LLC Address: 380 Southpointe Blvd, Southpointe Plaza II, Suite 200, Canonsburg, PA 15317

Well Number: TEN HIGH 1N-2HM Business Conducted: Natural gas production.

Location - State: West Virginia County: Marshall District: Meade Quadrangle: Glen Easton 7.5 UTM Coordinate NAD83 Northing: 4,606,363.91

UTM coordinate NAD83 Easting: 527,305.49

Watershed: Fish Creek Coordinate Conversion: To convert the coordinates above into longitude and latitude, visit: http://gis.dep.wv.gov/convert/latutm\_conversion.php

Electronic notification: To receive an email when applications have been received or issued by the Office of Oil and Gas, visit http://www.dep.wv.gov/inskddep/Pages/DEPMailingLists.aspx to sign up.

Reviewing Applications: Copies of the proposed permit application may be reviewed at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE Charleston, WV 25304 (304-926-0450). Full copies or scans of the proposed permit application will cost \$15, whether mailed or obtained at DEP headquarters. Copies may be requested by calling the office or by sending an email to DEP.comments@wv.gov.

Submitting Comments: Comments may be submitted online at https://apps.dep.wv.gov/og/comments/comments.cfm, or by letter to Permit Review, Office of Oil and Gas, 601 57th Street, SE Charleston, WV 25304. Please reference the county, well number, and operator when using this option.

Regardless of format for comment submissions, they must be received no later than thirty days after the permit application is received by the Office of Oil and Gas.

For information related to horizontal drilling visit: www.dep.wv.gov/oil-and-gas/pages/default.aspx

PUBLISH: February 23, March 2, 2017.

AFFIDAVIT OF PUBLICATION

STATE OF WEST VIRGINIA, COUNTY OF MARSHALL, to wit

I, Melanie S. Murdock being first duly sworn upon my oath, do depose and say: that I am Legal Advertising Manager of the MOUNDSVILLE DAILY ECHO, a Republican newspaper; that I have been duly authorized to execute this affidavit; that such newspaper has been published for over 119 years, is regularly published afternoons daily except Saturdays and Sundays, for at least fifty weeks during the calendar year, in the municipality of Moundsville, Marshall County, West Virginia; that such newspaper is a newspaper of "general circulation" as defined in Art. 3, Chap. 49 of the Code of West Virginia 1931 as amended, within Moundsville and Marshall County; that such newspaper averages in length four or more pages, exclusive of any cover, per issue; that such newspaper is circulated to the general public at a definite price or consideration; that such newspaper is a newspaper to which the general public resorts for passing events of a political, religious, commercial and social nature and for current happenings, announcements, miscellaneous reading matters, advertisements and other notices; and that the annexed notice described as follows:

Legal Advertisement

PARTY(ies) Gas Well Permit / Ten-High 1N-2HM

NATURE (and agency if heard before one)

CERTIFICATE TO Tug Hill Operating, LLC Attn: Jonathan White 380 Southpointe Blvd, Southpointe Plaza II - Suite 200 Canonsburg, PA 15317

Table with 2 columns: Times, Dates. Row 1: 2, February 23, March 2, 2017

Table with 2 columns: BY WORDS, PUBLICATION CHARGES. Row 1: 502.25, \$101.05

(Signed) Melanie S. Murdock

NOTARIZATION SEAL OFFICIAL PUBLIC NOTARY STATE OF WEST VIRGINIA AMY W. LUPPHY Notary Public

WW-6AC  
(1/12)

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

Date of Notice Certification: 12/29/2017

API No. 47- 051 - 01934  
Operator's Well No. Ten High 1N-2HM  
Well Pad Name: Ten High

**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>527,304.07</u>
County: <u>Marshall</u>	UTM NAD 83 Northing: <u>4,408,357.67</u>
District: <u>Meade</u>	Public Road Access: <u>Shepherd Ridge Lane (Co. Rt. 21/9)</u>
Quadrangle: <u>Glen Easton 7.5</u>	Generally used farm name: <u>LAWRENCE &amp; SHIRLEY CONKLE, ESTS</u>
Watershed: <u>(HUC 10) Fish Creek</u>	

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

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

**Required Attachments:**

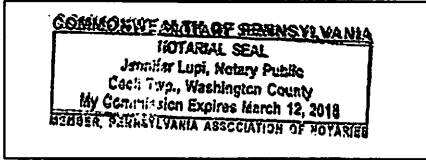
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication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

WW-6AC  
(1/12)

**Certification of Notice is hereby given:**

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

Well Operator:	<u>Tug Hill Operating, LLC</u>	Address:	<u>380 Southpointe Blvd, Southpointe Plaza II, Suite 200</u>
By:	<u>Amy L. Miller</u>		<u>Canonsburg, PA 15317</u>
Its:	<u>Regulatory Analyst - Appalachia</u>	Facsimile:	<u>724-338-2030</u>
Telephone:	<u>724-749-8388</u>	Email:	<u>amiller@tug-hilltop.com</u>



Subscribed and sworn before me this 19<sup>th</sup> day of Dec. 2017.  
Jennifer Lupi Notary Public  
 My Commission Expires March 12, 2018

**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](mailto:deprivacyofficer@wv.gov).

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

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

Date of Notice: 12/29/2017 Date Permit Application Filed: 12/29/2017

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: Estate of Lawrence & Shirley Mae Conkle c/o Roy Conkle  
Address: 75 Arlington Avenue  
Moundsville, WV 26041

Name: Roy A. Conkle, Sr., and Lorie A.  
Address: 75 Arlington Avenue  
Moundsville, WV 26041 \*See Attached\*

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

Name: Robert G. Hubbs and Scarlett E. Otta  
Address: 132 Shepherds Ridge Lane  
Glen Easton, WV 26039

Name: None  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Impoundments or Pits)

Name: None  
Address: \_\_\_\_\_

COAL OWNER OR LESSEE

Name: Murray Energy Corporation  
Address: 48228 National Road  
St. Clairsville, OH 43950

COAL OPERATOR  
Name: Same as above coal owner  
Address: \_\_\_\_\_

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

Name: \*See supplement page 1A attached  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: None  
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 water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

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

**Well Location Restrictions**

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



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

**Water Well Testing:**

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

**Water Testing Laboratories:**

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

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

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

**Written Comment:**

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

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

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.**

**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 - 01934 MOD  
OPERATOR WELL NO. Ten High 1N-2FM  
Well Pad Name: Ten High

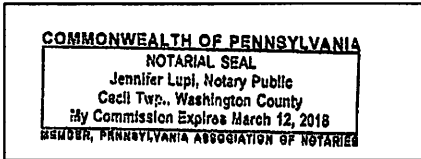
**Notice is hereby given by:**

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

Address: 380 Southpointe Blvd, Southpointe Plaza II, Suite 200  
Canonsburg, PA 15317  
Facsimile: 724-338-2030

**Oil and Gas Privacy Notice:**

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



Subscribed and sworn before me this 20th day of Dec. 2017.  
*Jennifer Lupi* Notary Public  
My Commission Expires MARCH 12, 2018

**WW-6A Notice of Application ..... Attachment 1 of 1**

**Surface Owner(s):**

**Name:** Teresa Anne Hughes and Michael J.  
**Address:** 252 Conkle Drive  
Glen Easton, WV 26039

Brenda Joyce Whetzel  
1863 Shepherds Ridge Lane  
Glen Easton, WV 26039

Robert G. Hubbs and Scarlett E. Otte  
132 Shepherds Ridge Lane  
Glen Easton, WV 26039

**Mineral Owner(s):**

**Name:** Roy A. Conkle, Sr. and Lorie A.  
75 Arlington Avenue  
Moundsville, WV 26041

Larry Lee Conkle and Donna D.  
154 Conkle Drive  
Glen Easton, WV 26039

Teresa Anne Hughes and Michael J.  
252 Conkle Drive  
Glen Easton, WV 26039

Brenda Joyce Whetzel  
1863 Shepherds Ridge Lane  
Glen Easton, WV 26039

**Exhibit WW-6A**

Supplement Pg. 1A

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

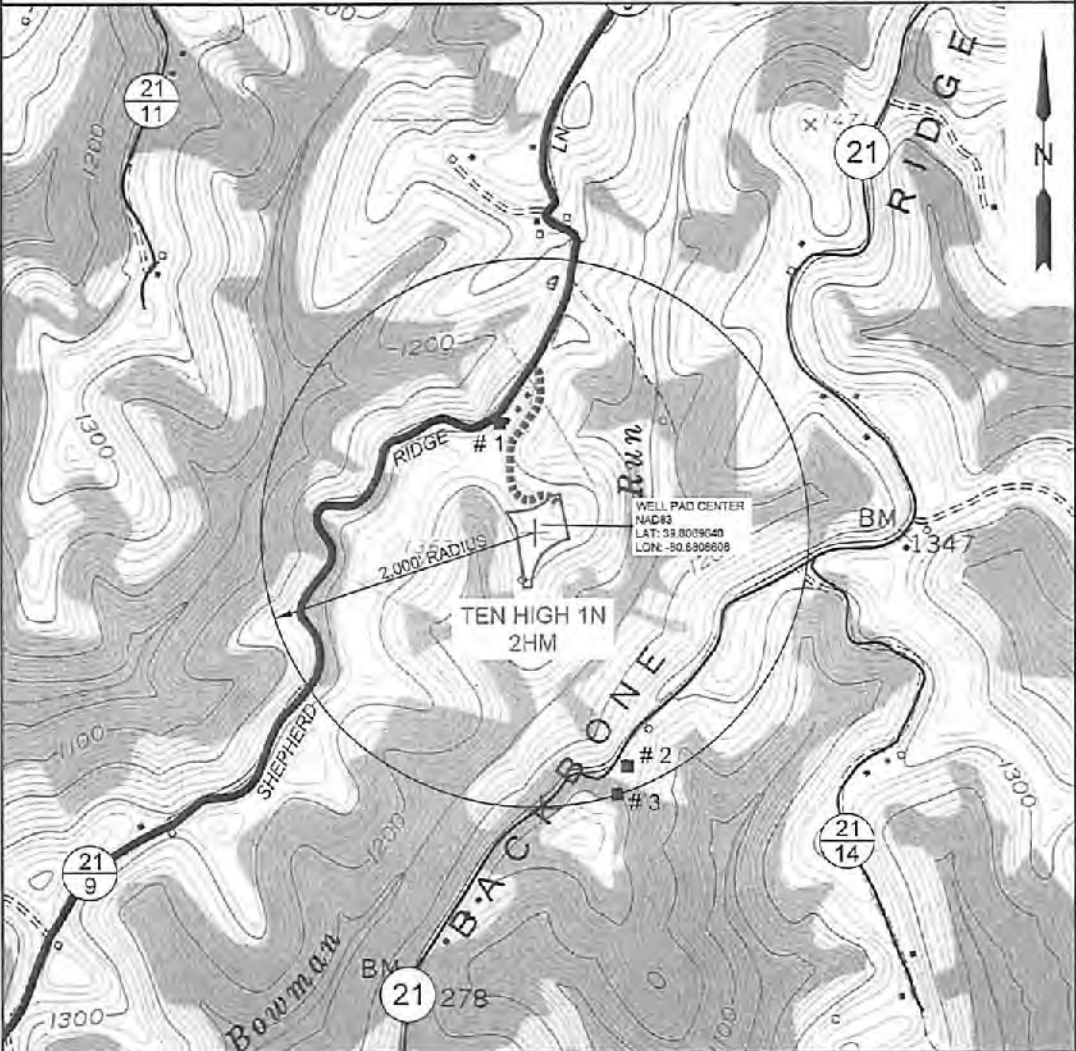
**Residences within Two-Thousand Feet (2,000')**

Well: Ten High 1N – 2HM  
 District: Meade (House #'s 1-3)  
 State: WV



There are three (3) residences, no businesses, no churches, no schools or no emergency facilities within two-thousand feet (2,000') of the above referenced well location.

House 1	House 2	House 3
TM 7 Pcl. 24	TM 7 Pcl. 25	TM 7 Pcl. 25
Lawrence & Shirley Conkle Ests	Thomas R. & Kimberly Whitfield	Thomas R. & Kimberly Whitfield
Phone: 304-845-1808; 304-848-1808	Phone: 304-843-1753	Phone: 304-843-1753
<b>Physical Address:</b>	<b>Physical Address:</b>	<b>Physical Address:</b>
77B Shepards Lane	53 Sallys Backbone Rd.	53 Sallys Backbone Rd.
932 Shepherd Ridge Ln.	1834 Sally's Backbone Rd.	1838 Sally's Backbone Rd.
Glen Easton, WV 26039	Glen Easton, WV 26039	Glen Easton, WV 26039
<b>Tax Address:</b>	<b>Tax Address:</b>	<b>Tax Address:</b>
75 Arlington Ave.	1838 Sallys Backbone Rd.	Same
Moundsville, WV 26041	Glen Easton, WV 26039	

WW-6A **PROPOSED** SUPPLEMENT PG. 1B  
**TEN HIGH 1N - 2HM**



NOTE: THERE APPEARS TO BE THREE (3) POSSIBLE WATER SOURCES WITHIN 2,000'.

 <b>SLS</b> Land & Energy Development Solutions from the ground up. <small>P.O. Box 110 • 12 Vantage Drive • Glenville, WV 26031 • (204) 482-9824                  www.slsurvey.com</small>	<b>TOPO SECTION:</b>		<b>OPERATOR:</b>		 <b>TUG HILL</b> OPERATING
	GLEN EASTON 7.5'		PREPARED FOR:		
	<b>COUNTY</b>	<b>DISTRICT</b>	TUG HILL OPERATING, LLC		
	MARSHALL	MEADE	380 SOUTHPOINTE BLVD		
	<b>DRAWN BY</b>	<b>JOB NO.</b>	<b>DATE</b>	<b>SCALE</b>	
K.G.M.	8655	04/13/2017	1" = 1000'		

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Postage \$

To: Teresa Anne & Michael J. Hughes  
 252 Conkle Drive  
 Glen Easton, WV 26039

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Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$

To: Roy A. Conkle, Sr. & Lorie A. Conkle  
 75 Arlington Avenue  
 Moundsville, WV 26041

Postmark Here

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Return Receipt (electronic) \$

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Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$

To: Robert G. Hubbs & Scarlett E. Otte  
 132 Shepherds Ridge Lane  
 Glen Easton, WV 26039

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Return Receipt (electronic) \$

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Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$

To: Murray Energy Corporation  
 46236 National Road  
 St. Clairsville, OH 43950

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Return Receipt (electronic) \$

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Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$

To: Larry Lee & Donna D. Conkle  
 154 Conkle Drive  
 Glen Easton, WV 26039

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Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$

To: Brenda Joyce Whetzel  
 1863 Shepherds Ridge Lane  
 Glen Easton, WV 26039

Postmark Here

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Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$

Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$

To: Estate of Lawrence & Shirley Conkle  
 c/o Roy Conkle  
 75 Arlington Avenue  
 Moundsville, WV 26041

Postmark Here

WW-6A Receipts for:  
 Ten High 1N-1HM, 1N-2HM, 1N-3HM and  
 1N-4HM

**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: February 9, 2017 Date of Planned Entry: February 17, 2017

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: Estate of Lawrence & Shirley Mae Conkle c/o Roy Conkle  
 Address: 75 Arlington Avenue  
Moundsville, WV 26041

Name: Roy A. Conkle, Sr., and Loris A.  
 Address: 75 Arlington Avenue  
Moundsville, WV 26041

Name: Larry Leo Conkle and Donna D.  
 Address: 154 Conkle Drive  
Glen Easton, WV 26039 \*See Attached

COAL OWNER OR LESSEE

Name: Murray Energy Corporation  
 Address: 45226 National Road  
St. Clairsville, OH 43950 \*See Attached

MINERAL OWNER(s)

Name: Estate of Lawrence & Shirley Mae Conkle c/o Roy Conkle  
 Address: 75 Arlington Avenue  
Glen Easton, WV 26039 \*See Attached

\*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:	<u>WEST VIRGINIA</u>	Approx. Latitude & Longitude:	<u>LAT 39.8067775 LONG -80.8809192</u>
County:	<u>MARSHALL</u>	Public Road Access:	<u>SHEPHERD RIDGE LANE (Co. RT. 21/9)</u>
District:	<u>MEADE</u>	Watershed:	<u>HUC-10 FISH CREEK</u>
Quadrangle:	<u>GLEN EASTON 7.5</u>	Generally used farm name:	<u>LAWRENCE &amp; SHIRLEY CONKLE, ESTS</u>

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

Notice is hereby given by:

Well Operator:	<u>TUG HILL OPERATING, LLC</u>	Address:	<u>380 SOUTHPOINTE BLVD, SOUTHPOINTE PLAZA II, SUITE 200</u>
Telephone:	<u>724-749-8388</u>		<u>CANONSBURG, PA 15317</u>
Email:	<u>JWHITE@TUG-HILLOP.COM</u>	Facsimile:	<u>724-338-2030</u>

Oil and Gas Privacy Notice:

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



**WW-6A3 Notice of Entry for Plat Survey ..... Attachment 1 of 1**

**Surface Owner(s):**

**Name:** Teresa Anne Hughes and Michael J.  
**Address:** 252 Conkle Drive  
Glen Easton, WV 26039

Brenda Joyce Whetzel  
1863 Shepherds Ridge Lane  
Glen Easton, WV 26039

Robert G. Hubbs and Scarlett E. Otte  
132 Shepherds Ridge Lane  
Glen Easton, WV 26039

**Mineral Owner(s):**

**Name:** Roy A. Conkle, Sr. and Lorie A.  
75 Arlington Avenue  
Moundsville, WV 26041

Larry Lee Conkle and Donna D.  
154 Conkle Drive  
Glen Easton, WV 26039

Teresa Anne Hughes and Michael J.  
252 Conkle Drive  
Glen Easton, WV 26039

Brenda Joyce Whetzel  
1863 Shepherds Ridge Lane  
Glen Easton, WV 26039

7016 2140 0000 9580 5338

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**MOUNDSVILLE WV 26041**

**OFFICIAL USE**

Certified Mail Fee	\$7.35	0518
Extra Services & Fees (check box, add fee as appropriate)	\$0.75	17
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$1.40	
Total Postage and Fees	\$9.50	

Sent To: **ESTATE OF LAWRENCE & SHIRLEY MAE CONKLE**  
**C/O ROY CONKLE**  
**75 ARLINGTON AVENUE**  
**MOUNDSVILLE WV 26041**

PS Form 3800, April 2015 PSN 753004994947 See Reverse for Instructions

Ten High 1N-1HM  
Ten High 1N-2HM  
Ten High 1N-3HM  
Ten High 1N-4HM  
Ten High 1N-11HU  
Ten High 1N-12HU  
Ten High 1N-13HU  
WW-A63

7016 2140 0000 9580 5345

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**MOUNDSVILLE WV 26041**

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Certified Mail Fee	\$7.35	0518
Extra Services & Fees (check box, add fee as appropriate)	\$0.75	17
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$1.40	
Total Postage and Fees	\$9.50	

Sent To: **ROY A CONKLE SR AND LORIE A**  
**75 ARLINGTON AVENUE**  
**MOUNDSVILLE WV 26041**

PS Form 3800, April 2015 PSN 753004994947 See Reverse for Instructions

7016 2140 0000 9580 5352

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**GLEN EASTON WV 26039**

**OFFICIAL USE**

Certified Mail Fee	\$7.35	0518
Extra Services & Fees (check box, add fee as appropriate)	\$0.75	17
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$1.40	
Total Postage and Fees	\$9.50	

Sent To: **LARRY LEE CONKLE AND DONNA D**  
**154 CONKLE DRIVE**  
**GLEN EASTON WV 26039**

PS Form 3800, April 2015 PSN 753004994947 See Reverse for Instructions

7016 2140 0000 9580 5390

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**SAINT CLAIRSVILLE OH 43950**

**OFFICIAL USE**

Certified Mail Fee	\$3.35	0518
Extra Services & Fees (check box, add fee as appropriate)	\$0.75	17
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$1.40	
Total Postage and Fees	\$5.50	

Sent To: **MURRAY ENERGIE CORPORATION**  
**45225 NATIONAL ROAD**  
**ST CLAIRSVILLE OH 43950**

PS Form 3800, April 2015 PSN 753004994947 See Reverse for Instructions

7016 2140 0000 9580 5369

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**GLEN EASTON WV 26039**

**OFFICIAL USE**

Certified Mail Fee	\$7.35	0518
Extra Services & Fees (check box, add fee as appropriate)	\$0.75	17
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$1.40	
Total Postage and Fees	\$9.50	

Sent To: **TERESA ANNE HUGHES AND MICHAEL J**  
**252 CONKLE DRIVE**  
**GLEN EASTON WV 26039**

PS Form 3800, April 2015 PSN 753004994947 See Reverse for Instructions

Ten High 1N-1HM  
 Ten High 1N-2HM  
 Ten High 1N-3HM  
 Ten High 1N-4HM  
 Ten High 1N-11HU  
 Ten High 1N-12HU  
 Ten High 1N-13HU  
 WW-A63

7076 2140 0000 9580 9376

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For delivery information, visit our website at <a href="http://www.usps.com">www.usps.com</a> ®.	
GLEN EASTON WV 26039	
Certified Mail Fee	\$3.25
	\$0.75
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$11.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$1.40
Total Postage and Fees	\$7.50
Sent To	BRENDA JOYCE WHETZEL
Street and Apt.	1853 SHEPHERDS RIDGE LANE
City, State, ZIP+4	GLEN EASTON WV 26039
PS Form 3800, April 2015 PSN 753002-000-9047 See Reverse for Instructions	



7076 2140 0000 9580 9383

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT <i>Domestic Mail Only</i>	
For delivery information, visit our website at <a href="http://www.usps.com">www.usps.com</a> ®.	
GLEN EASTON WV 26039	
Certified Mail Fee	\$3.25
	\$0.75
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$11.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$1.40
Total Postage and Fees	\$7.50
Sent To	ROBERT G HUBBS AND SCARLETT OTTE
Street and Apt.	132 SHEPHERDS RIDGE LANE
City, State, ZIP+4	GLEN EASTON WV 26039
PS Form 3800, April 2015 PSN 753002-000-9047 See Reverse for Instructions	



WW-6A5  
(1/12)

Operator Well No. Ten High 1N-2HM

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

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

**Date of Notice:** 04/21/2017      **Date Permit Application Filed:** 04/24/2017

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

**CERTIFIED MAIL**                       **HAND**  
**RETURN RECEIPT REQUESTED**              **DELIVERY**

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

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

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

**Name:** Estate of Lawrence & Shirley Mae Conkle d/o Roy Conkle  
**Address:** 75 Arlington Avenue  
Moundsville, WV 26041

**Name:** Roy A. Conkle, Sr., and Lorie A.  
**Address:** 75 Arlington Avenue  
Moundsville, WV 26041      **"See Attached"**

**Notice is hereby given:**

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

<b>State:</b>	<u>West Virginia</u>	<b>UTM NAD 83 Easting:</b>	<u>527,305.49</u>
<b>County:</b>	<u>Marshall</u>	<b>Northing:</b>	<u>4,406,363.91</u>
<b>District:</b>	<u>Meado</u>	<b>Public Road Access:</b>	<u>Shepherd Ridge Lane (Co. Rt. 21/9)</u>
<b>Quadrangle:</b>	<u>Glen Easton 7.5</u>	<b>Generally used farm name:</b>	<u>LAWRENCE &amp; SHIRLEY CONKLE, ESTS</u>
<b>Watershed:</b>	<u>(HUC 10) Fish Creek</u>		

**This Notice Shall Include:**

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

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

**Address:** 380 Southpointe Blvd, Southpointe Plaza II, Suite 200  
Canonsburg, PA 15317  
**Facsimile:** 724-338-2030

**Oil and Gas Privacy Notice:**

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

Operator Well Nos. TEN HIGH 1N-2HM

**WW-6A5 Notice of Planned Operation..... Attachment 1 of 1**

**Surface Owner(s):**

**Name:** Teresa Anne Hughes and Michael J.  
**Address:** 252 Conkle Drive  
Glen Easton, WV 26039

Brenda Joyce Whetzel  
1863 Shepherds Ridge Lane  
Glen Easton, WV 26039

Larry Lee Conkle and Donna D.  
154 Conkle Drive  
Glen Easton, WV 26039

Robert G. Hubbs and Scarlett E. Otte  
132 Shepherds Ridge Lane  
Glen Easton, WV 26039

7016 2140 0000 9580 5567

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**MOUNDSVILLE, WV 26041**

**POSTAL USE**

Certified Mail Fee	\$3.35
Extra Services & Fees (check box, add fee to postage)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$9.85  
Total Postage \$13.20

0518  
1  
Postmark Here  
04/22/2017

Sent To: Estate of Lawrence & Shirley Conkle  
C/O Roy Conkle  
75 Arlington Ave  
Moundsville, WV 26041

PS Form 3800, April 2015 PSN 7530-02-000-9077 See Reverse for Instructions

7016 2140 0000 9580 5574

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**MOUNDSVILLE, WV 26041**

**POSTAL USE**

Certified Mail Fee	\$3.35
Extra Services & Fees (check box, add fee to postage)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$9.85  
Total Postage \$13.20

0518  
1  
Postmark Here  
04/22/2017

Sent To: Roy A. Conkle, Sr., and Lorie A.  
75 Arlington Avenue  
Moundsville, WV 26041

PS Form 3800, April 2015 PSN 7530-02-000-9077 See Reverse for Instructions

7016 2140 0000 9580 5581

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**GLEN EASTON, WV 26039**

**POSTAL USE**

Certified Mail Fee	\$3.35
Extra Services & Fees (check box, add fee to postage)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$9.85  
Total Postage \$13.20

0518  
1  
Postmark Here  
04/22/2017

Sent To: Teresa Anne Hughes and Michael J.  
252 Conkle Drive  
Glen Easton, WV 26039

PS Form 3800, April 2015 PSN 7530-02-000-9077 See Reverse for Instructions

7016 2140 0000 9580 5598

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**GLEN EASTON, WV 26039**

**POSTAL USE**

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Extra Services & Fees (check box, add fee to postage)	\$0.00
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<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$9.85  
Total Postage \$13.20

0518  
1  
Postmark Here  
04/22/2017

Sent To: Brenda Joyce Whetzel  
1863 Shepherds Ridge Lane  
Glen Easton, WV 26039

PS Form 3800, April 2015 PSN 7530-02-000-9077 See Reverse for Instructions

51-01934

Ten High 1N-2H WW-6A5

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**GLEN EASTON, WV 26039**

**OFFICIAL USE**

Certified Mail Fee	\$3.35
Extra Services & Fees (check box, add fee to postage)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$9.85

Total Postage and \$13.20

Sent to Larry Lee Conkle and Donna D.  
 154 Conkle Drive  
 Glen Easton, WV 26039

0518  
 1  
 Postmark Here

04/22/2017

PS Form 3800, April 2015 PSN 7509-02-900-9047 See Reverse for Instructions

4095 0956 0000 9560 5611

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**GLEN EASTON, WV 26039**

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<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$9.85

Total Postage and \$13.20

Sent to Robert G. Hubbs & Scarlett E. Otte  
 132 Shepherds Ridge Lane  
 Glen Easton, WV 26039

0518  
 1  
 Postmark Here

04/22/2017

PS Form 3800, April 2015 PSN 7509-02-900-9047 See Reverse for Instructions

7016 2140 0000 9560 5611

08/03/2018



## WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

**Division of Highways**1900 Kanawha Boulevard East • Building Five • Room 110  
Charleston, West Virginia 25305-0430 • (304) 558-3505Jim Justice  
GovernorThomas J. Smith, P. E.  
Secretary of Transportation/  
Commissioner of Highways

March 13, 2017

James A. Martin, Chief  
Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304Subject: DOH Permit for the Ten High 1N Pad, Marshall County  
Ten High 1N Unit-2HM Well site

Dear Mr. Martin,

This well site will be accessed from a DOH permits #06-2017-0127 which have been issued to Tug Hill Operating, LLC for access to the State Road for a well site located off of Marshall County Route 21/9 SLS.

The operator has signed a STATEWIDE 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 January 3, 2012.

Very Truly Yours,

Handwritten signature of Gary K. Clayton in cursive.

Gary K. Clayton, P.E.  
Regional Maintenance Engineer  
Central Office O&G CoordinatorCc: Jonathan White  
Tug Hill Operating, LLC  
CH, OM, D-6  
File

E.E.O./AFFIRMATIVE ACTION EMPLOYER

08/03/2018





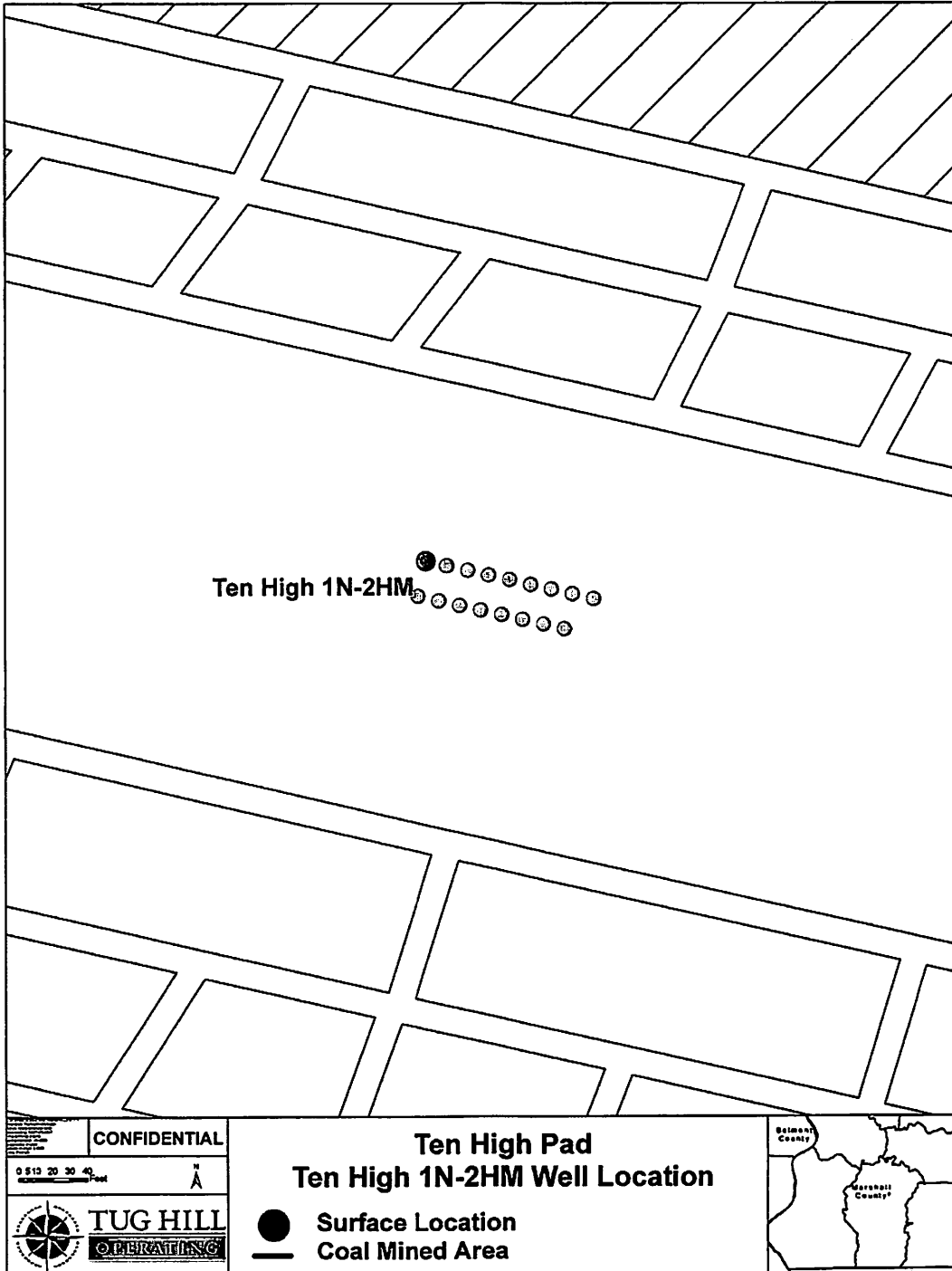
**PLANNED ADDITIVES TO BE USED IN FRACTURING OR STIMULATION**

Well No. Ten High 1N-2HM

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

380 SOUTHPOINTE BLVD • SUITE 200 • CANONSBURG, PA 15317 • T 724.485-2000 • F 724.338.2030

08/03/2018



**CONFIDENTIAL**

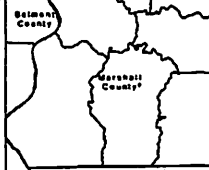
0 5 10 20 30 40 Feet

**TUG HILL OPERATING**

Map Created By: jgarcia on 08/20/17

**Ten High Pad**  
**Ten High 1N-2HM Well Location**

● Surface Location  
▬ Coal Mined Area



# National Flood Hazard Layer FIRMette



## Legend

- Cross-Sections
- ~ Base Flood Elevations
- Flood Hazard Zones**
- 1% Annual Chance Flood
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- LOMRs**
- Effective
- Map Panels**
- Digital Data
- Unmodernized Maps
- Unmapped



This map complies with FEMA's standards for the use of digital flood maps. The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. The base map shown complies with FEMA's base map accuracy standards.

The NFHL is a living database, updated daily, and this map represents a snapshot of information at a specific time.

Flood risks are dynamic and can change frequently due to a variety of factors, including weather patterns, erosion, and new development. FEMA flood maps are continually updated through a variety of processes. Users should always verify through the Map Service Center (<http://msc.fema.gov>) or the Community Map Repository that they have the current effective information.

NFHL maps should not be created for unmapped or unmodernized areas.



Date: 4/18/2017 Time: 4:46:05 PM

WW-6A7  
(6-12)

OPERATOR: Tug Hill Operating, LLC WELL NO: Ten High 1N-2HM

PAD NAME: Ten High

REVIEWED BY: Amy Miller SIGNATURE: *Amy Miller*

## WELL RESTRICTIONS CHECKLIST

### HORIZONTAL 6A WELL

#### Well Restrictions

- At Least 100 Feet from Pad and LOD (including any E&S Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland; OR
- DEP Waiver and Permit Conditions
- At Least 300 Feet from Pad and LOD (including any E&S Control Feature) to any Naturally Producing Trout Stream; OR
- DEP Waiver and Permit Conditions
- At Least 1000 Feet from Pad and LOD (including any E&S Control Feature) to any Groundwater Intake or Public Water Supply; OR
- DEP Waiver and Permit Conditions
- At Least 250 Feet from an Existing Water Well or Developed Spring to Well Being Drilled; OR
- Surface Owner Waiver and Recorded with County Clerk, OR
- DEP Variance and Permit Conditions
- At Least 625 Feet from an Occupied Dwelling Structure to Center of the Pad; OR
- Surface Owner Waiver and Recorded with County Clerk, OR
- DEP Variance and Permit Conditions
- At Least 625 Feet from Agricultural Buildings Larger than 2500 Square Feet to the Center of the Pad; OR
- Surface Owner Waiver and Recorded with County Clerk, OR
- DEP Variance and Permit Conditions

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

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

**Data Sources Reviewed:**

1. IHS Well Data service: Public nationwide data service that pulls directly from State agency Oil and Gas databases

2. Farm Maps

3. Topo Maps: Recent and older (contact WVGES)

4. Check with DPS

Contacted Devin Ducoeur 724-705-0444, [dducoeur@dpslandservices.com](mailto:dducoeur@dpslandservices.com) DPS GIS (12/19/2016) to have him make maps of the wellbores with his information. DPS utilizes WVGES maps for their mapping seems it as the best publicly available. See attached map he provided.

Request maps for:

1. Wellbore with IHS All Wells Layer

2. Map with Farm lines overlain and any well spots identified on Farm Maps

3. More recent (1970s vintage) topos and older topos

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

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

Permit well - Ten High 1N-2HM

Wells within 500' Buffer

Note: Well spots depicted on Area of Review map (page 3) 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
4705101934	Tug Hill Operating	5737' TVD planned	None	None	No, Permitted Marcellus well	Permitted Marcellus well. Not yet drilled
4705101944	Tug Hill Operating	5737' TVD planned	None	None	No, Permitted Marcellus well	Permitted Marcellus well. Not yet drilled
4705101945	Tug Hill Operating	5737' TVD planned	None	None	No, Permitted Marcellus well	Permitted Marcellus well. Not yet drilled
4705101948	Tug Hill Operating	5737' TVD planned	None	None	No, Permitted Marcellus well	Permitted Marcellus well. Not yet drilled
4705101964	Tug Hill Operating	5737' TVD planned	None	None	No, Permitted Marcellus well	Permitted Marcellus well. Not yet drilled
4705101973	Tug Hill Operating	5737' TVD planned	None	None	No, Permit submitted Marcellus well	Permit submitted Marcellus well. Not yet drilled
4705101974	Tug Hill Operating	5737' TVD planned	None	None	No, Permit submitted Marcellus well	Permit submitted Marcellus well. Not yet drilled
4705101975	Tug Hill Operating	5737' TVD planned	None	None	No, Permit submitted Marcellus well	Permit submitted Marcellus well. Not yet drilled
4705101976	Tug Hill Operating	5737' TVD planned	None	None	No, Permit submitted Marcellus well	Permit submitted Marcellus well. Not yet drilled
4705101950	Tug Hill Operating	11878' TVD planned	None	None	No, Permit submitted Utica well	Permit submitted Utica well. Not yet drilled
4705101961	Tug Hill Operating	11878' TVD planned	None	None	No, Permit submitted Utica well	Permit submitted Utica well. Not yet drilled
4705101965	Tug Hill Operating	11878' TVD planned	None	None	No, Permit submitted Utica well	Permit submitted Utica well. Not yet drilled
4705101966	Tug Hill Operating	11878' TVD planned	None	None	No, Permit submitted Utica well	Permit submitted Utica well. Not yet drilled
4705100838	Hope Natural Gas	Unknown	Unknown	Unknown	Unknown but unlikely. Appears to be an old shallow producing well that has since been plugged	Old well records are incomplete. A field survey was conducted to locate this well and evidence of this well was found.

WVDEP - Pipeline

Well: County = 01 Permit = 60836

Well Reassignment Information: Reassigned From  
010, COUNTY SUB, PERMIT NEW, COUNTY NEW, POLAR  
14, 11248

Location Information:  
API: 4705101974, County: Putnam, EA: 0101001, SQUAD: 71, DATE: 14, SV: 00, LOG: 06, DIVE: 0761, OPER: 0701001, GROUP: 01, AREA: 010, SUB: 0001, CARRIER: 01, FREQ: 01, REPT: 0007, 0007, 0007, 0007

Owner Information:  
API: 4705101974, COUNTY: PUTNAM, EA: 0101001, SQUAD: 71, DATE: 14, SV: 00, LOG: 06, DIVE: 0761, OPER: 0701001, GROUP: 01, AREA: 010, SUB: 0001, CARRIER: 01, FREQ: 01, REPT: 0007, 0007, 0007, 0007

Completion Information:  
API: 4705101974, COUNTY: PUTNAM, EA: 0101001, SQUAD: 71, DATE: 14, SV: 00, LOG: 06, DIVE: 0761, OPER: 0701001, GROUP: 01, AREA: 010, SUB: 0001, CARRIER: 01, FREQ: 01, REPT: 0007, 0007, 0007, 0007

There is no Bottom Hole Location data for this well

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

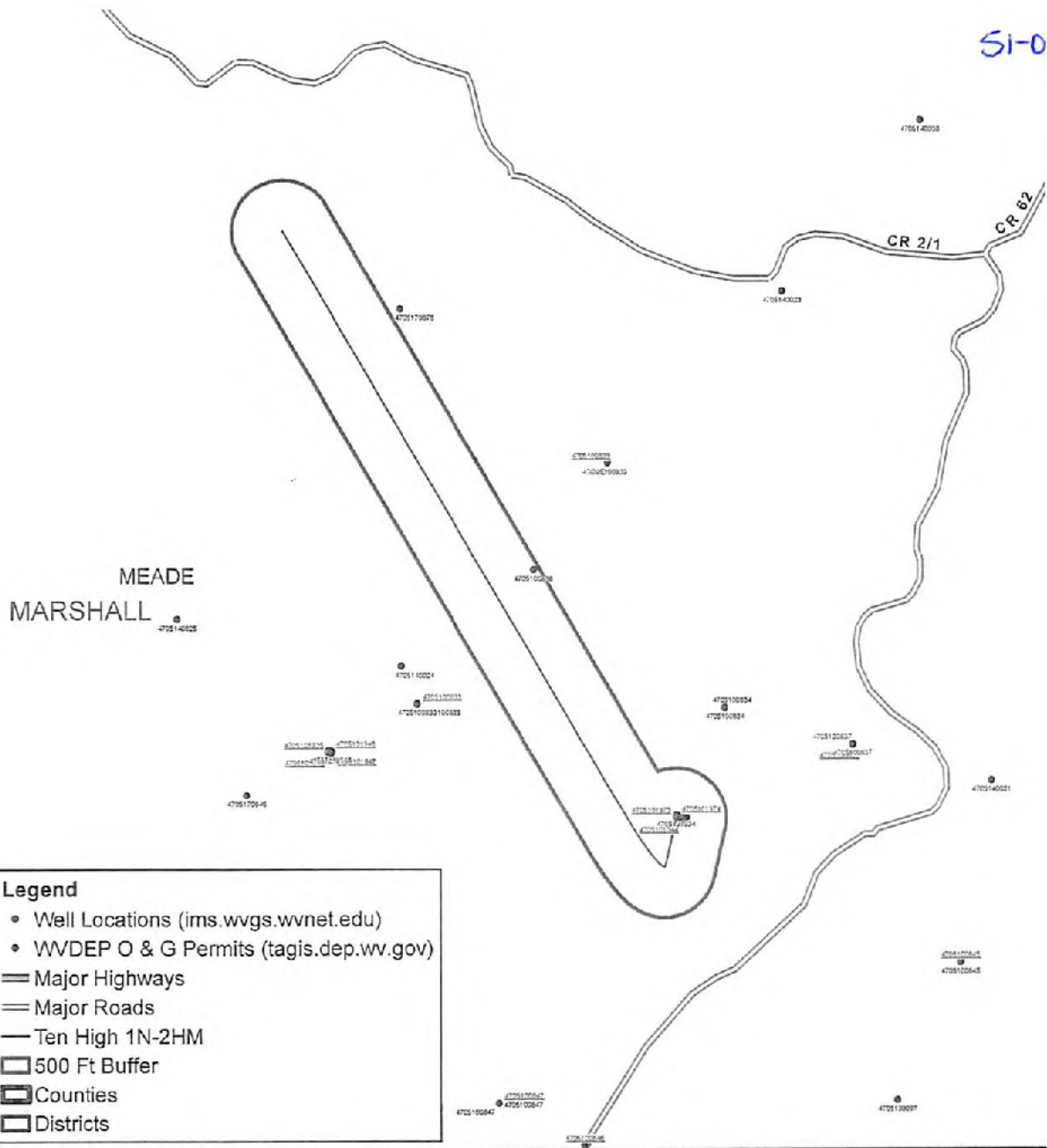
There is no Production NGL data for this well - some operators may have reported NGL under Oil

There is no Density data for this well

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

Page 2 of 3

SI-01934400

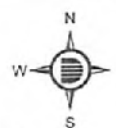


**Legend**

- Well Locations ([ims.wvgs.wvnet.edu](http://ims.wvgs.wvnet.edu))
- WVDEP O & G Permits ([tags.dep.wv.gov](http://tags.dep.wv.gov))
- == Major Highways
- == Major Roads
- Ten High 1N-2HM
- 500 Ft Buffer
- ▭ Counties
- ▭ Districts



Ten High 1N - 2HM  
Meade District  
Marshall County, WV



Map Prepared by:

Map Created: December 22, 2017  
Map Printed: 08/03/2018 10:11:17

NOTES:  
ALL DIMENSIONS ARE APPROXIMATE. ONLY DIMENSIONS SHOWN ON THIS MAP ARE TO BE USED FOR CONSTRUCTION PURPOSES ONLY.



December 29, 2017

WVDEP Office of Oil & Gas  
Attn: Laura Adkins  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304-2345

Subject: **Permit Modification Request** for Ten High 1N-2HM API 47-051-01934 located in Meade District; Marshall County, WV  
**Changes to Permit: Well Head Location, Slight Landing Point Change, Bottom Hole Location Revision**

Dear Laura:

As you know, we are revising all our permits / applications on our Ten High Pad. At your request, enclosed is an entirely new permit application package for the Ten High 1N-2HM, which is an **approved well work permit**. Although an entirely new package, the only sections of the permit that are revised are as follows:

- Revised WW-6B (approved by Jim Nicholson)
- Revised Well Site Safety Plan (prevailing wind map update, updated plat section, updated casing information and updated spider plot map) (Approved by Jim Nicholson)
- Revised Mylar Well Plat (Approved by Jim Nicholson)
- Revised Water Management Plan
- Revised supplemental map for WW-9
- Revised Well Plat
- Updated Area of Review for Communication
- Surface owners and Coal Owner/Operator were sent new WW-6A forms and required information.

If you have any question or need any additional information please feel free to call me at 304-376-0111. Thank you for your consideration in this matter.

Sincerely,

A handwritten signature in black ink that reads "Amy L. Miller".

Amy L. Miller  
Permitting Specialist – Appalachia Region

380 SOUTHPOINTE BLVD • SUITE 200 • CANONSBURG, PA 15317 • T 724.485-2000 • F  
724.338.2030

08/03/2018



51-01934603

OPERATOR: Tug Hill Operating, LLC

PAD NAME: Ten High WELL: Ten High 1N-2HM

PAD BUILT: YES  NO DATE REVIEWED: 12-29-2017 INT. AM

REVIEWED BY (APPLICANT): Amy Miller

CONTACT PHONE: 304-376-0111 EMAIL: amiller@tug-hilop.com

APPLICANT SIGNATURE: *Amy Miller*

**CHECKLIST FOR FILING A PERMIT  
HORIZONTAL 6A WELL**

Please include these required elements in the Horizontal Well 6A applications, in order listed below.  
Do not use staples.

First Well	Subsequent Well
\$10,150.00 <input type="checkbox"/>	\$5,150.00 <input type="checkbox"/>

Fee already submitted

Fees

Checklist / Cover letter

WW-6B Notice of Application

Field Approved

Cement Additives

Well Bore Schematic

WW-9 Fluids/Cuttings Disposal and Reclamation Plan

Field Approved

Site Safety Plan See CD

Field Approved

Water Management Plan

Please Permit DWWM Approval

Topographic Map w/water purveyors, showing access road

Mylar Plat (Signed and sealed) (Surface Owner matches WW-6A)

WW-6A1 Lease Information See attached Affidavit for Tug Hill Operating, LLC subsidiary Companies

Road Crossing Letter

WW-PN Application Notice by Publication

Public Notice (dated copy of advertisement or affidavit of publication)

Revised 12/30/13

08/03/2018

- WW-6AC Notice Certifications, notarized
- WW-6A Notice of Application notarized w/ any attachments
- Topographic Map with labeled surrounding water wells
- Certified Mail receipts for WW-6A
- WW-6A3 Notice of Entry for Plat Survey
- Certified Mail receipts for WW-6A3
- N/A WW-6A4 Notice of Intent to Drill
- N/A Certified Mail receipts for WW-6A4
- WW-6A5 Notice of Planned Operation
- Certified Mail receipts for WW-6A5
- N/A WW-6RW Well Location Restriction Waiver
- N/A WW-6AW Voluntary Statement of No Objection
- N/A Waiver for Surface Owner at Wellhead
- N/A Waiver for Surface Owner for Roads or other Disturbances
- N/A Waiver for Coal Owner, Operator or Lessee
- N/A Waiver for surface owner for Impoundment or Pit
- N/A Waiver for Surface Owner or Water Purveyor within 1500 feet of Center of Pad
- N/A Waiver for Natural gas Storage Field Operator
- Road Bonding Agreement / DOH Certification
- Frac Additives List of Chemical Names & CAS #s
- Site Construction, Reclamation, Erosion & Sediment Control Plans       Field Approved
- Copy of To Scale Plans    Note: Updated As-Built plans submitted on 12/21/2017
- Mailed in Field  Inspector packet mailed to inspector (Plat, Topographic Map, WW-6B, WW-9, All Plans)
- Bond (\$250,000)
- Operator is registered with the SOS

Revised 12/30/13

- Workers Compensation / Unemployment Insurance account is OK
- Professional Engineer/Company has COA
- Check for Mine Data at proposed coordinates
- Check for Floodplain Data at proposed coordinates
- N/A IMP-1A Associated Pit or Impoundment
- WW-6A7 Well Restrictions Form w/ Signature
- At Least 100 Feet from Pad and LOD (including any E&S Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland
- \_\_\_\_\_ DEP Waiver and Permit Conditions
- At Least 300 Feet from Pad and LOD (including any E&S Control Feature) to any Naturally Producing Trout Stream
- \_\_\_\_\_ DEP Waiver and Permit Conditions
- At Least 1000 Feet from Pad and LOD (including any E&S Control Feature) to any Groundwater Intake or Public Water Supply
- \_\_\_\_\_ DEP Waiver and Permit Conditions
- At Least 250 Feet from an Existing Water Well or Developed Spring to Well Being Drilled
- \_\_\_\_\_ Surface Owner Waiver and Recorded with County Clerk, OR
- \_\_\_\_\_ DEP Variance and Permit Conditions
- At Least 625 Feet from an Occupied Dwelling Structure to the Center of the Pad
- \_\_\_\_\_ Surface Owner Waiver and Recorded with County Clerk, OR
- \_\_\_\_\_ DEP Variance and Permit Conditions
- At Least 625 Feet from Agricultural Buildings Larger than 2500 Square Feet to the Center of the Pad
- \_\_\_\_\_ Surface Owner Waiver and Recorded with County Clerk, OR
- \_\_\_\_\_ DEP Variance and Permit Conditions
- Area of Review for Communication Purposes

Revised 12/30/13