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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

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

Friday, October 27, 2017  
WELL WORK PERMIT  
Horizontal 6A / New Drill

TUG HILL OPERATING, LLC  
550 BAILEY AVENUE, SUITE 510

FORT WORTH, TX 76107

Re: Permit approval for TEN HIGH 1S-5HM  
47-051-01964-00-00

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

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

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

James A. Martin  
Chief

Operator's Well Number: TEN HIGH 1S-5HM  
Farm Name: LAWRENCE & SHIRLEY CONKLE ESTS  
U.S. WELL NUMBER: 47-051-01964-00-00  
Horizontal 6A / New Drill  
Date Issued: 10/27/2017

Promoting a healthy environment.

10/27/2017

# PERMIT CONDITIONS

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

## CONDITIONS

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

## PERMIT CONDITIONS

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

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 1S-5HM 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: 1321' Elevation, proposed post-construction: 1310'

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

(b) If Gas Shallow x Deep \_\_\_\_\_  
Horizontal X \_\_\_\_\_  
*8/15/17*

6) Existing Pad: Yes or No No

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: Onondoga

10) Proposed Total Measured Depth: 17,512'

11) Proposed Horizontal Leg Length: 10,230'

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: 2180'

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 X No \_\_\_\_\_

(a) If Yes, provide Mine Info: Name: Marshall County Coal Co. / Marshall County Mine  
Depth: 1020' TVD and 290' subsea level  
Seam: Pittsburgh #8  
Owner: Murray Energy / Consolidated Coal Co.

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WW-6B  
(04/15)API NO. 47- 051 -  
OPERATOR WELL NO. Ten High 1S-5HM  
Well Pad Name: Ten High

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	125'	120'	259FT^3(CTS)
Fresh Water	13 3/8"	NEW	H40	48#	1,086'	1,076'	1098ft^3(CTS)
Coal	13 3/8"	NEW	H40	48#	1,086'	1,076'	1098ft^3(CTS)
Intermediate	9 5/8"	NEW	J55	36#	2,814'	2,804'	917ft^3(CTS)
Production	5 1/2"	NEW	P110	20#	17,512'	17,502'	4465ft^3(CTS)
Tubing	2 3/8"	NEW	N80	4.7#		7,120'	
Liners	N/A						

JW 8/15/17

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	1,730	1,384	SEE #24	1.2
Coal	13 3/8"	17 1/2"	.33	1,730	1,384	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	8960		
Liners	N/A						

PACKERS

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

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*Handwritten signature and date: 8/11/17*

WW-6B  
(10/14)

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 25,210,000 lb proppant and 389,765 bbl of water. Max rate = 80 bpm; max psi = 9,000#.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 16.2

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 Attached

25) Proposed borehole conditioning procedures:

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

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\*Note: Attach additional sheets as needed.

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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## 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

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Permit well - Ten High 1S-5HM

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, Permit submitted Marcellus well	Permitted Marcellus well. Not yet drilled
4705101945	Tug Hill Operating	6737' TVD planned	None	None	No, Permit submitted Marcellus well	Permitted Marcellus well. Not yet drilled
4705101247	CNX Gas Co	Unknown	Unknown	Unknown	No, Well status is listed as cancelled	Well records show well as cancelled. A field survey was conducted to locate this well and no evidence of this well was found.
4705100863	Consolidated Coal Company	Unknown	Unknown	Unknown	Unknown but unlikely, most likely an old shallow well that has been plugged	Well was plugged 3/6/2002. A field survey was conducted to locate this well and it was found plugged at the location shown on the well plat.
4705170669	Unknown	Unknown	Unknown	Unknown	Unknown but unlikely, most likely an old shallow well	State well records are incomplete. A field survey was conducted to locate this well and no evidence of this well was found.
4705130201	Hope Natural Gas Company	2558	Gordon SS	Unknown	No, TVD of 2558' means that this well is not within the range of fracture propagation from a Marcellus well	Well was plugged 1/27/1944. A field survey was conducted to locate this well and no evidence of this well was found.

WV Geological & Economic Survey

Well: County = 51 Permit = 01247

Location information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LONG_DD	UTME	UTMN
4705101247	Marshall	01247	1468			79.02138	39.07110	620087	4400764

There is no Bottom Hole Location data for this well

Owner Information

API	CMP_ID	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION
4705101247										

Completion Information

API	CMP_ID	SUFFIX	ELEV	DAYUM	FIELD	DEEPEST_FM	DEEPEST_FTM	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	YMD
4705101247			1468	Ground Level										

There is no Pay data for this well

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

There is no Stratigraphy data for this well

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

There is no Plugging data for this well

There is no Sample data for this well

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**WVGS Pipeline**

Select County: (051) Marshall | Select datatypes: (Check All)

Enter Permit #: 00863

Get Data | Reset

Location  Production  Plugging  
 Owner/Completion  Stratigraphy  Sample  
 Pay/Show/Water  Logs  Bin Hole Log

Table Descriptions: County Code, Reservoirs, Fields, Completions, Leases, Wells, Wellbore Information, Wellhead Information, Wellhead Status, Wellhead Type, Wellhead Use.

WV Geological & Economic Survey | Well: County = 51 Permit = 00863

**Well Reassignment Information: Reassigned From**

OLD_COUNTY	OLD_PERMIT	NEW_COUNTY	NEW_PERMIT
51	72114	51	00863

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX DISTRICT	SUAD_7A	SUAD_15	LAY_00	LOW_00	UTME	UTWN
4728120893	Marshall	00863	Meade	04n Easton	Campan	33 7547	-82 87422	827822.8	4424482.8

There is no Bottom Hole Location data for this well

**Owner Information:**

API	CMP_ID	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE_NUM	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VO
4728120893	3-0-2002		Plugging	Compreh Myrie W Garon			M-02			Concession Coal Co	Concession Coal Co

**Completion Information:**

API	CMP_ID	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FWT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TWO_TMD	NEW_FTG
4728120893	3-0-2002	2-14-2002	000	Ground Level									

There is no Pay data for this well

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

There is no Stratigraphy data for this well

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

**Plugging Information:**

API	PLG_DT	DEPTH_FBT
4728120893	3-0-2002	0

There is no Sample data for this well

**WVGS Pipeline**

Select County: (051) Marshall | Select datatypes: (Check All)

Enter Permit #: 70669

Get Data | Reset

Location  Production  Plugging  
 Owner/Completion  Stratigraphy  Sample  
 Pay/Show/Water  Logs  Bin Hole Log

Table Descriptions: County Code, Reservoirs, Fields, Completions, Leases, Wells, Wellbore Information, Wellhead Information, Wellhead Status, Wellhead Type, Wellhead Use.

WV Geological & Economic Survey | Well: County = 51 Permit = 70669

**Location Information: View Map**

API	COUNTY	PERMIT	TAX DISTRICT	SUAD_7A	SUAD_15	LAY_00	LOW_00	UTME	UTWN
4728178909	Marshall	70669	Meade	04n Easton	Campan	33 75278	-80 04688	827114.9	4421242.9

There is no Bottom Hole Location data for this well

**Owner Information:**

API	CMP_ID	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE_NUM	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VO
4728178909											

**Completion Information:**

API	CMP_ID	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FWT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TWO_TMD	NEW_FTG
4728178909													

There is no Pay data for this well

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

There is no Stratigraphy data for this well

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

There is no Plugging data for this well

There is no Sample data for this well

**WVGS Pipeline**

Select County: (051) Marshall | Select datatypes: (Check All)

Enter Permit #: 30201

Get Data | Reset

Location  Production  Plugging  
 Owner/Completion  Stratigraphy  Sample  
 Pay/Show/Water  Logs  Bin Hole Log

Table Descriptions: County Code, Reservoirs, Fields, Completions, Leases, Wells, Wellbore Information, Wellhead Information, Wellhead Status, Wellhead Type, Wellhead Use.

WV Geological & Economic Survey | Well: County = 51 Permit = 30201

**Location Information: View Map**

API	COUNTY	PERMIT	TAX DISTRICT	SUAD_7A	SUAD_15	LAY_00	LOW_00	UTME	UTWN
4728130201	Marshall	30201	Meade	04n Easton	Campan	33 7527	-89 35224	828824.7	4423234.7

There is no Bottom Hole Location data for this well

**Owner Information:**

API	CMP_ID	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE_NUM	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VO	PROP_FTG	FM	TFM
4728130201	12-3-2002		Completed	J P Gray			214			High Noon Oil Company				

**Completion Information:**

API	CMP_ID	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FWT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TWO_TMD	NEW_FTG
4728130201	12-3-2002	10-10-2002	214	Ground Level	ComprehGarner	1004	UNF	UNF	UNF	Reynolds	Development	UNF	UNF

**Pay/Show/Water Information:**

API	CMP_ID	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_RIF	G_API	G_BM	G_WATER	GRTY
4728130201	12-3-2002		Oil										

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

**Stratigraphy Information:**

API	WELL	FM	QUALITY	DEPTH_TOP	DEPTH_BOT	THICKNESS	QUALITY	ELEV DATUM
4728130201	Original Les	Unidentified coal	Well Record	100	Reasonable	10	Reasonable	271
4728130201	Original Les	Beneficial coal	Well Record	318	Reasonable	7	Reasonable	271
4728130201	Original Les	Pittsburgh coal	Well Record	448	Reasonable	10	Reasonable	271
4728130201	Original Les	San Simeon sh	Well Record	1214	Reasonable	200	Reasonable	271
4728130201	Original Les	Bg Lime	Well Record	1800	Reasonable	20	Reasonable	271
4728130201	Original Les	Bg Lime (unsh)	Well Record	1912	Reasonable	42	Reasonable	271
4728130201	Original Les	Shale	Well Record	2418	Reasonable	41	Reasonable	271
4728130201	Original Les	Shale	Well Record	2511	Reasonable	6	Reasonable	271

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

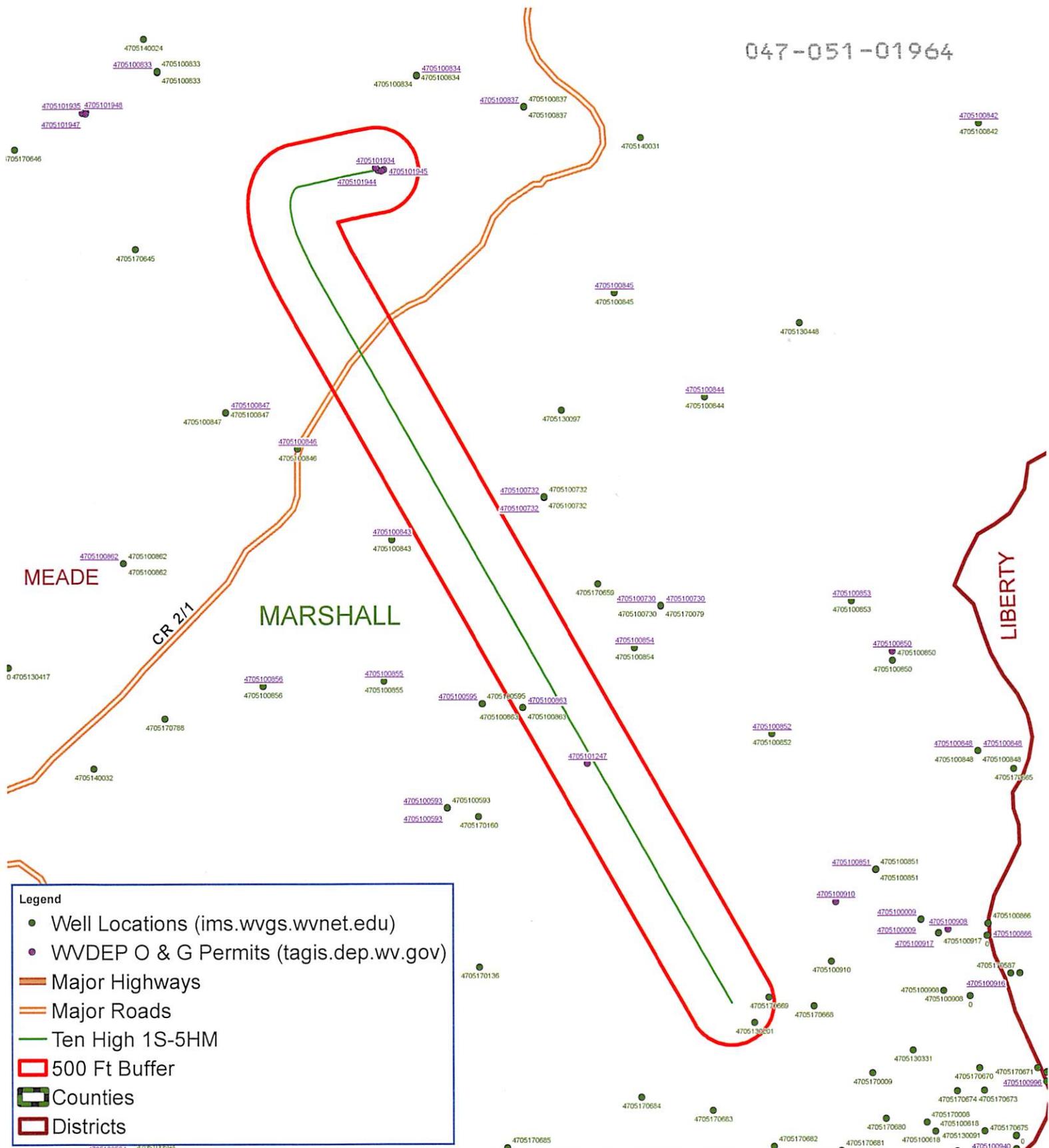
**Plugging Information:**

API	PLG_DT	DEPTH_FBT
4728130201	12-3-2002	0

There is no Sample data for this well

5.11. Area of Review-- The permittee shall review the area surrounding the proposed well pad so as to identify and evaluate potential conduits for unintended fracture propagation, a report of which the permittee shall provide to the Office with the application for well work. All existing active, plugged, abandoned, and undocumented wells within a five hundred feet (500') radius of the surface location of the well that is the subject of the new application and within a five hundred feet (500') radius of the lateral section of the wellbore shall be considered for the potential of unintended fracture propagation. The report shall detail those wells that are known or reasonably expected to penetrate a depth that could be within the range of the fracture propagation. The detail shall include at a minimum the API number, operator name, total depth, perforated formation(s) and producing zones not perforated.

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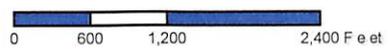


**Legend**

- Well Locations (ims.wvgs.wvnet.edu)
- WVDEP O & G Permits (tagis.dep.wv.gov)
- Major Highways
- Major Roads
- Ten High 1S-5HM
- 500 Ft Buffer
- Counties
- Districts



# Ten High 1S-5HM Meade District Marshall County, WV



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Map Prepared by:



Map Created: August 17, 2017  
Map Current As Of: August 17, 2017

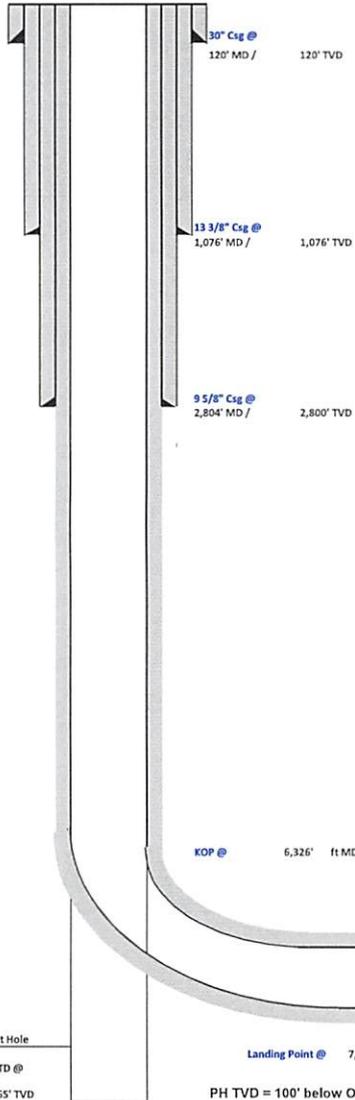
Notes:  
All locations are approximate and are for visualization purposes only



047-051-01964

WELL NAME:	Ten High 15-5HM		
STATE:	West Virginia	COUNTY:	Marshall
DISTRICT:	Meade		
DF Elev:	1,310'	GL Elev:	1,310'
TD:	17,502'		
TH Latitude:	39.80674496		
TH Longitude:	-80.68098361		
BH Latitude:	39.78011653		
BH Longitude:	-80.6662318		

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FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	1026
Sewickley Coal	935
Pittsburgh Coal	1020
Big Lime	2049
Weir	2475
Berea	2673
Gordon	2935
Rhinestreet	6057
Genesee/Burkett	6575
Tully	6606
Hamilton	6639
Marcellus	6713
Landing Depth	6742
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	36	30	120'	120'	BW	BW	Surface
Surface	17.5	13 3/8	1,076'	1,076'	54.5	J55	Surface
Intermediate 1	12 1/4	9 5/8	2,804'	2,800'	36	J55	Surface
Production	8 7/8 x 8 3/4	5 1/2	17,502'	6,920'	20	CYHP110	Surface

CEMENT SUMMARY			DRILLING DETAILS		
	Sacks	Class	Density	Fluid Type	Centralizer Notes
Conductor	338	A	15.6	Air	None
Surface	1,109	A	15.6	Air	3 Centralizers at equal distance
Intermediate 1	898	A	15	Air	1 Centralizer every other jt
Production	3,938	A	14.5	Air / SOBMM	1 every other joint in lateral; 1 per joint in curve; 1 every other jt to sfc

*Handwritten signature and date: 8/15/17*

Pilot Hole  
 PH TD @ 6,865' TVD  
 Landing Point @ 7,272' MD / 6,742' TVD  
 PH TVD = 100' below Onondaga Top  
 Lateral TD @ 17,502' ft MD / 6,920' ft TVD



**TUG HILL**  
OPERATING

Well: Ten High 1S-05HM (K)  
Site: Ten High  
Project: Marshall County, West Virginia  
Design: rev1

SECTION DETAILS

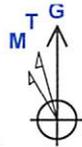
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSEct	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 1"/100' build
3	1900.00	5.00	259.50	1899.37	-3.97	-21.44	1.00	259.50	-4.85	Begin 5.00° tangent
4	4510.57	5.00	259.50	4500.00	-45.44	-245.15	0.00	0.00	-55.44	Begin 3"/100' build/turn
5	5211.08	26.01	257.72	5171.24	-84.11	-427.31	3.00	-2.18	-92.13	Begin 26.01° tangent
6	6325.52	26.01	257.72	6172.78	-188.09	-904.88	0.00	0.00	-185.94	Begin 10"/100' build/turn
7	7271.89	89.00	155.00	6742.00	-809.07	-908.59	10.00	-101.90	382.72	Begin 89.00° lateral
8	7491.89	89.00	155.00	6745.84	-1008.43	-815.63	0.00	0.00	602.60	Begin 2"/100' turn
9	7741.88	89.00	150.00	6750.20	-1230.07	-700.25	2.00	-90.01	851.81	Begin 89.00° lateral section
10	17501.78	89.00	150.00	6920.00	-9681.06	4179.04	0.00	0.00	0544.54	PBHL/TD 17501.78 MD/6920.00 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 @ 1310.00usft

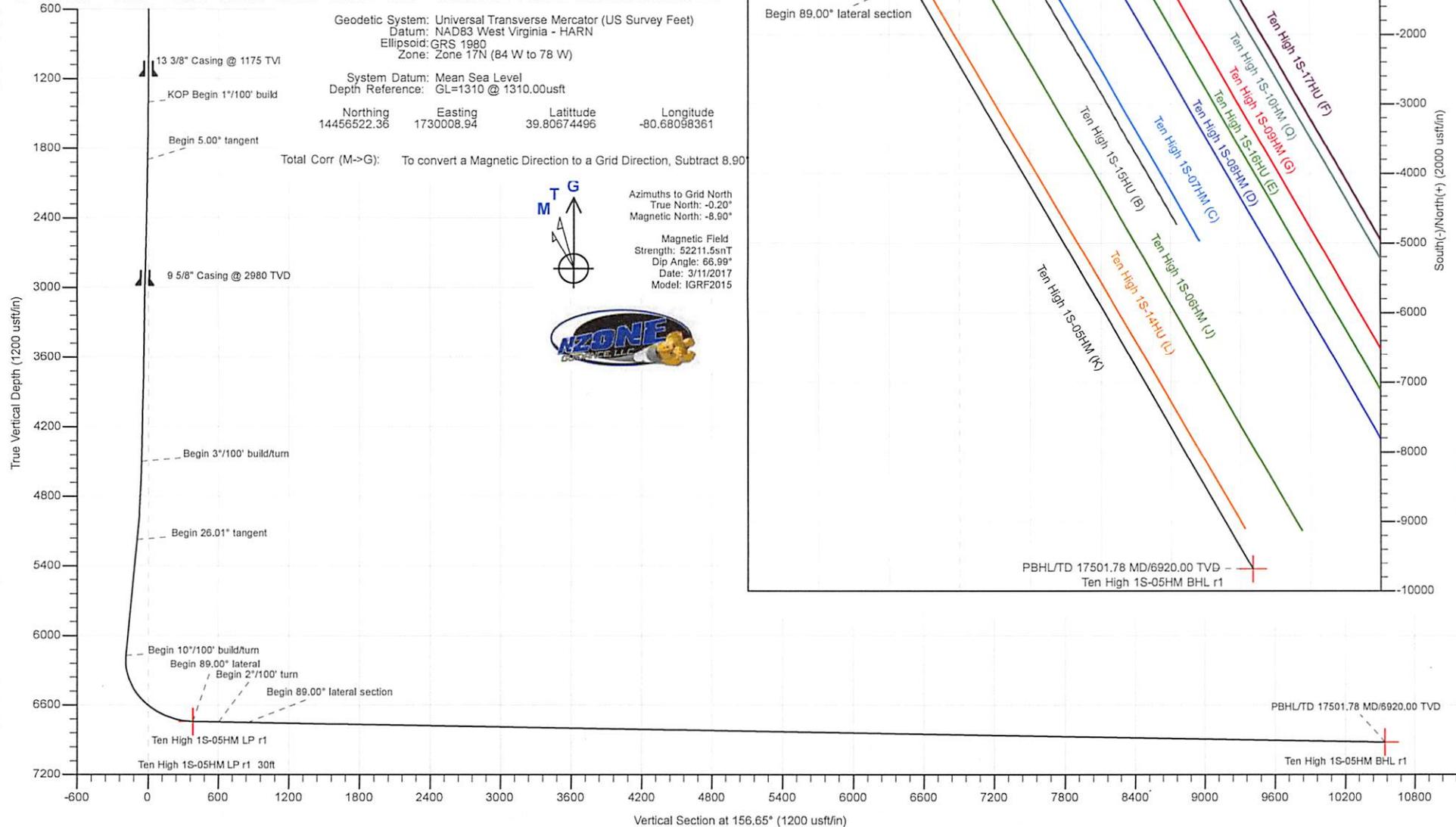
Northing 14456522.36 Easting 1730008.94 Latitude 39.80674496 Longitude -80.68098361

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.90°



Azimuths to Grid North  
True North: -0.20°  
Magnetic North: -8.90°

Magnetic Field  
Strength: 52211.5nT  
Dip Angle: 66.99°  
Date: 3/11/2017  
Model: IGRF2015



Vertical Section at 156.65° (1200 usft/in)

047-051-01964

047-051-01964

Office of  
REVENUE  
Aug 29 2017  
MW Department



Planning Report - Geographic

<b>Database:</b>	DB_Jul2216dt_v14	<b>Local Co-ordinate Reference:</b>	Well Ten High 1S-05HM (K)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL=1310 @ 1310.00usft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL=1310 @ 1310.00usft
<b>Site:</b>	Ten High	<b>North Reference:</b>	Grid
<b>Well:</b>	Ten High 1S-05HM (K)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev1		

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

<b>Site</b>	Ten High				
<b>Site Position:</b>		<b>Northing:</b>	14,456,545.60 usft	<b>Latitude:</b>	39.80680885
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,730,001.41 usft	<b>Longitude:</b>	-80.68101011
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.20 °

<b>Well</b>	Ten High 1S-05HM (K)					
<b>Well Position</b>	+N/-S	0.00 usft	<b>Northing:</b>	14,456,522.36 usft	<b>Latitude:</b>	39.80674496
	+E/-W	0.00 usft	<b>Easting:</b>	1,730,008.94 usft	<b>Longitude:</b>	-80.68098361
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	0.00 usft	<b>Ground Level:</b>	1,310.00 usft

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	3/11/2017	-8.70	66.99	52,211.49954695

<b>Design</b>	rev1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	156.65

<b>Plan Survey Tool Program</b>	<b>Date</b>	7/20/2017		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	17,501.71 rev1 (Original Hole)	MWD	
			MWD - Standard	

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Planning Report - Geographic

<b>Database:</b>	DB_Jul2216dt_v14	<b>Local Co-ordinate Reference:</b>	Well Ten High 1S-05HM (K)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL=1310 @ 1310.00usft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL=1310 @ 1310.00usft
<b>Site:</b>	Ten High	<b>North Reference:</b>	Grid
<b>Well:</b>	Ten High 1S-05HM (K)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev1		

Plan Sections											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00		
1,900.00	5.00	259.50	1,899.37	-3.97	-21.44	1.00	1.00	0.00	259.50		
4,510.57	5.00	259.50	4,500.00	-45.44	-245.15	0.00	0.00	0.00	0.00		
5,211.08	26.01	257.72	5,171.24	-84.11	-427.31	3.00	3.00	-0.25	-2.18		
6,325.52	26.01	257.72	6,172.78	-188.09	-904.88	0.00	0.00	0.00	0.00		
7,271.89	89.00	155.00	6,742.00	-809.07	-908.59	10.00	6.66	-10.85	-101.90	Ten High 1S-05HM LF	
7,491.89	89.00	155.00	6,745.84	-1,008.43	-815.63	0.00	0.00	0.00	0.00		
7,741.88	89.00	150.00	6,750.20	-1,230.07	-700.25	2.00	0.00	-2.00	-90.01		
17,501.78	89.00	150.00	6,920.00	-9,681.06	4,179.04	0.00	0.00	0.00	0.00	Ten High 1S-05HM BI	

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Planning Report - Geographic

<b>Database:</b>	DB_Jul2216dt_v14	<b>Local Co-ordinate Reference:</b>	Well Ten High 1S-05HM (K)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL=1310 @ 1310.00usft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL=1310 @ 1310.00usft
<b>Site:</b>	Ten High	<b>North Reference:</b>	Grid
<b>Well:</b>	Ten High 1S-05HM (K)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
100.00	0.00	0.00	100.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
200.00	0.00	0.00	200.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
300.00	0.00	0.00	300.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
400.00	0.00	0.00	400.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
500.00	0.00	0.00	500.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
600.00	0.00	0.00	600.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
700.00	0.00	0.00	700.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
800.00	0.00	0.00	800.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
900.00	0.00	0.00	900.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,456,522.36	1,730,008.94	39.80674496	-80.68098361	
<b>KOP Begin 1°/100' build</b>										
1,500.00	1.00	259.50	1,499.99	-0.16	-0.86	14,456,522.21	1,730,008.08	39.80674453	-80.68098667	
1,600.00	2.00	259.50	1,599.96	-0.64	-3.43	14,456,521.73	1,730,005.51	39.80674325	-80.68099584	
1,700.00	3.00	259.50	1,699.86	-1.43	-7.72	14,456,520.93	1,730,001.22	39.80674111	-80.68101112	
1,800.00	4.00	259.50	1,799.68	-2.54	-13.72	14,456,519.82	1,729,995.22	39.80673811	-80.68103251	
1,900.00	5.00	259.50	1,899.37	-3.97	-21.44	14,456,518.39	1,729,987.50	39.80673426	-80.68105999	
<b>Begin 5.00° tangent</b>										
2,000.00	5.00	259.50	1,998.99	-5.56	-30.01	14,456,516.80	1,729,978.93	39.80672998	-80.68109053	
2,100.00	5.00	259.50	2,098.60	-7.15	-38.58	14,456,515.21	1,729,970.36	39.80672570	-80.68112106	
2,200.00	5.00	259.50	2,198.22	-8.74	-47.15	14,456,513.63	1,729,961.79	39.80672143	-80.68115160	
2,300.00	5.00	259.50	2,297.84	-10.33	-55.72	14,456,512.04	1,729,953.22	39.80671715	-80.68118213	
2,400.00	5.00	259.50	2,397.46	-11.91	-64.29	14,456,510.45	1,729,944.65	39.80671287	-80.68121266	
2,500.00	5.00	259.50	2,497.08	-13.50	-72.86	14,456,508.86	1,729,936.08	39.80670859	-80.68124320	
2,600.00	5.00	259.50	2,596.70	-15.09	-81.43	14,456,507.27	1,729,927.52	39.80670431	-80.68127373	
2,700.00	5.00	259.50	2,696.32	-16.68	-89.99	14,456,505.68	1,729,918.95	39.80670004	-80.68130427	
2,800.00	5.00	259.50	2,795.94	-18.27	-98.56	14,456,504.10	1,729,910.38	39.80669576	-80.68133480	
2,900.00	5.00	259.50	2,895.56	-19.86	-107.13	14,456,502.51	1,729,901.81	39.80669148	-80.68136533	
3,000.00	5.00	259.50	2,995.18	-21.44	-115.70	14,456,500.92	1,729,893.24	39.80668720	-80.68139587	
3,100.00	5.00	259.50	3,094.80	-23.03	-124.27	14,456,499.33	1,729,884.67	39.80668292	-80.68142640	
3,200.00	5.00	259.50	3,194.42	-24.62	-132.84	14,456,497.74	1,729,876.10	39.80667865	-80.68145694	
3,300.00	5.00	259.50	3,294.04	-26.21	-141.41	14,456,496.16	1,729,867.53	39.80667437	-80.68148747	
3,400.00	5.00	259.50	3,393.66	-27.80	-149.98	14,456,494.57	1,729,858.96	39.80667009	-80.68151800	
3,500.00	5.00	259.50	3,493.28	-29.39	-158.55	14,456,492.98	1,729,850.39	39.80666581	-80.68154854	
3,600.00	5.00	259.50	3,592.90	-30.97	-167.12	14,456,491.39	1,729,841.82	39.80666153	-80.68157907	
3,700.00	5.00	259.50	3,692.52	-32.56	-175.69	14,456,489.80	1,729,833.25	39.80665726	-80.68160961	
3,800.00	5.00	259.50	3,792.14	-34.15	-184.26	14,456,488.21	1,729,824.68	39.80665298	-80.68164014	
3,900.00	5.00	259.50	3,891.76	-35.74	-192.83	14,456,486.63	1,729,816.11	39.80664870	-80.68167068	
4,000.00	5.00	259.50	3,991.37	-37.33	-201.40	14,456,485.04	1,729,807.54	39.80664442	-80.68170121	
4,100.00	5.00	259.50	4,090.99	-38.92	-209.97	14,456,483.45	1,729,798.97	39.80664014	-80.68173174	
4,200.00	5.00	259.50	4,190.61	-40.50	-218.54	14,456,481.86	1,729,790.40	39.80663587	-80.68176228	
4,300.00	5.00	259.50	4,290.23	-42.09	-227.11	14,456,480.27	1,729,781.83	39.80663159	-80.68179281	
4,400.00	5.00	259.50	4,389.85	-43.68	-235.68	14,456,478.68	1,729,773.26	39.80662731	-80.68182335	
4,500.00	5.00	259.50	4,489.47	-45.27	-244.25	14,456,477.10	1,729,764.69	39.80662303	-80.68185388	
4,510.57	5.00	259.50	4,500.00	-45.44	-245.15	14,456,476.93	1,729,763.79	39.80662258	-80.68185711	
<b>Begin 3°/100' build/turn</b>										
4,600.00	7.68	258.74	4,588.88	-47.31	-254.85	14,456,475.05	1,729,754.09	39.80661752	-80.68189165	
4,700.00	10.68	258.34	4,687.58	-50.49	-270.48	14,456,471.87	1,729,738.46	39.80660894	-80.68194736	
4,800.00	13.68	258.11	4,785.32	-54.81	-291.14	14,456,467.56	1,729,717.80	39.80659730	-80.68202095	
4,900.00	16.68	257.96	4,881.82	-60.24	-316.75	14,456,462.13	1,729,692.19	39.80658263	-80.68211222	

Office of the State Auditor

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WV Department of Environmental Protection





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<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL=1310 @ 1310.00usft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL=1310 @ 1310.00usft
<b>Site:</b>	Ten High	<b>North Reference:</b>	Grid
<b>Well:</b>	Ten High 1S-05HM (K)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,000.00	19.68	257.86	4,976.82	-66.77	-347.25	14,456,455.59	1,729,661.69	39.80656498	-80.68222092	
5,100.00	22.68	257.78	5,070.05	-74.40	-382.57	14,456,447.97	1,729,626.37	39.80654439	-80.68234676	
5,200.00	25.68	257.72	5,161.27	-83.08	-422.59	14,456,439.28	1,729,586.35	39.80652092	-80.68248938	
5,211.08	26.01	257.72	5,171.24	-84.11	-427.31	14,456,438.25	1,729,581.63	39.80651814	-80.68250621	
<b>Begin 26.01° tangent</b>										
5,300.00	26.01	257.72	5,251.15	-92.41	-465.41	14,456,429.96	1,729,543.53	39.80649573	-80.68264198	
5,400.00	26.01	257.72	5,341.02	-101.74	-508.27	14,456,420.63	1,729,500.67	39.80647053	-80.68279469	
5,500.00	26.01	257.72	5,430.89	-111.07	-551.12	14,456,411.30	1,729,457.82	39.80644532	-80.68294739	
5,600.00	26.01	257.72	5,520.76	-120.40	-593.97	14,456,401.97	1,729,414.97	39.80642012	-80.68310009	
5,700.00	26.01	257.72	5,610.63	-129.73	-636.83	14,456,392.64	1,729,372.11	39.80639491	-80.68325280	
5,800.00	26.01	257.72	5,700.50	-139.06	-679.68	14,456,383.31	1,729,329.26	39.80636970	-80.68340550	
5,900.00	26.01	257.72	5,790.37	-148.39	-722.53	14,456,373.98	1,729,286.41	39.80634450	-80.68355820	
6,000.00	26.01	257.72	5,880.24	-157.72	-765.39	14,456,364.65	1,729,243.55	39.80631929	-80.68371091	
6,100.00	26.01	257.72	5,970.11	-167.05	-808.24	14,456,355.32	1,729,200.70	39.80629409	-80.68386361	
6,200.00	26.01	257.72	6,059.98	-176.38	-851.09	14,456,345.99	1,729,157.85	39.80626888	-80.68401631	
6,300.00	26.01	257.72	6,149.85	-185.71	-893.94	14,456,336.66	1,729,115.00	39.80624367	-80.68416902	
6,325.52	26.01	257.72	6,172.78	-188.09	-904.88	14,456,334.28	1,729,104.06	39.80623724	-80.68420798	
<b>Begin 10°/100' build/turn</b>										
6,400.00	25.47	240.56	6,239.97	-199.45	-934.83	14,456,322.92	1,729,074.11	39.80620633	-80.68431476	
6,500.00	27.82	218.76	6,329.56	-228.28	-968.24	14,456,294.08	1,729,040.70	39.80612747	-80.68443409	
6,600.00	32.94	201.68	6,415.96	-271.86	-992.95	14,456,250.51	1,729,015.99	39.80600805	-80.68452264	
6,700.00	39.79	189.31	6,496.55	-328.84	-1,008.22	14,456,193.52	1,729,000.73	39.80585170	-80.68457770	
6,800.00	47.60	180.24	6,568.87	-397.51	-1,013.56	14,456,124.85	1,728,995.38	39.80566317	-80.68459760	
6,900.00	55.96	173.25	6,630.74	-475.77	-1,008.83	14,456,046.59	1,729,000.11	39.80544819	-80.68458173	
7,000.00	64.65	167.53	6,680.26	-561.26	-994.17	14,455,961.11	1,729,014.77	39.80521329	-80.68453059	
7,100.00	73.53	162.60	6,715.93	-651.36	-970.01	14,455,871.01	1,729,038.93	39.80496562	-80.68444572	
7,200.00	82.51	158.11	6,736.68	-743.34	-937.11	14,455,779.02	1,729,071.83	39.80471268	-80.68432971	
7,271.89	89.00	155.00	6,742.00	-809.07	-908.59	14,455,713.29	1,729,100.35	39.80453190	-80.68422900	
<b>Begin 89.00° lateral</b>										
7,300.00	89.00	155.00	6,742.49	-834.54	-896.71	14,455,687.82	1,729,112.23	39.80446184	-80.68418703	
7,400.00	89.00	155.00	6,744.24	-925.16	-854.46	14,455,597.20	1,729,154.48	39.80421257	-80.68403772	
7,491.89	89.00	155.00	6,745.84	-1,008.43	-815.63	14,455,513.94	1,729,193.31	39.80398352	-80.68390051	
<b>Begin 2°/100' turn</b>										
7,500.00	89.00	154.84	6,745.98	-1,015.77	-812.19	14,455,506.59	1,729,196.75	39.80396332	-80.68388836	
7,600.00	89.00	152.84	6,747.73	-1,105.51	-768.11	14,455,416.86	1,729,240.83	39.80371645	-80.68373253	
7,700.00	89.00	150.84	6,749.47	-1,193.65	-720.92	14,455,328.71	1,729,288.02	39.80347393	-80.68356563	
7,741.88	89.00	150.00	6,750.20	-1,230.07	-700.25	14,455,292.30	1,729,308.69	39.80337372	-80.68349248	
<b>Begin 89.00° lateral section</b>										
7,800.00	89.00	150.00	6,751.21	-1,280.39	-671.19	14,455,241.97	1,729,337.75	39.80323524	-80.68338966	
7,900.00	89.00	150.00	6,752.95	-1,366.98	-621.20	14,455,155.38	1,729,387.74	39.80299696	-80.68321275	
8,000.00	89.00	150.00	6,754.69	-1,453.57	-571.21	14,455,068.79	1,729,437.73	39.80275868	-80.68303584	
8,100.00	89.00	150.00	6,756.43	-1,540.16	-521.21	14,454,982.20	1,729,487.73	39.80252040	-80.68285894	
8,200.00	89.00	150.00	6,758.17	-1,626.75	-471.22	14,454,895.62	1,729,537.72	39.80228211	-80.68268203	
8,300.00	89.00	150.00	6,759.91	-1,713.34	-421.23	14,454,809.03	1,729,587.71	39.80204383	-80.68250512	
8,400.00	89.00	150.00	6,761.65	-1,799.93	-371.23	14,454,722.44	1,729,637.71	39.80180555	-80.68232822	
8,500.00	89.00	150.00	6,763.39	-1,886.52	-321.24	14,454,635.85	1,729,687.70	39.80156727	-80.68215131	
8,600.00	89.00	150.00	6,765.13	-1,973.10	-271.25	14,454,549.26	1,729,737.69	39.80132899	-80.68197441	
8,700.00	89.00	150.00	6,766.87	-2,059.69	-221.25	14,454,462.67	1,729,787.69	39.80109070	-80.68179751	
8,800.00	89.00	150.00	6,768.61	-2,146.28	-171.26	14,454,376.08	1,729,837.68	39.80085242	-80.68162061	
8,900.00	89.00	150.00	6,770.35	-2,232.87	-121.27	14,454,289.49	1,729,887.67	39.80061414	-80.68144371	
9,000.00	89.00	150.00	6,772.09	-2,319.46	-71.28	14,454,202.90	1,729,937.67	39.80037586	-80.68126681	
9,100.00	89.00	150.00	6,773.83	-2,406.05	-21.28	14,454,116.32	1,729,987.66	39.80013757	-80.68108991	
9,200.00	89.00	150.00	6,775.57	-2,492.64	28.71	14,454,029.73	1,730,037.65	39.79989929	-80.68091302	
9,300.00	89.00	150.00	6,777.31	-2,579.23	78.70	14,453,943.14	1,730,087.65	39.79966100	-80.68073613	

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Planning Report - Geographic

047-051-01964

<b>Database:</b>	DB_Jul2216dt_v14	<b>Local Co-ordinate Reference:</b>	Well Ten High 1S-05HM (K)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL=1310 @ 1310.00usft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL=1310 @ 1310.00usft
<b>Site:</b>	Ten High	<b>North Reference:</b>	Grid
<b>Well:</b>	Ten High 1S-05HM (K)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,400.00	89.00	150.00	6,779.05	-2,665.82	128.70	14,453,856.55	1,730,137.64	39.79942272	-80.68055923	
9,500.00	89.00	150.00	6,780.79	-2,752.40	178.69	14,453,769.96	1,730,187.63	39.79918444	-80.68038234	
9,600.00	89.00	150.00	6,782.53	-2,838.99	228.68	14,453,683.37	1,730,237.62	39.79894615	-80.68020545	
9,700.00	89.00	150.00	6,784.27	-2,925.58	278.68	14,453,596.78	1,730,287.62	39.79870787	-80.68002856	
9,800.00	89.00	150.00	6,786.01	-3,012.17	328.67	14,453,510.19	1,730,337.61	39.79846958	-80.67985167	
9,900.00	89.00	150.00	6,787.75	-3,098.76	378.66	14,453,423.60	1,730,387.60	39.79823129	-80.67967479	
10,000.00	89.00	150.00	6,789.49	-3,185.35	428.66	14,453,337.01	1,730,437.60	39.79799301	-80.67949790	
10,100.00	89.00	150.00	6,791.22	-3,271.94	478.65	14,453,250.43	1,730,487.59	39.79775472	-80.67932102	
10,200.00	89.00	150.00	6,792.96	-3,358.53	528.64	14,453,163.84	1,730,537.58	39.79751644	-80.67914413	
10,300.00	89.00	150.00	6,794.70	-3,445.12	578.64	14,453,077.25	1,730,587.58	39.79727815	-80.67896725	
10,400.00	89.00	150.00	6,796.44	-3,531.71	628.63	14,452,990.66	1,730,637.57	39.79703986	-80.67879037	
10,500.00	89.00	150.00	6,798.18	-3,618.29	678.62	14,452,904.07	1,730,687.56	39.79680157	-80.67861349	
10,600.00	89.00	150.00	6,799.92	-3,704.88	728.62	14,452,817.48	1,730,737.56	39.79656329	-80.67843661	
10,700.00	89.00	150.00	6,801.66	-3,791.47	778.61	14,452,730.89	1,730,787.55	39.79632500	-80.67825974	
10,800.00	89.00	150.00	6,803.40	-3,878.06	828.60	14,452,644.30	1,730,837.54	39.79608671	-80.67808286	
10,900.00	89.00	150.00	6,805.14	-3,964.65	878.60	14,452,557.71	1,730,887.54	39.79584842	-80.67790598	
11,000.00	89.00	150.00	6,806.88	-4,051.24	928.59	14,452,471.13	1,730,937.53	39.79561013	-80.67772911	
11,100.00	89.00	150.00	6,808.62	-4,137.83	978.58	14,452,384.54	1,730,987.52	39.79537184	-80.67755224	
11,200.00	89.00	150.00	6,810.36	-4,224.42	1,028.58	14,452,297.95	1,731,037.52	39.79513355	-80.67737537	
11,300.00	89.00	150.00	6,812.10	-4,311.01	1,078.57	14,452,211.36	1,731,087.51	39.79489526	-80.67719850	
11,400.00	89.00	150.00	6,813.84	-4,397.59	1,128.56	14,452,124.77	1,731,137.50	39.79465698	-80.67702163	
11,500.00	89.00	150.00	6,815.58	-4,484.18	1,178.56	14,452,038.18	1,731,187.50	39.79441868	-80.67684476	
11,600.00	89.00	150.00	6,817.32	-4,570.77	1,228.55	14,451,951.59	1,731,237.49	39.79418039	-80.67666790	
11,700.00	89.00	150.00	6,819.06	-4,657.36	1,278.54	14,451,865.00	1,731,287.48	39.79394210	-80.67649103	
11,800.00	89.00	150.00	6,820.80	-4,743.95	1,328.54	14,451,778.41	1,731,337.48	39.79370381	-80.67631417	
11,900.00	89.00	150.00	6,822.54	-4,830.54	1,378.53	14,451,691.83	1,731,387.47	39.79346552	-80.67613731	
12,000.00	89.00	150.00	6,824.28	-4,917.13	1,428.52	14,451,605.24	1,731,437.46	39.79322723	-80.67596044	
12,100.00	89.00	150.00	6,826.02	-5,003.72	1,478.52	14,451,518.65	1,731,487.46	39.79298894	-80.67578358	
12,200.00	89.00	150.00	6,827.76	-5,090.31	1,528.51	14,451,432.06	1,731,537.45	39.79275065	-80.67560673	
12,300.00	89.00	150.00	6,829.50	-5,176.90	1,578.50	14,451,345.47	1,731,587.44	39.79251235	-80.67542987	
12,400.00	89.00	150.00	6,831.24	-5,263.48	1,628.50	14,451,258.88	1,731,637.44	39.79227406	-80.67525301	
12,500.00	89.00	150.00	6,832.98	-5,350.07	1,678.49	14,451,172.29	1,731,687.43	39.79203577	-80.67507616	
12,600.00	89.00	150.00	6,834.72	-5,436.66	1,728.48	14,451,085.70	1,731,737.42	39.79179748	-80.67489930	
12,700.00	89.00	150.00	6,836.46	-5,523.25	1,778.48	14,450,999.11	1,731,787.42	39.79155918	-80.67472245	
12,800.00	89.00	150.00	6,838.20	-5,609.84	1,828.47	14,450,912.52	1,731,837.41	39.79132089	-80.67454560	
12,900.00	89.00	150.00	6,839.94	-5,696.43	1,878.46	14,450,825.94	1,731,887.40	39.79108259	-80.67436875	
13,000.00	89.00	150.00	6,841.68	-5,783.02	1,928.46	14,450,739.35	1,731,937.40	39.79084430	-80.67419190	
13,100.00	89.00	150.00	6,843.42	-5,869.61	1,978.45	14,450,652.76	1,731,987.39	39.79060601	-80.67401505	
13,200.00	89.00	150.00	6,845.16	-5,956.20	2,028.44	14,450,566.17	1,732,037.38	39.79036771	-80.67383820	
13,300.00	89.00	150.00	6,846.90	-6,042.78	2,078.44	14,450,479.58	1,732,087.38	39.79012942	-80.67366136	
13,400.00	89.00	150.00	6,848.64	-6,129.37	2,128.43	14,450,392.99	1,732,137.37	39.78989112	-80.67348451	
13,500.00	89.00	150.00	6,850.38	-6,215.96	2,178.42	14,450,306.40	1,732,187.36	39.78965282	-80.67330767	
13,600.00	89.00	150.00	6,852.12	-6,302.55	2,228.42	14,450,219.81	1,732,237.36	39.78941453	-80.67313083	
13,700.00	89.00	150.00	6,853.86	-6,389.14	2,278.41	14,450,133.22	1,732,287.35	39.78917623	-80.67295399	
13,800.00	89.00	150.00	6,855.60	-6,475.73	2,328.40	14,450,046.64	1,732,337.34	39.78893794	-80.67277715	
13,900.00	89.00	150.00	6,857.34	-6,562.32	2,378.40	14,449,960.05	1,732,387.34	39.78869964	-80.67260031	
14,000.00	89.00	150.00	6,859.08	-6,648.91	2,428.39	14,449,873.46	1,732,437.33	39.78846134	-80.67242347	
14,100.00	89.00	150.00	6,860.82	-6,735.50	2,478.38	14,449,786.87	1,732,487.32	39.78822305	-80.67224664	
14,200.00	89.00	150.00	6,862.56	-6,822.09	2,528.38	14,449,700.28	1,732,537.32	39.78798475	-80.67206980	
14,300.00	89.00	150.00	6,864.30	-6,908.67	2,578.37	14,449,613.69	1,732,587.31	39.78774645	-80.67189297	
14,400.00	89.00	150.00	6,866.04	-6,995.26	2,628.36	14,449,527.10	1,732,637.30	39.78750815	-80.67171614	
14,500.00	89.00	150.00	6,867.78	-7,081.85	2,678.36	14,449,440.51	1,732,687.30	39.78726985	-80.67153931	
14,600.00	89.00	150.00	6,869.52	-7,168.44	2,728.35	14,449,353.92	1,732,737.29	39.78703155	-80.67136248	
14,700.00	89.00	150.00	6,871.26	-7,255.03	2,778.34	14,449,267.33	1,732,787.28	39.78679326	-80.67118565	
14,800.00	89.00	150.00	6,872.99	-7,341.62	2,828.34	14,449,180.75	1,732,837.28	39.78655496	-80.67100882	

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<b>Database:</b>	DB_Jul2216dt_v14	<b>Local Co-ordinate Reference:</b>	Well Ten High 1S-05HM (K)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL=1310 @ 1310.00usft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL=1310 @ 1310.00usft
<b>Site:</b>	Ten High	<b>North Reference:</b>	Grid
<b>Well:</b>	Ten High 1S-05HM (K)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
14,900.00	89.00	150.00	6,874.73	-7,428.21	2,878.33	14,449,094.16	1,732,887.27	39.78631666	-80.67083200	
15,000.00	89.00	150.00	6,876.47	-7,514.80	2,928.32	14,449,007.57	1,732,937.26	39.78607836	-80.67065517	
15,100.00	89.00	150.00	6,878.21	-7,601.39	2,978.32	14,448,920.98	1,732,987.26	39.78584006	-80.67047835	
15,200.00	89.00	150.00	6,879.95	-7,687.97	3,028.31	14,448,834.39	1,733,037.25	39.78560176	-80.67030153	
15,300.00	89.00	150.00	6,881.69	-7,774.56	3,078.30	14,448,747.80	1,733,087.24	39.78536346	-80.67012471	
15,400.00	89.00	150.00	6,883.43	-7,861.15	3,128.30	14,448,661.21	1,733,137.24	39.78512516	-80.66994789	
15,500.00	89.00	150.00	6,885.17	-7,947.74	3,178.29	14,448,574.62	1,733,187.23	39.78488685	-80.66977107	
15,600.00	89.00	150.00	6,886.91	-8,034.33	3,228.28	14,448,488.03	1,733,237.22	39.78464855	-80.66959425	
15,700.00	89.00	150.00	6,888.65	-8,120.92	3,278.28	14,448,401.45	1,733,287.22	39.78441025	-80.66941743	
15,800.00	89.00	150.00	6,890.39	-8,207.51	3,328.27	14,448,314.86	1,733,337.21	39.78417195	-80.66924062	
15,900.00	89.00	150.00	6,892.13	-8,294.10	3,378.26	14,448,228.27	1,733,387.20	39.78393365	-80.66906380	
16,000.00	89.00	150.00	6,893.87	-8,380.69	3,428.26	14,448,141.68	1,733,437.20	39.78369535	-80.66888699	
16,100.00	89.00	150.00	6,895.61	-8,467.27	3,478.25	14,448,055.09	1,733,487.19	39.78345704	-80.66871018	
16,200.00	89.00	150.00	6,897.35	-8,553.86	3,528.24	14,447,968.50	1,733,537.18	39.78321874	-80.66853337	
16,300.00	89.00	150.00	6,899.09	-8,640.45	3,578.23	14,447,881.91	1,733,587.18	39.78298044	-80.66835656	
16,400.00	89.00	150.00	6,900.83	-8,727.04	3,628.23	14,447,795.32	1,733,637.17	39.78274213	-80.66817975	
16,500.00	89.00	150.00	6,902.57	-8,813.63	3,678.22	14,447,708.73	1,733,687.16	39.78250383	-80.66800295	
16,600.00	89.00	150.00	6,904.31	-8,900.22	3,728.21	14,447,622.14	1,733,737.15	39.78226552	-80.66782614	
16,700.00	89.00	150.00	6,906.05	-8,986.81	3,778.21	14,447,535.56	1,733,787.15	39.78202722	-80.66764934	
16,800.00	89.00	150.00	6,907.79	-9,073.40	3,828.20	14,447,448.97	1,733,837.14	39.78178892	-80.66747253	
16,900.00	89.00	150.00	6,909.53	-9,159.99	3,878.19	14,447,362.38	1,733,887.13	39.78155061	-80.66729573	
17,000.00	89.00	150.00	6,911.27	-9,246.58	3,928.19	14,447,275.79	1,733,937.13	39.78131231	-80.66711893	
17,100.00	89.00	150.00	6,913.01	-9,333.16	3,978.18	14,447,189.20	1,733,987.12	39.78107400	-80.66694213	
17,200.00	89.00	150.00	6,914.75	-9,419.75	4,028.17	14,447,102.61	1,734,037.11	39.78083569	-80.66676534	
17,300.00	89.00	150.00	6,916.49	-9,506.34	4,078.17	14,447,016.02	1,734,087.11	39.78059739	-80.66658854	
17,400.00	89.00	150.00	6,918.23	-9,592.93	4,128.16	14,446,929.43	1,734,137.10	39.78035908	-80.66641174	
17,500.00	89.00	150.00	6,919.97	-9,679.52	4,178.15	14,446,842.84	1,734,187.09	39.78012078	-80.66623495	
17,501.78	89.00	150.00	6,920.00	-9,681.06	4,179.04	14,446,841.30	1,734,187.98	39.78011653	-80.66623180	

PBHL/TD 17501.78 MD/6920.00 TVD

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Ten High 1S-05HM LP r - hit/miss target - Shape - Point	0.00	0.01	6,742.00	-809.07	-908.59	14,455,713.29	1,729,100.35	39.80453190	-80.68422900	
Ten High 1S-05HM LP r - plan misses target center by 29.88usft at 7274.51usft MD (6742.05 TVD, -811.44 N, -907.49 E) - Point	0.00	0.01	6,742.00	-824.07	-934.57	14,455,698.29	1,729,074.37	39.80449096	-80.68432168	
Ten High 1S-05HM BHL - plan hits target center - Point	0.00	0.00	6,920.00	-9,681.06	4,179.04	14,446,841.30	1,734,187.98	39.78011653	-80.66623180	

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")		
1,175.00	1,175.00	13 3/8" Casing @ 1175 TVD	13-3/8	17-1/2		
2,984.76	2,980.00	9 5/8" Casing @ 2980 TVD	9-5/8	12-1/4		

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<b>Database:</b>	DB_Jul2216dt_v14	<b>Local Co-ordinate Reference:</b>	Well Ten High 1S-05HM (K)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL=1310 @ 1310.00usft
<b>Project:</b>	Marshall County, West Virginia	<b>MD Reference:</b>	GL=1310 @ 1310.00usft
<b>Site:</b>	Ten High	<b>North Reference:</b>	Grid
<b>Well:</b>	Ten High 1S-05HM (K)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,400.00	1,400.00	0.00	0.00	KOP Begin 1°/100' build
1,900.00	1,899.37	-3.97	-21.44	Begin 5.00° tangent
4,510.57	4,500.00	-45.44	-245.15	Begin 3°/100' build/turn
5,211.08	5,171.24	-84.11	-427.31	Begin 26.01° tangent
6,325.52	6,172.78	-188.09	-904.88	Begin 10°/100' build/turn
7,271.89	6,742.00	-809.07	-908.59	Begin 89.00° lateral
7,491.89	6,745.84	-1,008.43	-815.63	Begin 2°/100' turn
7,741.88	6,750.20	-1,230.07	-700.25	Begin 89.00° lateral section
17,501.78	6,920.00	-9,681.06	4,179.04	PBHL/TD 17501.78 MD/6920.00 TVD

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WW-9  
(4/16)

API Number 47 - 051 - \_\_\_\_\_  
Operator's Well No. Ten High 1S-5HM

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Tug Hill Operating, LLC OP Code 494510851

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

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

Will a pit be used? Yes  No

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

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

Proposed Disposal Method For Treated Pit Wastes:

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

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

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

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

Additives to be used in drilling medium? Barite for weight

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

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

-Landfill or offsite name/permit number? Wetzel County Sanitary Landfill (SWF-1021 / WV0109185) and Westmoreland Sanitary Landfill, LLC (SAN1405 / PA DEP EC#1386426)

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

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

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

Company Official Signature \_\_\_\_\_  
Company Official (Typed Name) Sean Gasser  
Company Official Title Engineer

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AUG 25 2017  
WV Department of  
Environmental Protection

Subscribed and sworn before me this 10 day of August, 2017

Kaitlin McCawley  
Notary Public

My commission expires 05/08/2021



Form WW-9

Operator's Well No. Ten High 1S-5HM

**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: *Jim Tuckey*

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

Title: Oil + Gas Inspector

Date: 8/15/17

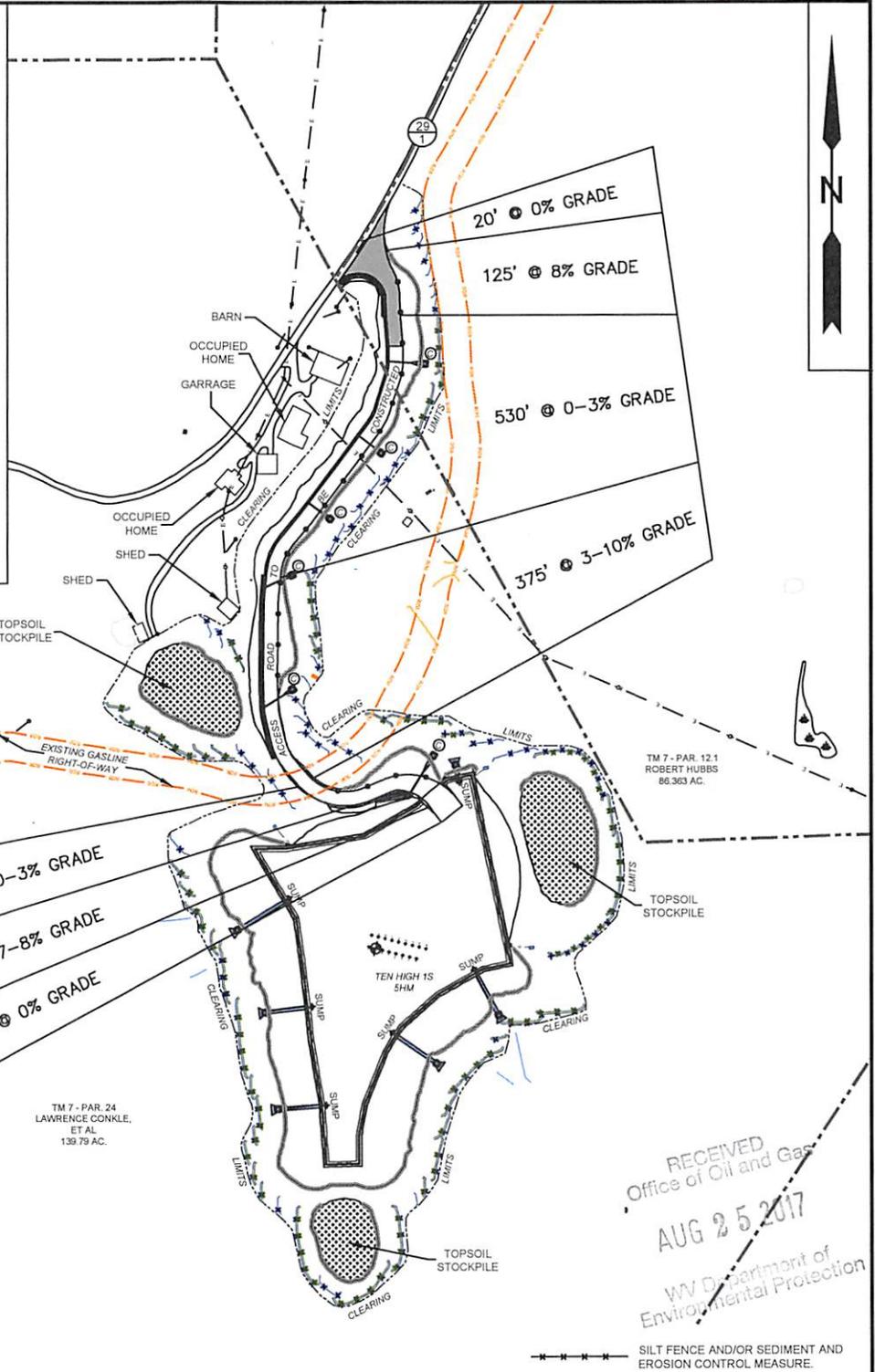
Field Reviewed?  Yes  No

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Environmental Protection  
10/27/2017

# PROPOSED TEN HIGH 1S - 5HM

**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 AVAILABLE.
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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www.slsurvcys.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR:	
COUNTY	DISTRICT	TUG HILL OPERATING, LLC	
MARSHALL	MEADE	380 SOUTHPOINTE BLVD	
		SUITE 200	
		CANONSBURG, PA 15317	
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	8655	08-09-17	1" = 300'

**TUG HILL**  
OPERATING

10/27/2017

047-051-01964



# Well Site Safety Plan

## Tug Hill Operating, LLC

*JW 8/12/17*

Well Name: Ten High 1S-5HM

Pad Location: Ten High

Marshall County, West Virginia

UTM (meters), NAD83, Zone 17:

Northing-4,406,356.83

Easting -527,307.78

August 2017

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VA Department of  
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10/27/2017



WW-9

# PROPOSED TEN HIGH 1S - 5HM

AUG 2017 SUPPLEMENT PG. 2

WV Department of  
Environmental Protection



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

LAT: 39.7137712  
LON: -80.8258327  
LOCATED: S 51°03'40" W AT 52,970' FROM TEN HIGH 1S - 5HM SURFACE LOCATION

*ju*  
8/15/17

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MARSHALL	MEADE	380 SOUTHPOINTE BLVD	
		SUITE 200	
		CANONSBURG, PA 15317	
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	8655	08-09-17	1" = 2000'



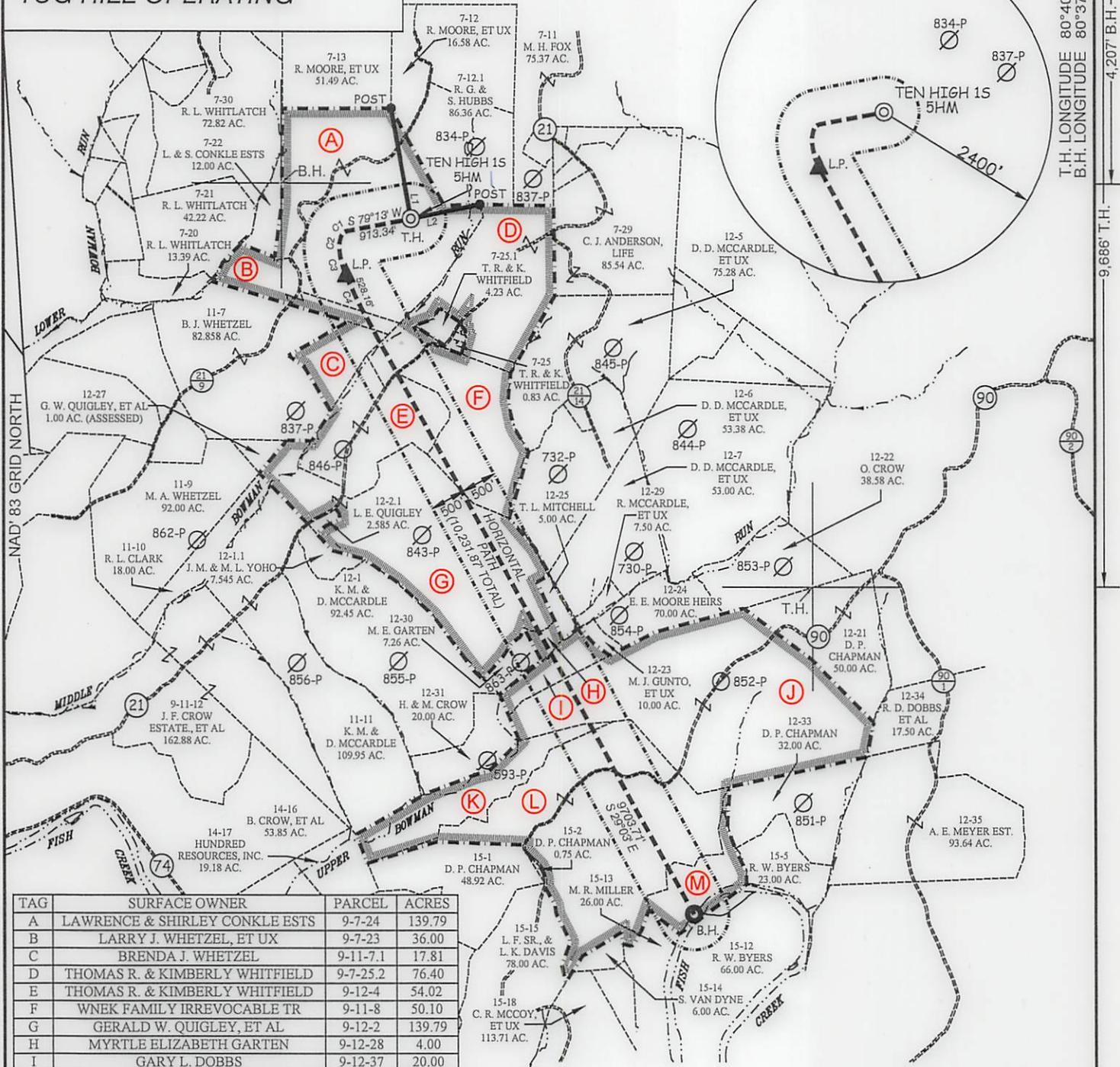
**TUG HILL**  
OPERATING

10/27/2017

TEN HIGH 1S LEASE  
WELL 5HM  
TUG HILL OPERATING

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

T.H. LONGITUDE 80°40'00"  
B.H. LONGITUDE 80°37'30"



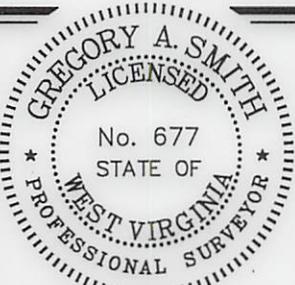
TAG	SURFACE OWNER	PARCEL	ACRES
A	LAWRENCE & SHIRLEY CONKLE ESTS	9-7-24	139.79
B	LARRY J. WHETZEL, ET UX	9-7-23	36.00
C	BRENDA J. WHETZEL	9-11-7.1	17.81
D	THOMAS R. & KIMBERLY WHITFIELD	9-7-25.2	76.40
E	THOMAS R. & KIMBERLY WHITFIELD	9-12-4	54.02
F	WNEK FAMILY IRREVOCABLE TR	9-11-8	50.10
G	GERALD W. QUIGLEY, ET AL	9-12-2	139.79
H	MYRTLE ELIZABETH GARTEN	9-12-28	4.00
I	GARY L. DOBBS	9-12-37	20.00
J	DAVID P. CHAPMAN	9-12-32	150.00
K	MYRTLE ELIZABETH GARTEN	9-14-18	20.00
L	SUSAN VAN DYNE	9-15-3	167.00
M	ROBERT FRANK KOTSON, ET AL	9-15-4	26.40

LINE	BEARING	DISTANCE
L1	N 10°14' W	1594.57'
L2	N 78°18' E	1002.00'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	138.44'	123.31'	S 49°56' W	131.28'
C2	206.39'	452.54'	S 05°25' W	204.61'
C3	349.57'	1124.43'	S 15°47' E	348.16'
C4	528.16'	4965.71'	S 25°47' E	527.92'

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(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
 NAD'83 S.P.C.(FT) N. 478,138.37 E. 1,636,728.79  
 NAD'83 GEO. LAT-(N) 39.806745 LONG-(W) 80.680984  
 NAD'83 UTM (M) N. 4,406,356.83 E. 527,307.78  
**LANDING POINT**  
 NAD'83 S.P.C.(FT) N. 477,344.3 E. 1,635,806.5  
 NAD'83 GEO. LAT-(N) 39.804532 LONG-(W) 80.684229  
 NAD'83 UTM (M) N. 4,406,110.2 E. 527,030.8  
**BOTTOM HOLE**  
 NAD'83 S.P.C.(FT) N. 468,985.6 E. 1,640,746.8  
 NAD'83 GEO. LAT-(N) 39.780117 LONG-(W) 80.686232  
 NAD'83 UTM (M) N. 4,403,406.0 E. 528,581.6



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

LEGEND

- LEASE LINE
- SURFACE LINE
- WELL LATERAL
- OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- TAX MAP-PARCEL
- LEASE # (SEE PAGES 1,3,4,&5)

SCALE 1" = 2000' FILE NO. 8655P5HM.dwg  
 DATE AUGUST 10, 2017  
 REVISED \_\_\_\_\_, 20\_\_\_\_  
 OPERATORS WELL NO. TEN HIGH 1S-5HM  
 API WELL NO. 47-051-01964  
 STATE COUNTY PERMIT

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



10/27/2017

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

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

COUNTY NAME PERMIT

TEN HIGH 1S LEASE  
WELL 5HM  
TUG HILL OPERATING

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

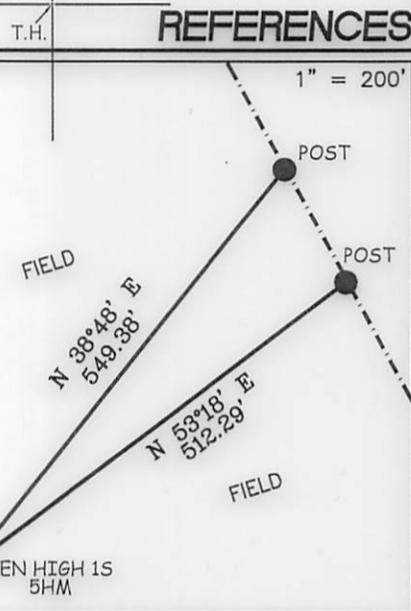
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NAD'83 UTM (M) N. 4,403,406.0 E. 528,581.6

T.H. LONGITUDE 80°40'00"  
B.H. LONGITUDE 80°37'30"  
4,207' B.H.  
9,686' T.H.

No.	Lease Name or No.	Tag	Parcel	Oil & Gas Royalty Owners	Deed Book / Page
1	10*15652	A	9-7-24	LARRY LEE CONKLE	863 354
2	10*15663	A	9-7-24	ROY A CONKLE SR	863 311
3	10*15664	A	9-7-24	THERESA ANNE HUDGES	863 343
4	10*15666	A	9-7-24	BRENDA J WHITZEL	863 635
5	10*16049	A	9-7-24	DANNY SHAWN KERNS AND AMY LYNN KERNS	905 518
6	10*16138	A	9-7-24	LARRY W KUHN AND VICKIE B KUHN, HUSBAND AND WIFE	905 522
7	10*16139	A	9-7-24	HUBERT DEAN KUHN AND ANDREA KUHN	905 524
8	10*16140	A	9-7-24	ANDY PAUL & JACKIE KUHN	905 526
9	10*16141	A	9-7-24	HOWARD KUHN AND MARY L KUHN	905 528
10	10*16001	A	9-7-24	LLOYD DOYLE MOORE AND GWENDOLYN K MOORE	907 392
11	10*16053	A	9-7-24	MARK EDWARD AND KARRIE A GOODMAN	909 81
12	10*16085	A	9-7-24	DALE BRIAN GOODMAN	909 506
13	10*16820	A	9-7-24	ROBERTA ANN AND DAVID S GIBB	919 237
14	10*17365	A	9-7-24	MYSTI JOANNE GOODMAN	927 468
15	10*17370	A	9-7-24	KELLY JUNE GOODMAN	927 470
16	10*18256	A	9-7-24	JEFFREY STEPHEN GOODMAN	929 1
17	10*47051.295.10	A	9-7-24	DEBRA J PALOMO	905 470
18	10*47051.295.11	A	9-7-24	REGINA D FIGUEROA AND DAVID FIGUEROA	905 435
19	10*47051.295.12	A	9-7-24	EARL D WELLMAN	905 432
20	10*47051.295.13	A	9-7-24	THE DOLLY F WOOD REVOCABLE TRUST BY NICHOLAS CHARLES WOOD AS TRUSTEE	904 641
21	10*47051.295.3	A	9-7-24	HAZEL ARIZONA MOORE REYNOLDS	904 632
22	10*47051.295.4	A	9-7-24	LLOYD O MOORE	904 459
23	10*47051.295.5	A	9-7-24	DALE R MOORE	904 635
24	10*47051.295.6	A	9-7-24	MARY BURKHART	904 638
25	10*47051.295.7	A	9-7-24	JEANNE V MELCHIORI	904 463
26	10*47051.295.8	A	9-7-24	JAMES E HEMELRICK JR AND KAREN HEMELRICK	904 465
27	10*15146	B	9-7-23	BRUCE D SCHURR	921 478
28	10*16021	B	9-7-23	TOMMY BONAR AND TANYA S BONAR	925 325
29	10*16115	B	9-7-23	EARL W HARRIS	925 329
30	10*16247	B	9-7-23	CAROL RIGGLE PARSLEY AND JAMES DENNIS PARSLEY	925 327
31	10*17415	B	9-7-23	DILLON PITTSBARGER	919 241
32	10*17506	B	9-7-23	CHASKIA F HARRIS AND JAMES M HARRIS	919 239
33	10*17507	B	9-7-23	DIZBRY METCALF	919 235
34	10*47051.295.9	B	9-7-23	BRENDA J WHITZEL	881 145
35	10*47051.295.10	B	9-7-23	GRACE LAURA BONAR	905 35
36	10*47051.295.11	B	9-7-23	JOHN L MASON	905 37
37	10*47051.295.12	B	9-7-23	STEVEN A BOHRER	905 39
38	10*47051.295.13	B	9-7-23	WILLIAM W CRAIG AND GLENDA L CRAIG	905 41
39	10*47051.295.14	B	9-7-23	HUGH R BUZZARD	905 43
40	10*47051.295.15	B	9-7-23	CHARLOTTE J BONAR YOHO	904 455
41	10*47051.295.16	B	9-7-23	CHARLOTTE B HANMELL	905 45
42	10*47051.295.17	B	9-7-23	MAXINE G JOHNSON	904 457
43	10*47051.295.18	B	9-7-23	JOHN WILLIAM BONAR AND SHIRLEY BONAR	913 522
44	10*47051.295.19	B	9-7-23	MICHAEL DAVID PYLES AND CYNTHIA A PYLES	907 207
45	10*47051.295.20	B	9-7-23	JEFFREY THOMAS PYLES AND TERESA A PYLES	907 209
46	10*47051.295.21	B	9-7-23	JACK L MASON AND JEAN M MASON	904 626
47	10*47051.295.22	B	9-7-23	BEVERLY J HOPSON	913 581
48	10*47051.295.23	B	9-7-23	ROBERT J BONAR	913 556
49	10*47051.295.24	B	9-7-23	CATHERINE BONAR PETTIT BILLIE	904 628
50	10*47051.295.7	B	9-7-23	MARILYN SUE BUMER	905 29



NOTES ON SURVEY

1. 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.
2. WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'

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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 AUGUST 10, 20 17  
REVISED \_\_\_\_\_, 20 \_\_\_\_  
OPERATORS WELL NO. TEN HIGH 1S-5HM  
API WELL NO. 47 - 051 - 01964  
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8655P5HM.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 \_\_\_\_\_ LIQUID WASTE IF "GAS" PRODUCTION X STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW X  
INJECTION \_\_\_\_\_ DISPOSAL \_\_\_\_\_  
LOCATION: GROUND = 1,321.20' 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 ABOVE AND SHEETS 3-5 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: 17,512'

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

10/27/2017

COUNTY NAME PERMIT

TEN HIGH 1S LEASE  
WELL 5HM  
TUG HILL OPERATING



Land & Energy Development  
Solutions from the ground up.

P.O. Box 150 • 12 Vanhorn Drive • Glenview, WV 26351 • (304) 462-5634  
www.slsurveys.com

No.	Lease Name or No.	Tag	Parcel	Oil & Gas Royalty Owner - Continued	Deed Book/Date
51	10*47051.256.8	B	9-7-23	PAMELA ANN MASON	905 31
52	10*47051.256.9	B	9-7-23	WANDA MASON SUNSHINE	905 33
53	10*15246	C	9-11-71	BRUCE S SCHUR	921 478
54	10*16021	C	9-11-71	TOMMY BONAR AND TANYA S BONAR	925 325
55	10*16115	C	9-11-71	EARL W HARRIS	925 329
56	10*15247	C	9-11-71	CAROL RIGGLE PARSLEY AND JAMES DENNIS PARSLEY	925 327
57	10*17415	C	9-11-71	DILLON PITTSBARGER	919 241
58	10*17506	C	9-11-71	CHASSIA F HARRIS AND JAMES M HARRIS	919 239
59	10*17507	C	9-11-71	DIZBAY METCALF	919 235
60	10*47051.256.1	C	9-11-71	BRENDA J WETZEL	881 145
61	10*47051.256.10	C	9-11-71	GRACE LAURA BONAR	905 35
62	10*47051.256.11	C	9-11-71	JOHN L MASON	905 37
63	10*47051.256.12	C	9-11-71	STEVEN A BOHRER	905 39
64	10*47051.256.13	C	9-11-71	WILLIAM W CRAIG AND GLENDA L CRAIG	905 41
65	10*47051.256.14	C	9-11-71	HUGH R BUZZARD	905 43
66	10*47051.256.15	C	9-11-71	CHARLOTTE J BONAR YOHO	904 453
67	10*47051.256.16	C	9-11-71	CHARLOTTE B HUMMEL	905 45
68	10*47051.256.17	C	9-11-71	MAXINE G JOHNSON	904 457
69	10*47051.256.18	C	9-11-71	JOHN WILLIAM BONAR AND SHIRLEY BONAR	913 522
70	10*47051.256.19	C	9-11-71	MICHAEL DAVID PILES AND CYNTHIA A PILES	907 207
71	10*47051.256.20	C	9-11-71	JEFFREY THOMAS PILES AND TERESA A PILES	907 209
72	10*47051.256.21	C	9-11-71	JACK L MASON AND JEAN M MASON	904 626
73	10*47051.256.22	C	9-11-71	BEVERLY J JOHNSON	913 583
74	10*47051.256.23	C	9-11-71	ROBERT L BONAR	913 556
75	10*47051.256.24	C	9-11-71	CATHERINE BONAR PETTIT BILLIE	904 628
76	10*47051.256.7	C	9-11-71	MARILYN SUE RUMER	905 29
77	10*47051.256.8	C	9-11-71	PAMELA ANN MASON	905 31
78	10*47051.256.9	C	9-11-71	WANDA MASON SUNSHINE	905 33
79	10*15481	D	9-7-25	DEAN P RIGBY AND SUSAN RIGBY	908 197
80	10*15482	D	9-7-25	SUSAN NELSON	908 203
81	10*15483	D	9-7-25	JOHN OWEN BOLTZ	908 160
82	10*15484	D	9-7-25	SANDRA K TRULL	908 239
83	10*16118	D	9-7-25	MATTIE RUTH JACKSON PRESCOTT	908 231
84	10*16119	D	9-7-25	RUBY RIDGLE JACKSON	908 233
85	10*16120	D	9-7-25	ROBERT A LEADBETTER AND M REBECCA LEADBETTER	908 235
86	10*16121	D	9-7-25	GEOFFREY A SHEERAN AND STEPHANIE L SCHEFER	908 238
87	10*16122	D	9-7-25	ROBERT STEPHEN DRIGGERS	908 224
88	10*16123	D	9-7-25	MARY ELIZABETH DRIGGERS	908 208
89	10*16124	D	9-7-25	TERENCE J ANDERSON AND NANCY J ANDERSON	908 219
90	10*16125	D	9-7-25	CYNTHIA HUDSON	908 219
91	10*16126	D	9-7-25	ROBERT J RIGBY	908 241
92	10*16127	D	9-7-25	RALPH L AND JUANITA L CRIM	908 584
93	10*16128	D	9-7-25	MARION L AND EMILY CAMPBELL	908 245
94	10*16129	D	9-7-25	ALEX RUSSELL AND JOYCE A CAMPBELL	908 248
95	10*16130	D	9-7-25	ANNA MARIE JACKSON	908 251
96	10*16131	D	9-7-25	WILSON ANDREW JACKSON	908 253
97	10*16132	D	9-7-25	ROBERT G & ELLEN FOUNDS	908 260
98	10*16133	D	9-7-25	RICHARD THOMAS AND VICKI J MIMS	908 263
99	10*16134	D	9-7-25	MICHAEL P PYLE	908 255
100	10*16135	D	9-7-25	CHARLES F AND GAIL ANN PYLE	908 266
101	10*16136	D	9-7-25	JACK I AND MERILEE PYLE	908 257
102	10*16137	D	9-7-25	JOHN S AND PATRICIA S DADO	908 269
103	10*16138	D	9-7-25	CHERYLE M TRACEY	908 260
104	10*16139	D	9-7-25	SHERRY PYLE BAIR	927 475
105	10*16140	D	9-7-25	JOHN C FOUNDS	927 481
106	10*16141	D	9-7-25	RICARDO ORTIZ	927 478
107	10*16142	D	9-7-25	DONNA ELAINE BRASKETT	921 352
108	10*16143	D	9-7-25	CHARLES A RINE AND RUTH K RINE	921 352
109	10*16144	D	9-7-25	PAUL C WILSON	927 490
110	10*16145	D	9-7-25	WILLIAM DALE BRASKETT	921 96
111	10*16146	D	9-7-25	HERBERT BRIAN AND DONNA DRU CAMPBELL	921 364
112	10*16147	D	9-7-25	PATRICK A RANKIN AND ROBIN A RANKIN	921 364
113	10*16148	D	9-7-25	JAMES KENNETH JACKSON AND JULIE JACKSON	921 93
114	10*16149	D	9-7-25	CHRISTOPHER AND TAMMY RICHARDSON	921 367
115	10*16150	D	9-7-25	WILLIAM N AND SHERRY D TAYLOR	921 510
116	10*16151	D	9-7-25	VIRGINIA I WHITMAN	921 528
117	10*16152	D	9-7-25	DAVID TULLER AND SUSAN STORTS TULLER	921 513
118	10*16153	D	9-7-25	MICHAEL L ORTIZ	921 349
119	10*16154	D	9-7-25	HAROLD W PYLE	921 357
120	10*16155	D	9-7-25	TERESA ORTIZ BIGGS	921 147
121	10*16156	D	9-7-25	SHEILA BRASKETT WEICHER	921 516
122	10*16157	D	9-7-25	RICK A AND LINDA A STORTS	921 507
123	10*16158	D	9-7-25	TERRY L AND THELMA A POFF	927 472
124	10*16159	D	9-7-25	ROBERT G FUNARI	921 82
125	10*16160	D	9-7-25	JAMES B FOUNDS AND LYNN M MOWERY	921 73
126	10*16161	D	9-7-25	TINA MOORE	921 334
127	10*16162	D	9-7-25	MICHAEL W STORTS AND JESSICA M STORTS	921 504
128	10*16163	D	9-7-25	MARK E AND LESLEY A STORTS	921 501
129	10*16164	D	9-7-25	BOBEN F AND STORTS	921 498
130	10*16165	D	9-7-25	MARY BARCAW DUKE	921 109
131	10*16166	D	9-7-25	DENNIS P AND BARBARA EZZEL FLORY	921 70
132	10*16167	D	9-7-25	LESTER G AND CONSTANCE B NICKOLSON	921 343
133	10*16168	D	9-7-25	JEREMY COCHENOUR	921 102
134	10*16169	D	9-7-25	LAURIE EZZEL PERRY	921 355
135	10*16170	D	9-7-25	BRITTANY RICHARDSON	921 376
136	10*16171	D	9-7-25	MARVELLEN FOUNDS AND LAUREN FOUNDS	921 79
137	10*16172	D	9-7-25	THOMAS RANKIN	917 75
138	10*16173	D	9-7-25	CINDY BARGER	921 137
139	10*16174	D	9-7-25	JESSE LEON JR AND TERESA GAIL EZZEL	921 118
140	10*16175	D	9-7-25	HENRI NELL JACKSON KENT BARNES	921 139
141	10*16176	D	9-7-25	JAMES N REEVES JR AND RITA M REEVES	921 367
142	10*16177	D	9-7-25	THOMAS G AND DIANE W BAYLESS	921 141
143	10*16178	D	9-7-25	SANDRA JEAN WILSON	921 524
144	10*16179	D	9-7-25	PATRICK S GALLAGHER AND JOYCE ANN FOUNDS	921 86
145	10*16180	D	9-7-25	DAVID H WILSON	921 474
146	10*16181	D	9-7-25	JOHN R REEVES AND MONA G REEVES	921 373
147	10*16182	D	9-7-25	BERTHA EZZEL WYATT	921 526
148	10*16183	D	9-7-25	MICHAEL L EZZEL	921 121
149	10*16184	D	9-7-25	JOSEPH W FOUNDS	921 76
150	10*16185	D	9-7-25	MILTON HOWARD EZZEL JR AND ELIZABETH A EZZEL	921 123
151	10*16186	D	9-7-25	ANDREW M ORTIZ	921 346
152	10*16187	D	9-7-25	DENNIS M WILSON	921 476
153	10*16188	D	9-7-25	KENDRA WALISA	927 484
154	10*16189	D	9-7-25	RALPH J WILSON	921 527
155	10*16190	D	9-7-25	SHANE ALLEN AND MENDY JEAN ALLEN	921 134
156	10*16191	D	9-7-25	MICHELLE MORROW-BACK	921 337
157	10*16192	D	9-7-25	KELLY FOUNDS CAMPBELL	921 99
158	10*16193	D	9-7-25	PHYLLIS J BLAKE	921 150
159	10*16194	D	9-7-25	TERESA EZZEL RALVA AND DAVID L RALVA	927 487
160	10*16195	D	9-7-25	RICHARD J PYLE	921 359
161	10*16196	D	9-7-25	NELDA S JACKSON	921 330
162	10*16197	D	9-7-25	MARIGLE ANN JACKSON ROBBINS GRAHAM	921 91
163	10*16198	D	9-7-25	JEFFREY L REEVES AND JODY L REEVES	921 370
164	10*16199	D	9-7-25	JAMES MICHAEL EZZEL AND LUCILLE D EZZEL	921 111
165	10*16200	D	9-7-25	JOHN BEVAQUA AND PATRICIA A BEVAQUA	921 144
166	10*16201	D	9-7-25	MICHAEL T RANKIN	921 361
167	10*16202	D	9-7-25	ROGER L TYRELL AND KATHRYN L TYRELL	921 519
168	10*16203	D	9-7-25	JAMES RONALD NICKOLSON AND TRACEY E NICKOLSON	921 340
169	10*16204	D	9-7-25	JESSE ALLEN JACKSON AND ELIZABETH D JACKSON	921 377
170	10*16205	D	9-7-25	NATHAN P EROSSY AND BARBARA T EROSSY	921 108
171	10*16206	D	9-7-25	JAMES M JACKSON	921 325
172	10*16207	D	9-7-25	MARY CHRISTINE MCKENNA	921 332
173	10*16208	D	9-7-25	GEORGE M GONTA JR	921 89
174	10*16209	D	9-7-25	SAM PRESLEY EZZEL	921 116
175	10*16210	D	9-7-25	CHRISTOPHER & JACKIE HANIFAN	927 267

No.	Lease Name or No.	Tag	Parcel	Oil & Gas Royalty Owner - Continued	Deed Book/Date
176	10*16211	D	9-7-25	DALE P & CYNTHIA J WARD	927 264
177	10*47051.223.12	D	9-7-25	AUCE GORBY MARTIN	908 52
178	10*47051.223.13	D	9-7-25	JAMES A GORBY	908 47
179	10*47051.223.15	D	9-7-25	LARRY D TAUNT AND NANCY L TAUNT	908 34
180	10*47051.223.20	D	9-7-25	BARBARA A BUZZARD	908 24
181	10*47051.223.21	D	9-7-25	GARY T WARD AND SHARON D WARD	908 19
182	10*47051.223.30	D	9-7-25	LAURIE DRIGGERS MANDERSON	908 165
183	10*47051.223.33	D	9-7-25	NANCY CIAFFAGLIOUE HOUSLEY	908 185
184	10*47051.223.35	D	9-7-25	DIANA L CIAFFAGLIOUE	908 190
185	10*47051.223.6	D	9-7-25	JOSHUA RINE AND REBECCA RINE	907 634
186	10*47051.223.9	D	9-7-25	LINDA DELBERT	908 32
187	10*47051.303.1	D	9-7-25	THOMAS B WHITFIELD	890 401
188	10*47051.303.2	D	9-7-25	KIMBERLY A WHITFIELD	890 403
189	10*15481	E	9-12-4	DEAN P RIGBY AND SUSAN RIGBY	908 197
190	10*15482	E	9-12-4	SUSAN NELSON	908 203
191	10*15483	E	9-12-4	JOHN OWEN BOLTZ	908 160
192	10*15484	E	9-12-4	SANDRA K TRULL	908 239
193	10*16118	E	9-12-4	MATTIE RUTH JACKSON PRESCOTT	908 231
194	10*16119	E	9-12-4	RUBY RIDGLE JACKSON	908 233
195	10*16120	E	9-12-4	ROBERT A LEADBETTER AND M REBECCA LEADBETTER	908 235
196	10*16121	E	9-12-4	GEOFFREY A SHEERAN AND STEPHANIE L SCHEFER	908 238
197	10*16122	E	9-12-4	ROBERT STEPHEN DRIGGERS	908 224
198	10*16123	E	9-12-4	MARY ELIZABETH DRIGGERS	908 208
199	10*16124	E	9-12-4	TERENCE J ANDERSON AND NANCY J ANDERSON	908 219
200	10*16125	E	9-12-4	CYNTHIA HUDSON	908 219
201	10*16126	E	9-12-4	ROBERT J RIGBY	908 241
202	10*16127	E	9-12-4	RALPH L AND JUANITA L CRIM	908 584
203	10*16128	E	9-12-4	MARION L AND EMILY CAMPBELL	908 245
204	10*16129	E	9-12-4	ALEX RUSSELL AND JOYCE A CAMPBELL	908 248
205	10*16130	E	9-12-4	ANNA MARIE JACKSON	908 251
206	10*16131	E	9-12-4	WILSON ANDREW JACKSON	908 253
207	10*16132	E	9-12-4	ROBERT G & ELLEN FOUNDS	908 260
208	10*16133	E	9-12-4	RICHARD THOMAS AND VICKI J MIMS	908 263
209	10*16134	E	9-12-4	MICHAEL P PYLE	908 255
210	10*16135	E	9-12-4	CHARLES F AND GAIL ANN PYLE	908 266
211	10*16136	E	9-12-4	JACK I AND MERILEE PYLE	908 257
212	10*16137	E	9-12-4	JOHN S AND PATRICIA S DADO	908 269
213	10*16138	E	9-12-4	CHERYLE M TRACEY	927 475
214	10*16139	E	9-12-4	SHERRY PYLE BAIR	927 481
215	10*16140	E	9-12-4	JOHN C FOUNDS	927 478
216	10*16141	E	9-12-4	RICARDO ORTIZ	921 352
217	10*16142	E	9-12-4	DONNA ELAINE BRASKETT	921 352
218	10*16143	E	9-12-4	CHARLES A RINE AND RUTH K RINE	908 274
219	10*16144	E	9-12-4	PAUL C WILSON	924 490
220	10*16145	E	9-12-4	WILLIAM DALE BRASKETT	921 96
221	10*16146	E	9-12-4	PATRICK A RANKIN AND ROBIN A RANKIN	921 364
222	10*16147	E	9-12-4	JAMES KENNETH JACKSON AND JULIE JACKSON	921 93
223	10*16148	E			

TEN HIGH 1S LEASE  
WELL 5HM  
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Solutions from the ground up.

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No.	Lessee Name or No.	Tag	Parcel	Oil & Gas Royalty Owner - Continued	Deed Book/Page
301	10*42051.223.24	E	9-12-4	JO DEE K DAVIS	908 136
302	10*42051.223.25	E	9-12-4	JOANNE WELCH	908 141
303	10*42051.223.26	E	9-12-4	WENDY L SMARCEL	908 69
304	10*42051.223.27	E	9-12-4	TIM J HOBBS	908 277
305	10*42051.223.28	E	9-12-4	KAREN S GAST	908 150
306	10*42051.223.29	E	9-12-4	PATSY JO RAJU	908 155
307	10*42051.223.30	E	9-12-4	LAURIE DRIGGERS MANDERSON	908 165
308	10*42051.223.31	E	9-12-4	JANICE M GONTA GAVALIK	908 180
309	10*42051.223.32	E	9-12-4	JOSEPH GORBY DAKAN	908 175
310	10*42051.223.33	E	9-12-4	NANCY CIAFFAGNONE HOUSLEY	908 185
311	10*42051.223.34	E	9-12-4	JOHN CIAFFAGNONE	927 267
312	10*42051.223.35	E	9-12-4	DEBRA L CIAFFAGNONE	927 264
313	10*42051.223.5	E	9-12-4	HAROLD S BROWN II AND MARIA A BROWN	907 641
314	10*42051.223.6	E	9-12-4	JOSHUA RINE AND REBECCA RINE	907 634
315	10*42051.223.7	E	9-12-4	JACK R WILSON JR AND JANE A WILSON	908 4
316	10*42051.223.8	E	9-12-4	DAVID M WILSON	907 649
317	10*42051.223.9	E	9-12-4	LINDA DELBERT	908 32
318	10*15453	F	9-11-8	CHARLES A RINE	908 274
319	10*15481	F	9-11-8	DEAN P RIGBY AND SUSAN RIGBY	908 157
320	10*15480	F	9-11-8	SUSAN NELSON	908 203
321	10*15866	F	9-11-8	JOHN OMER BOLTZ	908 160
322	10*15950	F	9-11-8	SANDRA K TRULL	908 229
323	10*16058	F	9-11-8	MATTHE RUTH JACKSON PRESCOTT	908 231
324	10*16118	F	9-11-8	RUBY RIDGEE JACKSON	908 233
325	10*16297	F	9-11-8	ROBERT A LEADBITTER AND M REBECCA LEADBITTER	908 235
326	10*16298	F	9-11-8	GEOFFREY A SHIEFER AND STEPHANIE L SHIEFER	908 238
327	10*16383	F	9-11-8	ROBERT STEPHEN DRIGGERS	908 224
328	10*16414	F	9-11-8	MARY ELIZABETH DRIGGERS	908 208
329	10*16415	F	9-11-8	TERENCE J & NANCY J ANDERSON	908 213
330	10*16416	F	9-11-8	CYNTHIA HUDSON	908 209
331	10*16424	F	9-11-8	ROBERT J RIGBY	908 241
332	10*16448	F	9-11-8	RALPH LAND JUANITA L CIRM	908 584
333	10*16478	F	9-11-8	MARION L AND EMLY CAMPBELL	908 245
334	10*16514	F	9-11-8	ALEX RUSSELL AND JOYCE A CAMPBELL	908 248
335	10*16515	F	9-11-8	ANNA MARIE JACKSON	908 251
336	10*16516	F	9-11-8	WILSON ANDREW JACKSON	908 253
337	10*16545	F	9-11-8	ROBERT G & ELLEN FOUNDS	908 260
338	10*16667	F	9-11-8	RICHARD THOMAS AND VICKI J MIMS	908 863
339	10*16666	F	9-11-8	MICHAEL P PYLE	908 255
340	10*16667	F	9-11-8	CHARLES F AND GAIL ANN PYLE	908 266
341	10*16668	F	9-11-8	JACKI AND MERILEE PYLE	908 257
342	10*16669	F	9-11-8	JOHN S AND PATRICIA S DADD	908 269
343	10*16666	F	9-11-8	CHELYLE M TRACY	927 475
344	10*16668	F	9-11-8	SHERRY L PYLE SAUB	927 481
345	10*16689	F	9-11-8	JOHN C FOUNDS	927 478
346	10*16690	F	9-11-8	RICARDO ORTIZ	921 352
347	10*16720	F	9-11-8	DONNA ELAIN BRASKETT	921 152
348	10*16742	F	9-11-8	PAUL C WILSON	927 490
349	10*16747	F	9-11-8	WILLIAM DALE BRASKETT	921 95
350	10*16798	F	9-11-8	PATRICK A RANKIN AND ROBIN A RANKIN	921 364
351	10*16800	F	9-11-8	JAMES KENNETH JACKSON AND JULIE JACKSON	921 93
352	10*16802	F	9-11-8	CHRISTOPHER AND TAMMY RICHARDSON	921 485
353	10*16804	F	9-11-8	WILLIAM M AND SHERRY D TAYLOR	921 510
354	10*16806	F	9-11-8	VIRGINIA I WHITMAN	921 528
355	10*16807	F	9-11-8	DAVID TULLER AND SUSAN STORTS TULLER	921 513
356	10*16828	F	9-11-8	MICHAEL L ORTIZ	921 349
357	10*16815	F	9-11-8	HAROLD W PYLE	921 357
358	10*16819	F	9-11-8	TERESA ORTIZ BIGGS	921 147
359	10*16821	F	9-11-8	SHEILA BRASKETT WELCH	921 516
360	10*16836	F	9-11-8	RICK A AND LENORA A STORTS	921 507
361	10*16837	F	9-11-8	TERRY L AND THELMA A POFF	927 472
362	10*16838	F	9-11-8	ROBERT G FLUNARI	921 82
363	10*16839	F	9-11-8	JAMES B FOUNDS AND LYNN M MOWERY	921 73
364	10*16861	F	9-11-8	TINA MOORE	921 334
365	10*16868	F	9-11-8	MICHAEL W STORTS AND JESSICA M STORTS	921 504
366	10*16879	F	9-11-8	MARK E AND LESLEY A STORTS	921 501
367	10*16880	F	9-11-8	BEVERLY ANN STORTS	921 498
368	10*16902	F	9-11-8	MARY BARCOW DUKE	921 105
369	10*16962	F	9-11-8	DENNIS P AND BARBARA EZELL FLORY	921 70
370	10*16976	F	9-11-8	LESTER G AND CONSTANCE B NICKOLSON	921 343
371	10*16977	F	9-11-8	JEREMY COCHRAN	921 162
372	10*16987	F	9-11-8	JANICE EZELL RINE	921 355
373	10*16989	F	9-11-8	BRITTANY RICHARDSON	921 378
374	10*16991	F	9-11-8	MARYLEEN FOUNDS AND LAUREN FOUNDS	921 79
375	10*16996	F	9-11-8	THOMAS RANKIN	921 75
376	10*17130	F	9-11-8	CINDY L BARBER	921 137
377	10*17155	F	9-11-8	JESSE LEON JR AND TERESA GAIL EZELLE	921 118
378	10*17156	F	9-11-8	HENRI NELL JACKSON CENT BARNES	921 139
379	10*17157	F	9-11-8	JAMES H REEVES JR AND RITA M REEVES	921 367
380	10*17198	F	9-11-8	THOMAS G AND DIANE W BAYLESS	921 141
381	10*17205	F	9-11-8	SANDRA JEAN WILSON	921 326
382	10*17208	F	9-11-8	PATRICK S GALLAGHER AND JOYCE ANN FOUNDS	921 86
383	10*17274	F	9-11-8	DAVID H WILSON	921 474
384	10*17275	F	9-11-8	JOHN R REEVES AND MONA G REEVES	921 373
385	10*17276	F	9-11-8	BERTHA EZELL WYATT	921 516
386	10*17278	F	9-11-8	MICHAEL L EZELLE	921 121
387	10*17339	F	9-11-8	JOSEPH W FOUNDS	921 76
388	10*17377	F	9-11-8	MILTON HOWARD EZELLE JR AND ELIZABETH A EZELLE	921 123
389	10*17416	F	9-11-8	ANDREW M ORTIZ	921 346
390	10*17438	F	9-11-8	DENNIS M WILSON	921 476
391	10*17440	F	9-11-8	KENDRA WALISA	927 484
392	10*17441	F	9-11-8	RALPH J WILSON	921 522
393	10*17442	F	9-11-8	SHANE ALLEN AND MENDY JEAN ALLEN	921 134
394	10*17443	F	9-11-8	MICHELLE MORROW-BACK	921 317
395	10*17444	F	9-11-8	KELLY FOUNDS CAMPBELL	921 89
396	10*17449	F	9-11-8	PARVILLE J BEANE	921 150
397	10*17482	F	9-11-8	TERESA EZELLE RALYA AND DAVID L RALYA	927 487
398	10*17483	F	9-11-8	RICHARD L PYLE	921 359
399	10*17484	F	9-11-8	NELDA S JACKSON	921 330
400	10*17485	F	9-11-8	MARGIE ANN JACKSON ROBBINS GRAHAM	921 51
401	10*17526	F	9-11-8	JEFFREY L REEVES AND JODY L REEVES	921 370
402	10*17527	F	9-11-8	JAMES MICHAEL EZELL AND LUCILLE EZELL	921 111
403	10*17552	F	9-11-8	JOHN BEVACQUA AND PATRICIA A BEVACQUA	921 144
404	10*17554	F	9-11-8	MICHAEL TRANKIN	921 381
405	10*17561	F	9-11-8	KATHRYN L & ROBERT TYWELL	921 519
406	10*17564	F	9-11-8	JAMES R & TRACEY E NICKOLSON	921 340
407	10*17565	F	9-11-8	JESSE ALLEN JACKSON AND ELIZABETH D JACKSON	921 327
408	10*17566	F	9-11-8	NATHAN P & BARBARA T ERDOSSY	921 108
409	10*17588	F	9-11-8	JAMES M JACKSON	921 335
410	10*17589	F	9-11-8	MARY CHRISTINE MCKENNA	921 312
411	10*17677	F	9-11-8	GEORGE M GONTA JR	921 89
412	10*17744	F	9-11-8	SAUL PRESLEY EZELL	921 116
413	10*42051.223.1	F	9-11-8	JEAN ANNE GOMBY STORCH	877 216
414	10*42051.223.30	F	9-11-8	ROBERT G GORBY	908 47
415	10*42051.223.11	F	9-11-8	ELIZABETH ESTEP	908 39
416	10*42051.223.12	F	9-11-8	ALICE GORBY MARTIN	908 52
417	10*42051.223.13	F	9-11-8	JAMES A GORBY	908 42
418	10*42051.223.14	F	9-11-8	JUSTIN RINE AND BECKY RINE	907 639
419	10*42051.223.15	F	9-11-8	LARRY D TAUNT AND NANCY L TAUNT	908 14
420	10*42051.223.16	F	9-11-8	BETTY LOU STERN AND WILLIAM KUTHER STERN	908 64
421	10*42051.223.17	F	9-11-8	RALPH E WINTER JR AND CHARLOTTE HUNT	908 8
422	10*42051.223.18	F	9-11-8	BRITTNEY MENEAN	908 57
423	10*42051.223.19	F	9-11-8	JASON RINE AND HEATHER RINE	907 629
424	10*42051.223.20	F	9-11-8	BARBARA A BUZZARD	908 24
425	10*42051.223.21	F	9-11-8	GARY V WARD AND SHARON D WARD	908 19

No.	Lessee Name or No.	Tag	Parcel	Oil & Gas Royalty Owner - Continued	Deed Book/Page
426	10*42051.223.22	F	9-11-8	SALLY COLE	908 74
427	10*42051.223.23	F	9-11-8	RONALD S CRIM	908 81
428	10*42051.223.24	F	9-11-8	JO DEE K DAVIS	908 136
429	10*42051.223.25	F	9-11-8	JOANNE WELCH	908 141
430	10*42051.223.26	F	9-11-8	WENDY L SMARCEL	908 69
431	10*42051.223.27	F	9-11-8	TIM J HOBBS	908 277
432	10*42051.223.28	F	9-11-8	KAREN S GAST	908 150
433	10*42051.223.29	F	9-11-8	PATSY JO RAJU	908 155
434	10*42051.223.30	F	9-11-8	LAURIE DRIGGERS MANDERSON	908 165
435	10*42051.223.31	F	9-11-8	JANICE M GONTA GAVALIK	908 180
436	10*42051.223.32	F	9-11-8	JOSEPH GORBY DAKAN	908 175
437	10*42051.223.33	F	9-11-8	NANCY CIAFFAGNONE HOUSLEY	908 185
438	10*42051.223.34	F	9-11-8	JOHN CIAFFAGNONE	908 170
439	10*42051.223.35	F	9-11-8	DEBRA L CIAFFAGNONE	908 192
440	10*42051.223.5	F	9-11-8	HAROLD S BROWN II AND MARIA A BROWN	907 641
441	10*42051.223.6	F	9-11-8	JOSHUA RINE AND REBECCA RINE	907 634
442	10*42051.223.7	F	9-11-8	JACK R WILSON JR AND JANE A WILSON	908 4
443	10*42051.223.8	F	9-11-8	DAVID M WILSON	907 649
444	10*42051.223.9	F	9-11-8	LINDA DELBERT	908 32
445	10*15406	G	9-12-2	CHK-MAC LLC	798 150
446	10*15445	G	9-12-2	CHARLES STEVEN JOHNSON AND SHIRLEY LOUISE JOHNSON	524 612
447	10*16238	G	9-12-2	SUSAN MARIE JOHNSON AKA SUSAN MARIE HUBER	924 614
448	10*16239	G	9-12-2	HAYMAKER PROPERTIES LP	907 447
449	10*16240	G	9-12-2	LESLIE E QUIGLEY	905 8
450	10*16251.309.2	G	9-12-2	LEWIS M QUIGLEY AND MAXINE V QUIGLEY	907 217
451	10*16251.309.3	G	9-12-2	GERALD W QUIGLEY AND VICKI L QUIGLEY	905 12
452	10*16245	H	9-12-28	CHARLES STEVEN JOHNSON AND SHIRLEY LOUISE JOHNSON	924 612
453	10*16238	H	9-12-28	SUSAN MARIE JOHNSON AKA SUSAN MARIE HUBER	924 614
454	10*16932	H	9-12-28	HAYMAKER PROPERTIES LP	902 447
455	10*42051.223.1	H	9-12-28	LESLIE E QUIGLEY	905 8
456	10*42051.223.2	H	9-12-28	LEWIS M QUIGLEY AND MAXINE V QUIGLEY	907 217
457	10*42051.309.3	H	9-12-28	GERALD W QUIGLEY AND VICKI L QUIGLEY	905 12
458	10*42051.312.0	J	9-12-37	IAN GRIMS SIMMACHER LEONARD A SIMMACHER	901 472
459	10*42051.140.1	J	9-12-32	DAVID P CHAPMAN & DEBORAH REOR-CHAPMAN	866 318
460	10*42051.140.2	J	9-12-32	DOROTHY SULLIVAN POA JAMES REID SULLIVAN	873 501
461	10*15477	K	9-14-18	RONALD A WYCINSKI	906 241
462	10*15730	K	9-14-18	FRANCES V CARPENTER	906 256
463	10*15752	K	9-14-18	KIM O CHAMBERS AND DEBRA CHAMBERS	906 258
464	10*16017	K	9-14-18	FLOYD A MCFADDEN	906 260
465	10*16018	K	9-14-18	BARBARA MCFADDEN ALBRIGIT	906 262
466	10*16030	K	9-14-18	JOSEPH F CHMIELEWSKI AND SANDRA CHMIELEWSKI	906 264
467	10*16031	K	9-14-18	CARL J CHMIELEWSKI AND KATHLEEN A CHMIELEWSKI	906 266
468	10*16083	K	9-14-18	CECIL HARRY LILLY, III AND PAMELA KAY KENIGET LILLY	912 47
469	10*16085	K	9-14-18	KATHARYN ANNETTE LILLY LAING AND FREDDIE JOE LAING	912 45</

TEN HIGH 1S LEASE  
WELL 5HM  
TUG HILL OPERATING



No.	Lease Name or No.	Tag	Parcel	Oil & Gas Royalty Owner - Continued	Deed Book/Page
551	10*17614	K	9-14-18	DAVID DOBBS	923 489
552	10*17615	K	9-14-18	PAULA JO WRIGHT	923 482
553	10*17616	K	9-14-18	RONALD & ELIZABETH DOBBS	924 107
554	10*17617	K	9-14-18	UNITED DISCIPLES OF CHRIST CHURCH	924 129
555	10*17664	K	9-14-18	RUSCO P H PARSONS	923 511
556	10*17667	K	9-14-18	THOMAS BRIAN WARRICK	923 509
557	10*17668	K	9-14-18	KENNETH R DOBBS	923 503
558	10*17671	K	9-14-18	JAMES L STOUT	923 484
559	10*17674	K	9-14-18	HOWARD L & BETH E WOOD	923 505
560	10*17675	K	9-14-18	GREGORY D & CAROLYN J WIBLE	923 507
561	10*17676	K	9-14-18	JAMES C & DEIRDRE G DORIA	923 513
562	10*17700	K	9-14-18	ROGER L & MARILYN L GARRISON	923 472
563	10*17701	K	9-14-18	SUE ANN WORD	923 470
564	10*17703	K	9-14-18	TAMMY BETH RAMSEY	925 500
565	10*17703	K	9-14-18	SHIRLEY N COX	923 488
566	10*17706	K	9-14-18	BETTY LOU NOBLE	924 127
567	10*17711	K	9-14-18	DEBRA A WENNEMAN AND KURT J WENNEMAN	923 520
568	10*17731	K	9-14-18	JAMES J MCGHEE AND JEANNINE CHAMBERS MCGHEE	914 519
569	10*17766	K	9-14-18	EDWARD S & NANCY ROSENTHAL	923 495
570	10*17767	K	9-14-18	WILLIAM K & LINDA J MERRITT	923 474
571	10*17769	K	9-14-18	GLADYS FRAZIER KING	923 492
572	10*17771	K	9-14-18	CHARLES AND LISA WARRICK	923 477
573	10*17830	K	9-14-18	BRIAN AND MELINDA MASTERS	925 319
574	10*17878	K	9-14-18	ROBERT E & SARAH M BOUSH	924 590
575	10*17879	K	9-14-18	HARRY B WRIGHT JR	924 588
576	10*17880	K	9-14-18	ANNA M WRIGHT	924 586
577	10*17881	K	9-14-18	WAYLON L & ANGELA J MURPHEE	924 555
578	10*17885	K	9-14-18	JOHN RUSSELL BECKER	924 540
579	10*42051.325.1	K	9-14-18	JUDITH A LEWANDOSKY AND ALAN E LEWANDOSKY	906 225
580	10*42051.325.2	K	9-14-18	TAMMY LEE STOUT AND DOROTHY MARIE STOUT	906 222
581	10*42051.325.3	K	9-14-18	NICHOLAS D PAVLIK AND GLORIA K PAVLIK	906 228
582	10*42051.325.4	K	9-14-18	JAMES H WHITE AND RITA FRANKS WHITE	906 230
583	10*42051.325.5	K	9-14-18	SAMUEL ALAN MCCORD AND WINIFREDA MCKEE	906 232
584	10*42051.325.6	K	9-14-18	THOMAS O MCCORD	906 235
585	10*42051.325.7	K	9-14-18	SHERON JONES	906 237
586	10*42051.325.8	K	9-14-18	RICK PAVLIK	906 239
587	10*15752	L	9-15-3	KIM O CHAMBERS AND DEBRA CHAMBERS	906 258
588	10*16017	L	9-15-3	FLOIDA A MCFADDEN	906 260
589	10*16018	L	9-15-3	BARBARA MCFADDEN ALBRIGHT	906 262
590	10*16143	L	9-15-3	MARY LOU CHAMBERS	906 276
591	10*16144	L	9-15-3	PATTIE S MADRID	906 278
592	10*16180	L	9-15-3	LARRY L CHAMBERS	906 280
593	10*16181	L	9-15-3	NORMA CHRISTINE WHIPP AND GERALD WAYNE BLACK	906 281
594	10*16182	L	9-15-3	FIRST CHRISTIAN CHURCH OF MOUNDSVILLE BY ROGER FRANCIS AND ROBERT ALBERT TRUSTEES	906 283
595	10*16139	L	9-15-3	ANGELA L CLIFIELD AND KENNETH W CLIFIELD	906 287
596	10*16285	L	9-15-3	JOHN A SHUITZ AND CYNTHIA J SHUITZ	906 291
597	10*16441	L	9-15-3	GEORGE FRANKLIN AND NANCY ANN REED	924 619
598	10*16442	L	9-15-3	FRED T AND JERRY L CHAMBERS	924 174
599	10*16443	L	9-15-3	BARBARA BROWN CHAMBERS	924 621
600	10*16444	L	9-15-3	CATHERINE ELLEN CHAMBERS	924 623
601	10*16445	L	9-15-3	DOUGLAS C AND GWENDLYN D LEWTON	925 123
602	10*16483	L	9-15-3	JOHN C AND BARBARA H WINTER	924 178
603	10*16486	L	9-15-3	DAVID ALAN WILKINSON AND PATRICIA LYNN WILKINSON	924 180
604	10*16490	L	9-15-3	WILLIAM H AND MERRY C COTTON	924 176
605	10*16511	L	9-15-3	DOUGLAS R BOWEN	906 475
606	10*16532	L	9-15-3	JEAN ANN MCFADDEN	906 459
607	10*16534	L	9-15-3	TERRY LEE LASAVAGE	906 443
608	10*16535	L	9-15-3	CHARLES E CARSON AND MARY KAY CARSON	906 420
609	10*16537	L	9-15-3	KIM D BOWEN AND MADONNA M BOWEN	907 415
610	10*16540	L	9-15-3	JAMES A WINTER AND CONNIE G WINTER	924 184
611	10*16569	L	9-15-3	JANICE E BALE	907 425
612	10*16570	L	9-15-3	ROBERT BOWEN AND MARCIA M R BOWEN	907 420
613	10*16576	L	9-15-3	LINDA A MINER AND MICHAEL W MINER	907 484
614	10*16580	L	9-15-3	HAROLD C MCFADDEN	907 480
615	10*16581	L	9-15-3	HELEN L SCHILLING	907 489
616	10*16582	L	9-15-3	DORA BROCK BRAMMER	907 429
617	10*16580	L	9-15-3	RONALD J AND JENNIFER CHAMBERS FICCA	924 186
618	10*16726	L	9-15-3	LESLY K WHITE	924 182
619	10*16733	L	9-15-3	SARAH L BISHOP	924 172
620	10*16835	L	9-15-3	ERNEST CARL AUGUSTINE JR	924 188
621	10*16848	L	9-15-3	FREDERICK C LEWTON	924 156
622	10*16849	L	9-15-3	STEVEN R AND BRIANNE L LUTT	924 138
623	10*16850	L	9-15-3	JAY E AND CECILIA E LEWTON	924 134
624	10*16852	L	9-15-3	RUSSELL D HERVEY	924 132
625	10*16853	L	9-15-3	DONALD T AND JEAN K HOGAN	924 140
626	10*16890	L	9-15-3	ROSEMARY H BEAVERS	924 152
627	10*16892	L	9-15-3	LINDA C ABRAHAM	924 148
628	10*16893	L	9-15-3	JULIA HOOVER	924 150
629	10*16895	L	9-15-3	DIANE ELSIE RAMSEY	924 146
630	10*17129	L	9-15-3	ROBERTA JANE PARKINSON	924 142
631	10*17131	L	9-15-3	LAURA E TOTTEN AND LONNIE R TOTTEN	924 154
632	10*17134	L	9-15-3	UNITED CHRISTIAN MISSIONARY SOCIETY	924 14
633	10*17209	L	9-15-3	GAYLE S SHANNON	924 168
634	10*17289	L	9-15-3	HAROLD R HUNT JR AND ELIZABETH A HUNT	924 170
635	10*17396	L	9-15-3	CHRISTINE L KIDD	924 158
636	10*17413	L	9-15-3	ROBERT M CHAMBERS AND CHARLOTTE A CHAMBERS	924 160
637	10*17436	L	9-15-3	ANDREW M HOOVER AND DINAH R HOOVER	924 156
638	10*17448	L	9-15-3	FREDERICK L HERVEY AND CATHY J HERVEY	924 162
639	10*17452	L	9-15-3	ALAN H & MARY E DEGARMO	924 164
640	10*17486	L	9-15-3	JOCKEY N KEELY	928 364
641	10*17487	L	9-15-3	DEBORAH R MOKOSH	924 166
642	10*17563	L	9-15-3	DONALD L WOOD	923 523
643	10*17617	L	9-15-3	UNITED DISCIPLES OF CHRIST CHURCH	924 129
644	10*17674	L	9-15-3	HOWARD L WOOD AND BETH E WOOD	923 505
645	10*17675	L	9-15-3	GREGORY DEANE WIBLE AND CAROLYN JEAN WIBLE	923 507
646	10*17701	L	9-15-3	SUE ANN WORD	923 470
647	10*17703	L	9-15-3	TAMMY BETH RAMSEY	925 500
648	10*17731	L	9-15-3	JAMES J MCGHEE AND JEANNINE CHAMBERS MCGHEE	914 519
649	10*42051.325.1	L	9-15-3	JUDITH A LEWANDOSKY AND ALAN E LEWANDOSKY	906 225
650	10*42051.325.3	L	9-15-3	NICHOLAS D PAVLIK AND GLORIA K PAVLIK	906 228
651	10*42051.325.4	L	9-15-3	JAMES H WHITE AND RITA FRANKS WHITE	906 230
652	10*42051.325.5	L	9-15-3	SAMUEL ALAN MCCORD AND WINIFREDA MCKEE	906 232
653	10*42051.325.6	L	9-15-3	THOMAS O MCCORD	906 235
654	10*42051.325.7	L	9-15-3	SHERON JONES	906 237
655	10*42051.325.8	L	9-15-3	RICK PAVLIK	906 239
656	10*16071	M	9-15-4	VIRGINIA LESLIE BERTRAM	901 370
657	10*16402	M	9-15-4	VALERIE L WAGNER	921 464
658	10*16421	M	9-15-4	SAMUEL EDGAR LEWIS AND ELIZABETH LEWIS	921 449
659	10*16491	M	9-15-4	BELA N WELLENREITER	921 467
660	10*17303	M	9-15-4	MICHAEL EVES	909 516
661	10*17320	M	9-15-4	ROBERT M RICHARDSON AND NANCY S RICHARDSON	909 528
662	10*17325	M	9-15-4	PHILLIS ADAMS AND JOSEPH ADAMS	909 520
663	10*17340	M	9-15-4	JEAN R DRIGERS AND WILLIAM C DRIGERS	909 524
664	10*17341	M	9-15-4	LUCY V RICHARDSON AND DENNIS L ROBBICHAUD	921 456
665	10*17412	M	9-15-4	CHARLES I SHILLITO	921 458
666	10*17439	M	9-15-4	WILLARD D MCCALL JR AND ADELE HUEY MCCALL	921 454
667	10*17509	M	9-15-4	BRIAN A MCCALL	921 451
668	10*17525	M	9-15-4	PAUL W STIFEL AND MARY M GROVER-STIFEL	921 460
669	10*18294	M	9-15-4	MARY M AND WINFRED K MARTIN	929 341
670	10*42051.318.46	M	9-15-4	CAROL L BOBBY AND DONALD J BOBBY	905 603
671	10*42051.318.48	M	9-15-4	DEBORAH SUE KYLE 231 EAST 24TH AVENUE	905 600

FILE NO. 8655P5HM.dwg

DATE AUGUST 10, 20 17

REVISED \_\_\_\_\_, 20 \_\_\_\_\_

OPERATORS WELL NO. TEN HIGH 1S-5HM

API WELL NO. 47 STATE 051 COUNTY 01964 PERMIT



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



COUNTY NAME \_\_\_\_\_  
PERMIT \_\_\_\_\_

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

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

WW-6A1  
(5/13)

Operator's Well No. Ten High 1S-5HM

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

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

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

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

**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

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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 L. Miller*

Its: Permit Specialist - Appalachia

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047-051-01964

Operator's Well No. Ten High 1S - 5HM

Lease Name or No	Tag	Parcel	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Deed Book / Page	Assignment	Assignment	Assignment
10*15662	A	9-7-24	LARRY LEE CONKLE	CHEVRON U.S.A. INC.	1/8+	863 354	N/A	N/A	Chevron to Tug Hill: 36/148
10*15663	A	9-7-24	ROY A CONKLE SR	CHEVRON USA INC	1/8+	863 311	N/A	N/A	Chevron to Tug Hill: 36/148
10*15664	A	9-7-24	THERESA ANNE HUGHES	CHEVRON USA INC	1/8+	863 343	N/A	N/A	Chevron to Tug Hill: 36/148
10*15666	A	9-7-24	BRENDA J WHETZEL	CHEVRON USA INC	1/8+	863 635	N/A	N/A	Chevron to Tug Hill: 36/148
10*16049	A	9-7-24	DANNY SHAWN KERNS AND AMY LYNN KERNS	TH EXPLORATION LLC	1/8+	905 518	N/A	N/A	N/A
10*16138	A	9-7-24	LARRY W KUHN AND VICKIE B KUHN, HUSBAND AND WIFE	TH EXPLORATION LLC	1/8+	905 522	N/A	N/A	N/A
10*16139	A	9-7-24	HUBERT DEAN KUHN AND ANDREA KUHN	TH EXPLORATION LLC	1/8+	905 524	N/A	N/A	N/A
10*16140	A	9-7-24	ANDY PAUL & JACKIE KUHN	TH EXPLORATION LLC	1/8+	905 526	N/A	N/A	N/A
10*16141	A	9-7-24	HOWARD L KUHN AND MARY L KUHN	TH EXPLORATION LLC	1/8+	905 528	N/A	N/A	N/A
10*16501	A	9-7-24	LLOYD DOYLE MOORE AND GWENDOLYN K MOORE	TH EXPLORATION LLC	1/8+	907 392	N/A	N/A	N/A
10*16553	A	9-7-24	MARK EDWARD AND KARRIE A GOODMAN	TH EXPLORATION LLC	1/8+	909 81	N/A	N/A	N/A
10*16585	A	9-7-24	DALE BRIAN GOODMAN	TH EXPLORATION LLC	1/8+	909 506	N/A	N/A	N/A
10*16820	A	9-7-24	ROBERTA ANN AND DAVID S GIBB	TH EXPLORATION LLC	1/8+	919 237	N/A	N/A	N/A
10*17365	A	9-7-24	MYSTI JOANNE GOODMAN	TH EXPLORATION LLC	1/8+	927 468	N/A	N/A	N/A
10*17370	A	9-7-24	KELLY JUNE GOODMAN	TH EXPLORATION LLC	1/8+	927 470	N/A	N/A	N/A
10*18256	A	9-7-24	JEFFREY STEPHEN GOODMAN	TH EXPLORATION LLC	1/8+	929 1	N/A	N/A	N/A
10*47051.295.10	A	9-7-24	DEENA J PALOMO	TH EXPLORATION LLC	1/8+	905 470	N/A	N/A	N/A
10*47051.295.11	A	9-7-24	REGINA D FIGUEROA AND DAVID FIGUEROA	TH EXPLORATION LLC	1/8+	905 435	N/A	N/A	N/A
10*47051.295.12	A	9-7-24	EARL D WELLMAN	TH EXPLORATION LLC	1/8+	905 432	N/A	N/A	N/A
10*47051.295.13	A	9-7-24	THE DOLLYE F WOOD REVOCABLE TRUST BY NICHOLAS CHARLES WOOD AS TRUSTEE	TH EXPLORATION LLC	1/8+	904 641	N/A	N/A	N/A
10*47051.295.3	A	9-7-24	HAZEL ARIZONA MOORE REYNOLDS	TH EXPLORATION LLC	1/8+	904 632	N/A	N/A	N/A
10*47051.295.4	A	9-7-24	LLOYD D MOORE	TH EXPLORATION LLC	1/8+	904 459	N/A	N/A	N/A
10*47051.295.5	A	9-7-24	DALE R MOORE	TH EXPLORATION LLC	1/8+	904 635	N/A	N/A	N/A
10*47051.295.6	A	9-7-24	MARY I BURKHART	TH EXPLORATION LLC	1/8+	904 638	N/A	N/A	N/A
10*47051.295.7	A	9-7-24	JEANNE V MELCHIORI	TH EXPLORATION LLC	1/8+	904 462	N/A	N/A	N/A
10*47051.295.9	A	9-7-24	JAMES E HIMELTRICK JR AND KAREN HIMELTRICK	TH EXPLORATION LLC	1/8+	904 465	N/A	N/A	N/A
10*15746	B	9-7-23	BRUCE D SCHURR	TH EXPLORATION LLC	1/8+	921 478	N/A	N/A	N/A
10*16021	B	9-7-23	TOMMY BONAR AND TANYA S BONAR	TH EXPLORATION LLC	1/8+	925 325	N/A	N/A	N/A
10*16115	B	9-7-23	EARL W HARRIS	TH EXPLORATION LLC	1/8+	925 329	N/A	N/A	N/A
10*16247	B	9-7-23	CAROL RIGGLE PARSLEY AND JAMES DENNIS PARSLEY	TH EXPLORATION LLC	1/8+	925 327	N/A	N/A	N/A
10*17415	B	9-7-23	DILLON PITSENBARGER	TH EXPLORATION LLC	1/8+	919 241	N/A	N/A	N/A
10*17506	B	9-7-23	CHASKIA F HARRIS AND JAMES M HARRIS	TH EXPLORATION LLC	1/8+	919 239	N/A	N/A	N/A
10*17507	B	9-7-23	DEZRAY METCALF	TH EXPLORATION LLC	1/8+	919 235	N/A	N/A	N/A
10*47051.256.1	B	9-7-23	BRENDA J WHETZEL	TH EXPLORATION LLC	1/8+	881 145	N/A	N/A	N/A
10*47051.256.10	B	9-7-23	GRACE LAURA BONAR	TH EXPLORATION LLC	1/8+	905 35	N/A	N/A	N/A
10*47051.256.11	B	9-7-23	JOHN L MASON	TH EXPLORATION LLC	1/8+	905 37	N/A	N/A	N/A
10*47051.256.12	B	9-7-23	STEVEN A BOHRER	TH EXPLORATION LLC	1/8+	905 39	N/A	N/A	N/A
10*47051.256.13	B	9-7-23	WILLIAM W CRAIG AND GLENDA L CRAIG	TH EXPLORATION LLC	1/8+	905 41	N/A	N/A	N/A
10*47051.256.14	B	9-7-23	HUGH R BUZZARD	TH EXPLORATION LLC	1/8+	905 43	N/A	N/A	N/A
10*47051.256.15	B	9-7-23	CHARLOTTE J BONAR YOHO	TH EXPLORATION LLC	1/8+	904 455	N/A	N/A	N/A
10*47051.256.16	B	9-7-23	CHARLOTTE B HUMMELL	TH EXPLORATION LLC	1/8+	905 45	N/A	N/A	N/A
10*47051.256.17	B	9-7-23	MAXINE G JOHNSON	TH EXPLORATION LLC	1/8+	904 457	N/A	N/A	N/A
10*47051.256.18	B	9-7-23	JOHN WILLIAM BONAR AND SHIRLEY BONAR	TH EXPLORATION LLC	1/8+	913 522	N/A	N/A	N/A
10*47051.256.19	B	9-7-23	MICHAEL DAVID PYLES AND CYNTHIA A PYLES	TH EXPLORATION LLC	1/8+	907 207	N/A	N/A	N/A
10*47051.256.20	B	9-7-23	JEFFREY THOMAS PYLES AND TERESA A PYLES	TH EXPLORATION LLC	1/8+	907 209	N/A	N/A	N/A
10*47051.256.21	B	9-7-23	JACK L MASON AND JEAN M MASON	TH EXPLORATION LLC	1/8+	904 626	N/A	N/A	N/A
10*47051.256.22	B	9-7-23	BEVERLY J HOPSON	TH EXPLORATION LLC	1/8+	913 581	N/A	N/A	N/A
10*47051.256.23	B	9-7-23	ROBERT L BONAR	TH EXPLORATION LLC	1/8+	913 556	N/A	N/A	N/A
10*47051.256.24	B	9-7-23	CATHERINE BONAR PETTIT BILLIE	TH EXPLORATION LLC	1/8+	904 628	N/A	N/A	N/A
10*47051.256.7	B	9-7-23	MARILYN SUE BUMER	TH EXPLORATION LLC	1/8+	905 29	N/A	N/A	N/A
10*47051.256.8	B	9-7-23	PAMELA ANN MASON	TH EXPLORATION LLC	1/8+	905 31	N/A	N/A	N/A
10*47051.256.9	B	9-7-23	WANDA MASON SUNSHINE	TH EXPLORATION LLC	1/8+	905 33	N/A	N/A	N/A
10*15746	C	9-11-7.1	BRUCE D SCHURR	TH EXPLORATION LLC	1/8+	921 478	N/A	N/A	N/A
10*16021	C	9-11-7.1	TOMMY BONAR AND TANYA S BONAR	TH EXPLORATION LLC	1/8+	925 325	N/A	N/A	N/A
10*16115	C	9-11-7.1	EARL W HARRIS	TH EXPLORATION LLC	1/8+	925 329	N/A	N/A	N/A
10*16247	C	9-11-7.1	CAROL RIGGLE PARSLEY AND JAMES DENNIS PARSLEY	TH EXPLORATION LLC	1/8+	925 327	N/A	N/A	N/A



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10*17415	C	9-11-7.1	DILLON PITSENBARGER	TH EXPLORATION LLC	1/8+	919 241	N/A	N/A	N/A
10*17506	C	9-11-7.1	CHASKIA F HARRIS AND JAMES M HARRIS	TH EXPLORATION LLC	1/8+	919 239	N/A	N/A	N/A
10*17507	C	9-11-7.1	DEZRAY METCALF	TH EXPLORATION LLC	1/8+	919 235	N/A	N/A	N/A
10*47051.256.1	C	9-11-7.1	BRENDA J WHETZEL	TH EXPLORATION LLC	1/8+	881 145	N/A	N/A	N/A
10*47051.256.10	C	9-11-7.1	GRACE LAURA BONAR	TH EXPLORATION LLC	1/8+	905 35	N/A	N/A	N/A
10*47051.256.11	C	9-11-7.1	JOHN L MASON	TH EXPLORATION LLC	1/8+	905 37	N/A	N/A	N/A
10*47051.256.12	C	9-11-7.1	STEVEN A BOHRER	TH EXPLORATION LLC	1/8+	905 39	N/A	N/A	N/A
10*47051.256.13	C	9-11-7.1	WILLIAM W CRAIG AND GLENDA L CRAIG	TH EXPLORATION LLC	1/8+	905 41	N/A	N/A	N/A
10*47051.256.14	C	9-11-7.1	HUGH R BUZZARD	TH EXPLORATION LLC	1/8+	905 43	N/A	N/A	N/A
10*47051.256.15	C	9-11-7.1	CHARLOTTE J BONAR YOHO	TH EXPLORATION LLC	1/8+	904 455	N/A	N/A	N/A
10*47051.256.16	C	9-11-7.1	CHARLOTTE B HUMMELL	TH EXPLORATION LLC	1/8+	905 45	N/A	N/A	N/A
10*47051.256.17	C	9-11-7.1	MAXINE G JOHNSON	TH EXPLORATION LLC	1/8+	904 457	N/A	N/A	N/A
10*47051.256.18	C	9-11-7.1	JOHN WILLIAM BONAR AND SHIRLEY BONAR	TH EXPLORATION LLC	1/8+	913 522	N/A	N/A	N/A
10*47051.256.19	C	9-11-7.1	MICHAEL DAVID PYLES AND CYNTHIA A PYLES	TH EXPLORATION LLC	1/8+	907 207	N/A	N/A	N/A
10*47051.256.20	C	9-11-7.1	JEFFREY THOMAS PYLES AND TERESA A PYLES	TH EXPLORATION LLC	1/8+	907 209	N/A	N/A	N/A
10*47051.256.21	C	9-11-7.1	JACK L MASON AND JEAN M MASON	TH EXPLORATION LLC	1/8+	904 626	N/A	N/A	N/A
10*47051.256.22	C	9-11-7.1	BEVERLY J HOPSON	TH EXPLORATION LLC	1/8+	913 581	N/A	N/A	N/A
10*47051.256.23	C	9-11-7.1	ROBERT L BONAR	TH EXPLORATION LLC	1/8+	913 556	N/A	N/A	N/A
10*47051.256.24	C	9-11-7.1	CATHERINE BONAR PETTIT BILLIE	TH EXPLORATION LLC	1/8+	904 628	N/A	N/A	N/A
10*47051.256.7	C	9-11-7.1	MARILYN SUE BUMER	TH EXPLORATION LLC	1/8+	905 29	N/A	N/A	N/A
10*47051.256.8	C	9-11-7.1	PAMELA ANN MASON	TH EXPLORATION LLC	1/8+	905 31	N/A	N/A	N/A
10*47051.256.9	C	9-11-7.1	WANDA MASON SUNSHINE	TH EXPLORATION LLC	1/8+	905 33	N/A	N/A	N/A
10*15481	D	9-7-25.2	DEAN P RIGBY AND SUSAN RIGBY	TH EXPLORATION LLC	1/8+	908 197	N/A	N/A	N/A
10*15482	D	9-7-25.2	SUSAN NELSON	TH EXPLORATION LLC	1/8+	908 203	N/A	N/A	N/A
10*15686	D	9-7-25.2	JOHN OMER BOLTZ	TH EXPLORATION LLC	1/8+	908 160	N/A	N/A	N/A
10*15750	D	9-7-25.2	SANDRA K TRULL	TH EXPLORATION LLC	1/8+	908 229	N/A	N/A	N/A
10*16058	D	9-7-25.2	MATTIE RUTH JACKSON PRESCOTT	TH EXPLORATION LLC	1/8+	908 231	N/A	N/A	N/A
10*16118	D	9-7-25.2	RUBY RIDGLE JACKSON	TH EXPLORATION LLC	1/8+	908 233	N/A	N/A	N/A
10*16297	D	9-7-25.2	ROBERT A LEADBETTER AND M REBECCA LEADBETTER	TH EXPLORATION LLC	1/8+	908 235	N/A	N/A	N/A
10*16298	D	9-7-25.2	GEOFFREY A SHIEFER AND STEPHANIE L SCHIEFER	TH EXPLORATION LLC	1/8+	908 238	N/A	N/A	N/A
10*16383	D	9-7-25.2	ROBERT STEPHEN DRIGGERS	TH EXPLORATION LLC	1/8+	908 224	N/A	N/A	N/A
10*16414	D	9-7-25.2	MARY ELIZABETH DRIGGERS	TH EXPLORATION LLC	1/8+	908 208	N/A	N/A	N/A
10*16415	D	9-7-25.2	TERENCE J ANDERSON AND NANCY J ANDERSON	TH EXPLORATION LLC	1/8+	908 213	N/A	N/A	N/A
10*16416	D	9-7-25.2	CYNTHIA HUDSON	TH EXPLORATION LLC	1/8+	908 319	N/A	N/A	N/A
10*16424	D	9-7-25.2	ROBERT J RIGBY	TH EXPLORATION LLC	1/8+	908 241	N/A	N/A	N/A
10*16448	D	9-7-25.2	RALPH L AND JUANITA L CRIM	TH EXPLORATION LLC	1/8+	908 584	N/A	N/A	N/A
10*16478	D	9-7-25.2	MARION L AND EMILY CAMPBELL	TH EXPLORATION LLC	1/8+	908 245	N/A	N/A	N/A
10*16514	D	9-7-25.2	ALEX RUSSELL AND JOYCE A CAMPBELL	TH EXPLORATION LLC	1/8+	908 248	N/A	N/A	N/A
10*16515	D	9-7-25.2	ANNA MARIE JACKSON	TH EXPLORATION LLC	1/8+	908 251	N/A	N/A	N/A
10*16516	D	9-7-25.2	WILSON ANDREW JACKSON	TH EXPLORATION LLC	1/8+	908 253	N/A	N/A	N/A
10*16545	D	9-7-25.2	ROBERT G & ELLEN FOUNDS	TH EXPLORATION LLC	1/8+	908 260	N/A	N/A	N/A
10*16662	D	9-7-25.2	RICHARD THOMAS AND VICKI J MIMS	TH EXPLORATION LLC	1/8+	908 863	N/A	N/A	N/A
10*16666	D	9-7-25.2	MICHAEL P PYLE	TH EXPLORATION LLC	1/8+	908 255	N/A	N/A	N/A
10*16667	D	9-7-25.2	CHARLES F AND GAIL ANN PYLE	TH EXPLORATION LLC	1/8+	908 266	N/A	N/A	N/A
10*16668	D	9-7-25.2	JACK I AND MERRILEE PYLE	TH EXPLORATION LLC	1/8+	908 257	N/A	N/A	N/A
10*16669	D	9-7-25.2	JOHN S AND PATRICIA S DADO	TH EXPLORATION LLC	1/8+	908 269	N/A	N/A	N/A
10*16686	D	9-7-25.2	CHERYLE M TRACEY	TH EXPLORATION LLC	1/8+	908 269	N/A	N/A	N/A
10*16688	D	9-7-25.2	SHERRYL PYLE BAIR	TH EXPLORATION LLC	1/8+	927 475	N/A	N/A	N/A
10*16689	D	9-7-25.2	JOHN C FOUNDS	TH EXPLORATION LLC	1/8+	927 481	N/A	N/A	N/A
10*16690	D	9-7-25.2	RICARDO ORTIZ	TH EXPLORATION LLC	1/8+	927 478	N/A	N/A	N/A
10*16720	D	9-7-25.2	DONNA ELAINE BRASKETT	TH EXPLORATION LLC	1/8+	921 352	N/A	N/A	N/A
10*16738	D	9-7-25.2	CHARLES A RINE AND RUTH K RINE	TH EXPLORATION LLC	1/8+	921 152	N/A	N/A	N/A
10*16742	D	9-7-25.2	PAUL C WILSON	TH EXPLORATION LLC	1/8+	927 490	N/A	N/A	N/A
10*16747	D	9-7-25.2	WILLIAM DALE BRASKETT	TH EXPLORATION LLC	1/8+	921 96	N/A	N/A	N/A
10*16787	D	9-7-25.2	HERBERT BRIAN AND DONNA DRU CAMPBELL	TH EXPLORATION LLC	1/8+	921 364	N/A	N/A	N/A
10*16798	D	9-7-25.2	PATRICK A RANKIN AND ROBIN A RANKIN	TH EXPLORATION LLC	1/8+	921 364	N/A	N/A	N/A

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Lease Name or No	Tag	Parcel	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Deed Book / Page	Assignment	Assignment	Assignment
10*16800	D	9-7-25.2	JAMES KENNETH JACKSON AND JULIE JACKSON	TH EXPLORATION LLC	1/8+	921 93	N/A	N/A	N/A
10*16802	D	9-7-25.2	CHRISTOPHER AND TAMMY RICHARDSON	TH EXPLORATION LLC	1/8+	921 495	N/A	N/A	N/A
10*16804	D	9-7-25.2	WILLIAM N AND SHERRY D TAYLOR	TH EXPLORATION LLC	1/8+	921 510	N/A	N/A	N/A
10*16806	D	9-7-25.2	VIRGINIA I WHITMAN	TH EXPLORATION LLC	1/8+	921 528	N/A	N/A	N/A
10*16807	D	9-7-25.2	DAVID TULLER AND SUSAN STORTS TULLER	TH EXPLORATION LLC	1/8+	921 513	N/A	N/A	N/A
10*16808	D	9-7-25.2	MICHAEL L ORTIZ	TH EXPLORATION LLC	1/8+	921 349	N/A	N/A	N/A
10*16815	D	9-7-25.2	HAROLD W PYLE	TH EXPLORATION LLC	1/8+	921 357	N/A	N/A	N/A
10*16819	D	9-7-25.2	TERESA ORTIZ BIGGS	TH EXPLORATION LLC	1/8+	921 147	N/A	N/A	N/A
10*16821	D	9-7-25.2	SHEILA BRASKETT WEICHEY	TH EXPLORATION LLC	1/8+	921 516	N/A	N/A	N/A
10*16836	D	9-7-25.2	RICK A AND LENORE A STORTS	TH EXPLORATION LLC	1/8+	921 507	N/A	N/A	N/A
10*16837	D	9-7-25.2	TERRY L AND THELMA A POFF	TH EXPLORATION LLC	1/8+	927 472	N/A	N/A	N/A
10*16838	D	9-7-25.2	ROBERT G FUNARI	TH EXPLORATION LLC	1/8+	921 82	N/A	N/A	N/A
10*16839	D	9-7-25.2	JAMES B FOUNDS AND LYNN M MOWERY	TH EXPLORATION LLC	1/8+	921 73	N/A	N/A	N/A
10*16863	D	9-7-25.2	TINA MOORE	TH EXPLORATION LLC	1/8+	921 334	N/A	N/A	N/A
10*16868	D	9-7-25.2	MICHAEL W STORTS AND JESSICA M STORTS	TH EXPLORATION LLC	1/8+	921 504	N/A	N/A	N/A
10*16879	D	9-7-25.2	MARK E AND LESLEY A STORTS	TH EXPLORATION LLC	1/8+	921 501	N/A	N/A	N/A
10*16880	D	9-7-25.2	BEVERLY ANN STORTS	TH EXPLORATION LLC	1/8+	921 498	N/A	N/A	N/A
10*16902	D	9-7-25.2	MARY BARCAW DUKE	TH EXPLORATION LLC	1/8+	921 105	N/A	N/A	N/A
10*16962	D	9-7-25.2	DENNIS P AND BARBARA EZELL FLORY	TH EXPLORATION LLC	1/8+	921 70	N/A	N/A	N/A
10*16976	D	9-7-25.2	LESTER G AND CONSTANCE B NICKOLSON	TH EXPLORATION LLC	1/8+	921 343	N/A	N/A	N/A
10*16977	D	9-7-25.2	JEREMY COCHENOUR	TH EXPLORATION LLC	1/8+	921 102	N/A	N/A	N/A
10*16987	D	9-7-25.2	LAURIE EZELL PERRY	TH EXPLORATION LLC	1/8+	921 355	N/A	N/A	N/A
10*16989	D	9-7-25.2	BRITTANY RICHARDSON	TH EXPLORATION LLC	1/8+	921 376	N/A	N/A	N/A
10*16991	D	9-7-25.2	MARYELLEN FOUNDS AND LAUREN FOUNDS	TH EXPLORATION LLC	1/8+	921 79	N/A	N/A	N/A
10*16996	D	9-7-25.2	THOMAS RANKIN	TH EXPLORATION LLC	1/8+	917 75	N/A	N/A	N/A
10*17130	D	9-7-25.2	CINDY L BARGER	TH EXPLORATION LLC	1/8+	921 137	N/A	N/A	N/A
10*17155	D	9-7-25.2	JESSE LEON JR AND TERESA GAIL EZELLE	TH EXPLORATION LLC	1/8+	921 118	N/A	N/A	N/A
10*17156	D	9-7-25.2	HENRI NELL JACKSON KENT BARNES	TH EXPLORATION LLC	1/8+	921 139	N/A	N/A	N/A
10*17157	D	9-7-25.2	JAMES N REEVES JR AND RITA M REEVES	TH EXPLORATION LLC	1/8+	921 367	N/A	N/A	N/A
10*17198	D	9-7-25.2	THOMAS G AND DIANE W BAYLESS	TH EXPLORATION LLC	1/8+	921 141	N/A	N/A	N/A
10*17205	D	9-7-25.2	SANDRA JEAN WILSON	TH EXPLORATION LLC	1/8+	921 524	N/A	N/A	N/A
10*17208	D	9-7-25.2	PATRICK S GALLAGHER AND JOYCE ANN FOUNDS	TH EXPLORATION LLC	1/8+	921 86	N/A	N/A	N/A
10*17274	D	9-7-25.2	DAVID H WILSON	TH EXPLORATION LLC	1/8+	921 474	N/A	N/A	N/A
10*17275	D	9-7-25.2	JOHN R REEVES AND MONA G REEVES	TH EXPLORATION LLC	1/8+	921 373	N/A	N/A	N/A
10*17276	D	9-7-25.2	BERTHA EZELL WYATT	TH EXPLORATION LLC	1/8+	921 526	N/A	N/A	N/A
10*17278	D	9-7-25.2	MICHAEL L EZELLE	TH EXPLORATION LLC	1/8+	921 121	N/A	N/A	N/A
10*17339	D	9-7-25.2	JOSEPH W FOUNDS	TH EXPLORATION LLC	1/8+	921 76	N/A	N/A	N/A
10*17377	D	9-7-25.2	MILTON HOWARD EZELLE JR AND ELIZABETH A EZELLE	TH EXPLORATION LLC	1/8+	921 123	N/A	N/A	N/A
10*17416	D	9-7-25.2	ANDREW M ORTIZ	TH EXPLORATION LLC	1/8+	921 346	N/A	N/A	N/A
10*17438	D	9-7-25.2	DENNIS M WILSON	TH EXPLORATION LLC	1/8+	921 476	N/A	N/A	N/A
10*17440	D	9-7-25.2	KENDRA WALISA	TH EXPLORATION LLC	1/8+	927 484	N/A	N/A	N/A
10*17441	D	9-7-25.2	RALPH J WILSON	TH EXPLORATION LLC	1/8+	921 522	N/A	N/A	N/A
10*17442	D	9-7-25.2	SHANE ALLEN AND MENDY JEAN ALLEN	TH EXPLORATION LLC	1/8+	921 134	N/A	N/A	N/A
10*17443	D	9-7-25.2	MICHELLE MORROW-BACK	TH EXPLORATION LLC	1/8+	921 337	N/A	N/A	N/A
10*17444	D	9-7-25.2	KELLY FOUNDS CAMPBELL	TH EXPLORATION LLC	1/8+	921 99	N/A	N/A	N/A
10*17449	D	9-7-25.2	PHYLLIS J BLAKE	TH EXPLORATION LLC	1/8+	921 150	N/A	N/A	N/A
10*17482	D	9-7-25.2	TERESA EZELLE RALYA AND DAVID L RALYA	TH EXPLORATION LLC	1/8+	927 487	N/A	N/A	N/A
10*17483	D	9-7-25.2	RICHARD I PYLE	TH EXPLORATION LLC	1/8+	921 359	N/A	N/A	N/A
10*17484	D	9-7-25.2	NELDA S JACKSON	TH EXPLORATION LLC	1/8+	921 330	N/A	N/A	N/A
10*17485	D	9-7-25.2	MARGIE ANN JACKSON ROBBINS GRAHAM	TH EXPLORATION LLC	1/8+	921 91	N/A	N/A	N/A
10*17526	D	9-7-25.2	JEFFREY L REEVES AND JODY L REEVES	TH EXPLORATION LLC	1/8+	921 370	N/A	N/A	N/A
10*17527	D	9-7-25.2	JAMES MICHAEL EZELL AND LUCILLE D EZELL	TH EXPLORATION LLC	1/8+	921 111	N/A	N/A	N/A
10*17552	D	9-7-25.2	JOHN BEVACQUA AND PATRICIA A BEVACQUA	TH EXPLORATION LLC	1/8+	921 144	N/A	N/A	N/A
10*17554	D	9-7-25.2	MICHAEL T RANKIN	TH EXPLORATION LLC	1/8+	921 361	N/A	N/A	N/A
10*17561	D	9-7-25.2	ROGER L TYRELL AND KATHRYN L TYRELL	TH EXPLORATION LLC	1/8+	921 519	N/A	N/A	N/A
10*17564	D	9-7-25.2	JAMES RONALD NICKOLSON AND TRACEY E NICKOLSON	TH EXPLORATION LLC	1/8+	921 340	N/A	N/A	N/A

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Lease Name or No	Tag	Parcel	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Deed Book / Page	Assignment	Assignment	Assignment
10*17565	D	9-7-25.2	JESSE ALLEN JACKSON AND ELIZABETH D JACKSON	TH EXPLORATION LLC	1/8+	921 327	N/A	N/A	N/A
10*17566	D	9-7-25.2	NATHAN P ERDOSSY AND BARBARA T ERDOSSY	TH EXPLORATION LLC	1/8+	921 108	N/A	N/A	N/A
10*17588	D	9-7-25.2	JAMES M JACKSON	TH EXPLORATION LLC	1/8+	921 325	N/A	N/A	N/A
10*17589	D	9-7-25.2	MARY CHRISTINE MCKENNA	TH EXPLORATION LLC	1/8+	921 332	N/A	N/A	N/A
10*17677	D	9-7-25.2	GEORGE M GONTA JR	TH EXPLORATION LLC	1/8+	921 89	N/A	N/A	N/A
10*17744	D	9-7-25.2	SAM PRESLEY EZELL	TH EXPLORATION LLC	1/8+	921 116	N/A	N/A	N/A
10*18021	D	9-7-25.2	CHRISTOPHER & JACKIE HANIFAN	TH EXPLORATION, LLC	1/8+	927 267	N/A	N/A	N/A
10*18022	D	9-7-25.2	DALE P & CYNTHIA J WARD	TH EXPLORATION, LLC	1/8+	927 264	N/A	N/A	N/A
10*47051.223.12	D	9-7-25.2	ALICE GORBY MARTIN	TH EXPLORATION LLC	1/8+	908 52	N/A	N/A	N/A
10*47051.223.13	D	9-7-25.2	JAMES A GORBY	TH EXPLORATION LLC	1/8+	908 42	N/A	N/A	N/A
10*47051.223.15	D	9-7-25.2	LARRY D TAUNT AND NANCY L TAUNT	TH EXPLORATION LLC	1/8+	908 14	N/A	N/A	N/A
10*47051.223.20	D	9-7-25.2	BARBARA A BUZZARD	TH EXPLORATION LLC	1/8+	908 24	N/A	N/A	N/A
10*47051.223.21	D	9-7-25.2	GARY T WARD AND SHARON D WARD	TH EXPLORATION LLC	1/8+	908 19	N/A	N/A	N/A
10*47051.223.30	D	9-7-25.2	LAURIE DRIGGERS MANDERSON	TH EXPLORATION LLC	1/8+	908 165	N/A	N/A	N/A
10*47051.223.33	D	9-7-25.2	NANCY CIAFFAGLIONE HOUSLEY	TH EXPLORATION LLC	1/8+	908 185	N/A	N/A	N/A
10*47051.223.35	D	9-7-25.2	DEBRA L CIAFFAGLIONE	TH EXPLORATION LLC	1/8+	908 190	N/A	N/A	N/A
10*47051.223.6	D	9-7-25.2	JOSHUA RINE AND REBECCA RINE	TH EXPLORATION LLC	1/8+	907 634	N/A	N/A	N/A
10*47051.223.9	D	9-7-25.2	LINDA DELBERT	TH EXPLORATION LLC	1/8+	908 32	N/A	N/A	N/A
10*47051.303.1	D	9-7-25.2	THOMAS R WHITFIELD	TH EXPLORATION LLC	1/8+	890 401	N/A	N/A	N/A
10*47051.303.2	D	9-7-25.2	KIMBERLY A WHITFIELD	TH EXPLORATION LLC	1/8+	890 403	N/A	N/A	N/A
10*15481	E	9-12-4	DEAN P RIGBY AND SUSAN RIGBY	TH EXPLORATION LLC	1/8+	908 197	N/A	N/A	N/A
10*15482	E	9-12-4	SUSAN NELSON	TH EXPLORATION LLC	1/8+	908 203	N/A	N/A	N/A
10*15686	E	9-12-4	JOHN OMER BOLTZ	TH EXPLORATION LLC	1/8+	908 160	N/A	N/A	N/A
10*15750	E	9-12-4	SANDRA K TRULL	TH EXPLORATION LLC	1/8+	908 229	N/A	N/A	N/A
10*16058	E	9-12-4	MATTIE RUTH JACKSON PRESCOTT	TH EXPLORATION LLC	1/8+	908 231	N/A	N/A	N/A
10*16118	E	9-12-4	RUBY RIDDLE JACKSON	TH EXPLORATION LLC	1/8+	908 233	N/A	N/A	N/A
10*16297	E	9-12-4	ROBERT A LEADBETTER AND M REBECCA LEADBETTER	TH EXPLORATION LLC	1/8+	908 235	N/A	N/A	N/A
10*16298	E	9-12-4	GEOFFREY A SHIEFER AND STEPHANIE L SCHIEFER	TH EXPLORATION LLC	1/8+	908 238	N/A	N/A	N/A
10*16383	E	9-12-4	ROBERT STEPHEN DRIGGERS	TH EXPLORATION LLC	1/8+	908 224	N/A	N/A	N/A
10*16414	E	9-12-4	MARY ELIZABETH DRIGGERS	TH EXPLORATION LLC	1/8+	908 208	N/A	N/A	N/A
10*16415	E	9-12-4	TERENCE J ANDERSON AND NANCY J ANDERSON	TH EXPLORATION LLC	1/8+	908 213	N/A	N/A	N/A
10*16416	E	9-12-4	CYNTHIA HUDSON	TH EXPLORATION LLC	1/8+	908 219	N/A	N/A	N/A
10*16424	E	9-12-4	ROBERT J RIGBY	TH EXPLORATION LLC	1/8+	908 241	N/A	N/A	N/A
10*16448	E	9-12-4	RALPH L AND JUANITA L CRIM	TH EXPLORATION LLC	1/8+	908 584	N/A	N/A	N/A
10*16478	E	9-12-4	MARION L AND EMILY CAMPBELL	TH EXPLORATION LLC	1/8+	908 245	N/A	N/A	N/A
10*16514	E	9-12-4	ALEX RUSSELL AND JOYCE A CAMPBELL	TH EXPLORATION LLC	1/8+	908 248	N/A	N/A	N/A
10*16515	E	9-12-4	ANNA MARIE JACKSON	TH EXPLORATION LLC	1/8+	908 251	N/A	N/A	N/A
10*16516	E	9-12-4	WILSON ANDREW JACKSON	TH EXPLORATION LLC	1/8+	908 253	N/A	N/A	N/A
10*16545	E	9-12-4	ROBERT G & ELLEN FOUNDS	TH EXPLORATION LLC	1/8+	908 260	N/A	N/A	N/A
10*16662	E	9-12-4	RICHARD THOMAS AND VICKI J MIMS	TH EXPLORATION LLC	1/8+	908 863	N/A	N/A	N/A
10*16666	E	9-12-4	MICHAEL P PYLE	TH EXPLORATION LLC	1/8+	908 255	N/A	N/A	N/A
10*16667	E	9-12-4	CHARLES F AND GAIL ANN PYLE	TH EXPLORATION LLC	1/8+	908 266	N/A	N/A	N/A
10*16668	E	9-12-4	JACK I AND MERRILEE PYLE	TH EXPLORATION LLC	1/8+	908 257	N/A	N/A	N/A
10*16669	E	9-12-4	JOHN S AND PATRICIA S DADO	TH EXPLORATION LLC	1/8+	908 269	N/A	N/A	N/A
10*16686	E	9-12-4	CHERYLE M TRACEY	TH EXPLORATION LLC	1/8+	927 475	N/A	N/A	N/A
10*16688	E	9-12-4	SHERRYL PYLE BAIR	TH EXPLORATION LLC	1/8+	927 481	N/A	N/A	N/A
10*16689	E	9-12-4	JOHN C FOUNDS	TH EXPLORATION LLC	1/8+	927 478	N/A	N/A	N/A
10*16690	E	9-12-4	RICARDO ORTIZ	TH EXPLORATION LLC	1/8+	921 352	N/A	N/A	N/A
10*16720	E	9-12-4	DONNA ELAINE BRASKETT	TH EXPLORATION LLC	1/8+	921 152	N/A	N/A	N/A
10*16738	E	9-12-4	CHARLES A RINE AND RUTH K RINE	TH EXPLORATION LLC	1/8+	908 274	N/A	N/A	N/A
10*16742	E	9-12-4	PAUL C WILSON	TH EXPLORATION LLC	1/8+	924 490	N/A	N/A	N/A
10*16747	E	9-12-4	WILLIAM DALE BRASKETT	TH EXPLORATION LLC	1/8+	921 96	N/A	N/A	N/A
10*16798	E	9-12-4	PATRICK A RANKIN AND ROBIN A RANKIN	TH EXPLORATION LLC	1/8+	921 364	N/A	N/A	N/A
10*16800	E	9-12-4	JAMES KENNETH JACKSON AND JULIE JACKSON	TH EXPLORATION LLC	1/8+	921 93	N/A	N/A	N/A
10*16802	E	9-12-4	CHRISTOPHER AND TAMMY RICHARDSON	TH EXPLORATION LLC	1/8+	921 495	N/A	N/A	N/A
10*16804	E	9-12-4	WILLIAM N AND SHERRY D TAYLOR	TH EXPLORATION LLC	1/8+	921 510	N/A	N/A	N/A

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V.V. Department of  
Environmental Protection

047-051-01964

Operator's Well No. Ten High 1S - 5HM

Lease Name or No	Tag	Parcel	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Deed Book / Page	Assignment	Assignment	Assignment
10*16806	E	9-12-4	VIRGINIA I WHITMAN	TH EXPLORATION LLC	1/8+	921 528	N/A	N/A	N/A
10*16807	E	9-12-4	DAVID TULLER AND SUSAN STORTS TULLER	TH EXPLORATION LLC	1/8+	921 513	N/A	N/A	N/A
10*16808	E	9-12-4	MICHAEL L ORTIZ	TH EXPLORATION LLC	1/8+	921 349	N/A	N/A	N/A
10*16815	E	9-12-4	HAROLD W PYLE	TH EXPLORATION LLC	1/8+	921 357	N/A	N/A	N/A
10*16819	E	9-12-4	TERESA ORTIZ BIGGS	TH EXPLORATION LLC	1/8+	921 147	N/A	N/A	N/A
10*16821	E	9-12-4	SHEILA BRASKETT WEICHEY	TH EXPLORATION LLC	1/8+	921 516	N/A	N/A	N/A
10*16836	E	9-12-4	RICK A AND LENORE A STORTS	TH EXPLORATION LLC	1/8+	921 507	N/A	N/A	N/A
10*16837	E	9-12-4	TERRY L AND THELMA A POFF	TH EXPLORATION LLC	1/8+	927 472	N/A	N/A	N/A
10*16838	E	9-12-4	ROBERT G FUNARI	TH EXPLORATION LLC	1/8+	921 82	N/A	N/A	N/A
10*16839	E	9-12-4	JAMES B FOUNDS AND LYNN M MOWERY	TH EXPLORATION LLC	1/8+	921 73	N/A	N/A	N/A
10*16863	E	9-12-4	TINA MOORE	TH EXPLORATION LLC	1/8+	921 334	N/A	N/A	N/A
10*16868	E	9-12-4	MICHAEL W STORTS AND JESSICA M STORTS	TH EXPLORATION LLC	1/8+	921 504	N/A	N/A	N/A
10*16879	E	9-12-4	MARK E AND LESLEY A STORTS	TH EXPLORATION LLC	1/8+	921 501	N/A	N/A	N/A
10*16880	E	9-12-4	BEVERLY ANN STORTS	TH EXPLORATION LLC	1/8+	921 498	N/A	N/A	N/A
10*16902	E	9-12-4	MARY BARCAW DUKE	TH EXPLORATION LLC	1/8+	921 105	N/A	N/A	N/A
10*16962	E	9-12-4	DENNIS P AND BARBARA EZELL FLORY	TH EXPLORATION LLC	1/8+	921 70	N/A	N/A	N/A
10*16976	E	9-12-4	LESTER G AND CONSTANCE B NICKOLSON	TH EXPLORATION LLC	1/8+	921 343	N/A	N/A	N/A
10*16977	E	9-12-4	JEREMY COCHENOUR	TH EXPLORATION LLC	1/8+	921 102	N/A	N/A	N/A
10*16987	E	9-12-4	LAURIE EZELL PERRY	TH EXPLORATION LLC	1/8+	921 355	N/A	N/A	N/A
10*16989	E	9-12-4	BRITTANY RICHARDSON	TH EXPLORATION LLC	1/8+	916 135	N/A	N/A	N/A
10*16991	E	9-12-4	MARYELLEN FOUNDS AND LAUREN FOUNDS	TH EXPLORATION LLC	1/8+	921 79	N/A	N/A	N/A
10*16996	E	9-12-4	THOMAS RANKIN	TH EXPLORATION LLC	1/8+	917 75	N/A	N/A	N/A
10*17130	E	9-12-4	CINDY L BARGER	TH EXPLORATION LLC	1/8+	921 137	N/A	N/A	N/A
10*17155	E	9-12-4	JESSE LEON JR AND TERESA GAIL EZELLE	TH EXPLORATION LLC	1/8+	921 118	N/A	N/A	N/A
10*17156	E	9-12-4	HENRI NELL JACKSON KENT BARNES	TH EXPLORATION LLC	1/8+	921 139	N/A	N/A	N/A
10*17157	E	9-12-4	JAMES N REEVES JR AND RITA M REEVES	TH EXPLORATION LLC	1/8+	921 367	N/A	N/A	N/A
10*17198	E	9-12-4	THOMAS G AND DIANE W BAYLESS	TH EXPLORATION LLC	1/8+	921 141	N/A	N/A	N/A
10*17205	E	9-12-4	SANDRA JEAN WILSON	TH EXPLORATION LLC	1/8+	921 524	N/A	N/A	N/A
10*17208	E	9-12-4	PATRICK S GALLAGHER AND JOYCE ANN FOUNDS	TH EXPLORATION LLC	1/8+	921 86	N/A	N/A	N/A
10*17274	E	9-12-4	DAVID H WILSON	TH EXPLORATION LLC	1/8+	921 474	N/A	N/A	N/A
10*17275	E	9-12-4	JOHN R REEVES AND MONA G REEVES	TH EXPLORATION LLC	1/8+	921 373	N/A	N/A	N/A
10*17276	E	9-12-4	BERTHA EZELL WYATT	TH EXPLORATION LLC	1/8+	921 526	N/A	N/A	N/A
10*17278	E	9-12-4	MICHAEL L EZELLE	TH EXPLORATION LLC	1/8+	921 121	N/A	N/A	N/A
10*17339	E	9-12-4	JOSEPH W FOUNDS	TH EXPLORATION LLC	1/8+	921 76	N/A	N/A	N/A
10*17377	E	9-12-4	MILTON HOWARD EZELLE JR AND ELIZABETH A EZELLE	TH EXPLORATION LLC	1/8+	921 123	N/A	N/A	N/A
10*17416	E	9-12-4	ANDREW M ORTIZ	TH EXPLORATION LLC	1/8+	921 346	N/A	N/A	N/A
10*17438	E	9-12-4	DENNIS M WILSON	TH EXPLORATION LLC	1/8+	921 476	N/A	N/A	N/A
10*17440	E	9-12-4	KENDRA WALISA	TH EXPLORATION LLC	1/8+	927 484	N/A	N/A	N/A
10*17441	E	9-12-4	RALPH J WILSON	TH EXPLORATION LLC	1/8+	921 522	N/A	N/A	N/A
10*17442	E	9-12-4	SHANE ALLEN AND MENDY JEAN ALLEN	TH EXPLORATION LLC	1/8+	921 134	N/A	N/A	N/A
10*17443	E	9-12-4	MICHELLE MORROW-BACK	TH EXPLORATION LLC	1/8+	921 337	N/A	N/A	N/A
10*17444	E	9-12-4	KELLY FOUNDS CAMPBELL	TH EXPLORATION LLC	1/8+	921 99	N/A	N/A	N/A
10*17449	E	9-12-4	PHYLLIS J BLAKE	TH EXPLORATION LLC	1/8+	921 150	N/A	N/A	N/A
10*17482	E	9-12-4	TERESA EZELLE RALYA AND DAVID L RALYA	TH EXPLORATION LLC	1/8+	927 487	N/A	N/A	N/A
10*17483	E	9-12-4	RICHARD I PYLE	TH EXPLORATION LLC	1/8+	921 359	N/A	N/A	N/A
10*17484	E	9-12-4	NELDA S JACKSON	TH EXPLORATION LLC	1/8+	921 330	N/A	N/A	N/A
10*17485	E	9-12-4	MARGIE ANN JACKSON ROBBINS GRAHAM	TH EXPLORATION LLC	1/8+	921 91	N/A	N/A	N/A
10*17526	E	9-12-4	JEFFREY L REEVES AND JODY L REEVES	TH EXPLORATION LLC	1/8+	921 370	N/A	N/A	N/A
10*17527	E	9-12-4	JAMES MICHAEL EZELL AND LUCILLE D EZELL	TH EXPLORATION LLC	1/8+	921 111	N/A	N/A	N/A
10*17552	E	9-12-4	JOHN BEVACQUA AND PATRICIA A BEVACQUA	TH EXPLORATION LLC	1/8+	921 144	N/A	N/A	N/A
10*17554	E	9-12-4	MICHAEL T RANKIN	TH EXPLORATION LLC	1/8+	921 361	N/A	N/A	N/A
10*17561	E	9-12-4	ROGER L TYRELL AND KATHRYN L TYRELL	TH EXPLORATION LLC	1/8+	921 519	N/A	N/A	N/A
10*17564	E	9-12-4	JAMES RONALD NICKOLSON AND TRACEY E NICKOLSON	TH EXPLORATION LLC	1/8+	921 340	N/A	N/A	N/A
10*17565	E	9-12-4	JESSE ALLEN JACKSON AND ELIZABETH D JACKSON	TH EXPLORATION LLC	1/8+	921 327	N/A	N/A	N/A
10*17566	E	9-12-4	NATHAN P ERDOSSY AND BARBARA T ERDOSSY	TH EXPLORATION LLC	1/8+	921 108	N/A	N/A	N/A
10*17588	E	9-12-4	JAMES M JACKSON	TH EXPLORATION LLC	1/8+	921 325	N/A	N/A	N/A

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Lease Name or No	Tag	Parcel	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Deed Book / Page	Assignment	Assignment	Assignment	
10*17589	E	9-12-4	MARY CHRISTINE MCKENNA	TH EXPLORATION LLC	1/8+	921	332	N/A	N/A	N/A
10*17677	E	9-12-4	GEORGE M GONTA JR	TH EXPLORATION LLC	1/8+	921	89	N/A	N/A	N/A
10*17744	E	9-12-4	SAM PRESLEY EZELL	TH EXPLORATION LLC	1/8+	921	116	N/A	N/A	N/A
10*18021	E	9-12-4	CHRISTOPHER & JACKIE HANIFAN	TH EXPLORATION, LLC	1/8+	927	267	N/A	N/A	N/A
10*18022	E	9-12-4	DALE P & CYNTHIA J WARD	TH EXPLORATION, LLC	1/8+	927	264	N/A	N/A	N/A
10*47051.223.1	E	9-12-4	JEAN ANNE GORBY STORCH	TH EXPLORATION LLC	1/8+	877	216	N/A	N/A	N/A
10*47051.223.10	E	9-12-4	ROBERT E GORBY	TH EXPLORATION LLC	1/8+	908	47	N/A	N/A	N/A
10*47051.223.11	E	9-12-4	ELIZABETH ESTEP	TH EXPLORATION LLC	1/8+	908	37	N/A	N/A	N/A
10*47051.223.12	E	9-12-4	ALICE GORBY MARTIN	TH EXPLORATION LLC	1/8+	908	52	N/A	N/A	N/A
10*47051.223.13	E	9-12-4	JAMES A GORBY	TH EXPLORATION LLC	1/8+	908	42	N/A	N/A	N/A
10*47051.223.14	E	9-12-4	JUSTIN RINE AND BECKY RINE	TH EXPLORATION LLC	1/8+	907	639	N/A	N/A	N/A
10*47051.223.15	E	9-12-4	LARRY D TAUNT AND NANCY L TAUNT	TH EXPLORATION LLC	1/8+	908	14	N/A	N/A	N/A
10*47051.223.16	E	9-12-4	BETTY LOU STERN AND WILLIAM KEITH STERN	TH EXPLORATION LLC	1/8+	908	64	N/A	N/A	N/A
10*47051.223.17	E	9-12-4	RALPH E HUNTER JR AND CHARLOTTE HUNTER	TH EXPLORATION LLC	1/8+	908	9	N/A	N/A	N/A
10*47051.223.18	E	9-12-4	BRITTNEY MENEAR	TH EXPLORATION LLC	1/8+	908	57	N/A	N/A	N/A
10*47051.223.19	E	9-12-4	JASON RINE AND HEATHER RINE	TH EXPLORATION LLC	1/8+	907	629	N/A	N/A	N/A
10*47051.223.20	E	9-12-4	BARBARA A BUZZARD	TH EXPLORATION LLC	1/8+	908	24	N/A	N/A	N/A
10*47051.223.21	E	9-12-4	GARY T WARD AND SHARON D WARD	TH EXPLORATION LLC	1/8+	908	19	N/A	N/A	N/A
10*47051.223.22	E	9-12-4	SALLY COLE	TH EXPLORATION LLC	1/8+	908	74	N/A	N/A	N/A
10*47051.223.23	E	9-12-4	RONALD S CRIM	TH EXPLORATION LLC	1/8+	908	79	N/A	N/A	N/A
10*47051.223.24	E	9-12-4	JO DEE K DAVIS	TH EXPLORATION LLC	1/8+	908	136	N/A	N/A	N/A
10*47051.223.25	E	9-12-4	JOANNE WELCH	TH EXPLORATION LLC	1/8+	908	141	N/A	N/A	N/A
10*47051.223.26	E	9-12-4	WENDY L SMARKEL	TH EXPLORATION LLC	1/8+	908	69	N/A	N/A	N/A
10*47051.223.27	E	9-12-4	TIMI J HOBBS	TH EXPLORATION LLC	1/8+	908	277	N/A	N/A	N/A
10*47051.223.28	E	9-12-4	KAREN S GAST	TH EXPLORATION LLC	1/8+	908	150	N/A	N/A	N/A
10*47051.223.29	E	9-12-4	PATSY JO RAJU	TH EXPLORATION LLC	1/8+	908	155	N/A	N/A	N/A
10*47051.223.30	E	9-12-4	LAURIE DRIGGERS MANDERSON	TH EXPLORATION LLC	1/8+	908	165	N/A	N/A	N/A
10*47051.223.31	E	9-12-4	JANICE M GONTA GAVALIK	TH EXPLORATION LLC	1/8+	908	180	N/A	N/A	N/A
10*47051.223.32	E	9-12-4	JOSEPH GORBY DAKAN	TH EXPLORATION LLC	1/8+	908	175	N/A	N/A	N/A
10*47051.223.33	E	9-12-4	NANCY CIAFFAGLIONE HOUSLEY	TH EXPLORATION LLC	1/8+	908	185	N/A	N/A	N/A
10*47051.223.34	E	9-12-4	JOHN CIAFFAGLIONE	TH EXPLORATION LLC	1/8+	927	267	N/A	N/A	N/A
10*47051.223.35	E	9-12-4	DEBRA L CIAFFAGLIONE	TH EXPLORATION LLC	1/8+	927	264	N/A	N/A	N/A
10*47051.223.5	E	9-12-4	HAROLD S BROWN II AND MARIA A BROWN	TH EXPLORATION LLC	1/8+	907	641	N/A	N/A	N/A
10*47051.223.6	E	9-12-4	JOSHUA RINE AND REBECCA RINE	TH EXPLORATION LLC	1/8+	907	634	N/A	N/A	N/A
10*47051.223.7	E	9-12-4	JACK R WILSON JR AND JANE A WILSON	TH EXPLORATION LLC	1/8+	908	4	N/A	N/A	N/A
10*47051.223.8	E	9-12-4	DAVID M WILSON	TH EXPLORATION LLC	1/8+	907	649	N/A	N/A	N/A
10*47051.223.9	E	9-12-4	LINDA DELBERT	TH EXPLORATION LLC	1/8+	908	32	N/A	N/A	N/A
10*15463	F	9-11-8	CHARLES A RINE	TH EXPLORATION LLC	1/8+	908	274	N/A	N/A	N/A
10*15481	F	9-11-8	DEAN P RIGBY AND SUSAN RIGBY	TH EXPLORATION LLC	1/8+	908	197	N/A	N/A	N/A
10*15482	F	9-11-8	SUSAN NELSON	TH EXPLORATION LLC	1/8+	908	203	N/A	N/A	N/A
10*15686	F	9-11-8	JOHN OMER BOLTZ	TH EXPLORATION LLC	1/8+	908	160	N/A	N/A	N/A
10*15750	F	9-11-8	SANDRA K TRULL	TH EXPLORATION LLC	1/8+	908	229	N/A	N/A	N/A
10*16058	F	9-11-8	MATTIE RUTH JACKSON PRESCOTT	TH EXPLORATION LLC	1/8+	908	231	N/A	N/A	N/A
10*16118	F	9-11-8	RUBY RIDDLE JACKSON	TH EXPLORATION LLC	1/8+	908	233	N/A	N/A	N/A
10*16297	F	9-11-8	ROBERT A LEADBETTER AND M REBECCA LEADBETTER	TH EXPLORATION LLC	1/8+	908	235	N/A	N/A	N/A
10*16298	F	9-11-8	GEOFFREY A SHIEFER AND STEPHANIE L SCHIEFER	TH EXPLORATION LLC	1/8+	908	238	N/A	N/A	N/A
10*16383	F	9-11-8	ROBERT STEPHEN DRIGGERS	TH EXPLORATION LLC	1/8+	908	224	N/A	N/A	N/A
10*16414	F	9-11-8	MARY ELIZABETH DRIGGERS	TH EXPLORATION, LCC	1/8+	908	208	N/A	N/A	N/A
10*16415	F	9-11-8	TERENCE J & NANCY J ANDERSON	TH EXPLORATION, LCC	1/8+	908	213	N/A	N/A	N/A
10*16416	F	9-11-8	CYNTHIA HUDSON	TH EXPLORATION, LCC	1/8+	908	219	N/A	N/A	N/A
10*16424	F	9-11-8	ROBERT J RIGBY	TH EXPLORATION, LLC	1/8+	908	241	N/A	N/A	N/A
10*16448	F	9-11-8	RALPH L AND JUANITA L CRIM	TH EXPLORATION LLC	1/8+	908	584	N/A	N/A	N/A
10*16478	F	9-11-8	MARION L AND EMILY CAMPBELL	TH EXPLORATION LLC	1/8+	908	245	N/A	N/A	N/A
10*16514	F	9-11-8	ALEX RUSSELL AND JOYCE A CAMPBELL	TH EXPLORATION LLC	1/8+	908	248	N/A	N/A	N/A
10*16515	F	9-11-8	ANNA MARIE JACKSON	TH EXPLORATION LLC	1/8+	908	251	N/A	N/A	N/A
10*16516	F	9-11-8	WILSON ANDREW JACKSON	TH EXPLORATION LLC	1/8+	908	253	N/A	N/A	N/A

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10*16545	F	9-11-8	ROBERT G & ELLEN FOUNDS	TH EXPLORATION LLC	1/8+	908 260	N/A	N/A	N/A
10*16662	F	9-11-8	RICHARD THOMAS AND VICKI J MIMS	TH EXPLORATION LLC	1/8+	908 863	N/A	N/A	N/A
10*16666	F	9-11-8	MICHAEL P PYLE	TH EXPLORATION LLC	1/8+	908 255	N/A	N/A	N/A
10*16667	F	9-11-8	CHARLES F AND GAIL ANN PYLE	TH EXPLORATION LLC	1/8+	908 266	N/A	N/A	N/A
10*16668	F	9-11-8	JACK I AND MERRILEE PYLE	TH EXPLORATION LLC	1/8+	908 257	N/A	N/A	N/A
10*16669	F	9-11-8	JOHN S AND PATRICIA S DADO	TH EXPLORATION LLC	1/8+	908 269	N/A	N/A	N/A
10*16686	F	9-11-8	CHERYLE M TRACEY	TH EXPLORATION LLC	1/8+	927 475	N/A	N/A	N/A
10*16688	F	9-11-8	SHERRYL PYLE BAIR	TH EXPLORATION LLC	1/8+	927 481	N/A	N/A	N/A
10*16689	F	9-11-8	JOHN C FOUNDS	TH EXPLORATION LLC	1/8+	927 478	N/A	N/A	N/A
10*16690	F	9-11-8	RICARDO ORTIZ	TH EXPLORATION LLC	1/8+	921 352	N/A	N/A	N/A
10*16720	F	9-11-8	DONNA ELAINE BRASKETT	TH EXPLORATION LLC	1/8+	921 152	N/A	N/A	N/A
10*16742	F	9-11-8	PAUL C WILSON	TH EXPLORATION LLC	1/8+	927 490	N/A	N/A	N/A
10*16747	F	9-11-8	WILLIAM DALE BRASKETT	TH EXPLORATION LLC	1/8+	921 96	N/A	N/A	N/A
10*16798	F	9-11-8	PATRICK A RANKIN AND ROBIN A RANKIN	TH EXPLORATION LLC	1/8+	921 364	N/A	N/A	N/A
10*16800	F	9-11-8	JAMES KENNETH JACKSON AND JULIE JACKSON	TH EXPLORATION LLC	1/8+	921 93	N/A	N/A	N/A
10*16802	F	9-11-8	CHRISTOPHER AND TAMMY RICHARDSON	TH EXPLORATION LLC	1/8+	921 495	N/A	N/A	N/A
10*16804	F	9-11-8	WILLIAM N AND SHERRY D TAYLOR	TH EXPLORATION LLC	1/8+	921 510	N/A	N/A	N/A
10*16806	F	9-11-8	VIRGINIA I WHITMAN	TH EXPLORATION LLC	1/8+	921 528	N/A	N/A	N/A
10*16807	F	9-11-8	DAVID TULLER AND SUSAN STORTS TULLER	TH EXPLORATION LLC	1/8+	921 513	N/A	N/A	N/A
10*16808	F	9-11-8	MICHAEL L ORTIZ	TH EXPLORATION LLC	1/8+	921 349	N/A	N/A	N/A
10*16815	F	9-11-8	HAROLD W PYLE	TH EXPLORATION LLC	1/8+	921 357	N/A	N/A	N/A
10*16819	F	9-11-8	TERESA ORTIZ BIGGS	TH EXPLORATION LLC	1/8+	921 147	N/A	N/A	N/A
10*16821	F	9-11-8	SHEILA BRASKETT WEICHEY	TH EXPLORATION LLC	1/8+	921 516	N/A	N/A	N/A
10*16836	F	9-11-8	RICK A AND LENORE A STORTS	TH EXPLORATION LLC	1/8+	921 507	N/A	N/A	N/A
10*16837	F	9-11-8	TERRY L AND THELMA A POFF	TH EXPLORATION LLC	1/8+	927 472	N/A	N/A	N/A
10*16838	F	9-11-8	ROBERT G FUNARI	TH EXPLORATION LLC	1/8+	921 82	N/A	N/A	N/A
10*16839	F	9-11-8	JAMES B FOUNDS AND LYNN M MOWERY	TH EXPLORATION LLC	1/8+	921 73	N/A	N/A	N/A
10*16863	F	9-11-8	TINA MOORE	TH EXPLORATION LLC	1/8+	921 334	N/A	N/A	N/A
10*16868	F	9-11-8	MICHAEL W STORTS AND JESSICA M STORTS	TH EXPLORATION LLC	1/8+	921 504	N/A	N/A	N/A
10*16879	F	9-11-8	MARK E AND LESLEY A STORTS	TH EXPLORATION LLC	1/8+	921 501	N/A	N/A	N/A
10*16880	F	9-11-8	BEVERLY ANN STORTS	TH EXPLORATION LLC	1/8+	921 498	N/A	N/A	N/A
10*16902	F	9-11-8	MARY BARCAW DUKE	TH EXPLORATION LLC	1/8+	921 105	N/A	N/A	N/A
10*16962	F	9-11-8	DENNIS P AND BARBARA EZELL FLORY	TH EXPLORATION LLC	1/8+	921 70	N/A	N/A	N/A
10*16976	F	9-11-8	LESTER G AND CONSTANCE B NICKOLSON	TH EXPLORATION LLC	1/8+	921 343	N/A	N/A	N/A
10*16977	F	9-11-8	JEREMY COCHENOUR	TH EXPLORATION LLC	1/8+	921 102	N/A	N/A	N/A
10*16987	F	9-11-8	LAURIE EZELL PERRY	TH EXPLORATION LLC	1/8+	921 355	N/A	N/A	N/A
10*16989	F	9-11-8	BRITTANY RICHARDSON	TH EXPLORATION LLC	1/8+	921 376	N/A	N/A	N/A
10*16991	F	9-11-8	MARYELLEN FOUNDS AND LAUREN FOUNDS	TH EXPLORATION LLC	1/8+	921 79	N/A	N/A	N/A
10*16996	F	9-11-8	THOMAS RANKIN	TH EXPLORATION LLC	1/8+	917 75	N/A	N/A	N/A
10*17130	F	9-11-8	CINDY L BARGER	TH EXPLORATION LLC	1/8+	921 137	N/A	N/A	N/A
10*17155	F	9-11-8	JESSE LEON JR AND TERESA GAIL EZELLE	TH EXPLORATION LLC	1/8+	921 118	N/A	N/A	N/A
10*17156	F	9-11-8	HENRI NELL JACKSON KENT BARNES	TH EXPLORATION LLC	1/8+	921 139	N/A	N/A	N/A
10*17157	F	9-11-8	JAMES N REEVES JR AND RITA M REEVES	TH EXPLORATION LLC	1/8+	921 367	N/A	N/A	N/A
10*17198	F	9-11-8	THOMAS G AND DIANE W BAYLESS	TH EXPLORATION LLC	1/8+	921 141	N/A	N/A	N/A
10*17205	F	9-11-8	SANDRA JEAN WILSON	TH EXPLORATION LLC	1/8+	921 524	N/A	N/A	N/A
10*17208	F	9-11-8	PATRICK S GALLAGHER AND JOYCE ANN FOUNDS	TH EXPLORATION LLC	1/8+	921 86	N/A	N/A	N/A
10*17274	F	9-11-8	DAVID H WILSON	TH EXPLORATION LLC	1/8+	921 474	N/A	N/A	N/A
10*17275	F	9-11-8	JOHN R REEVES AND MONA G REEVES	TH EXPLORATION LLC	1/8+	921 373	N/A	N/A	N/A
10*17276	F	9-11-8	BERTHA EZELL WYATT	TH EXPLORATION LLC	1/8+	921 526	N/A	N/A	N/A
10*17278	F	9-11-8	MICHAEL L EZELLE	TH EXPLORATION LLC	1/8+	921 121	N/A	N/A	N/A
10*17339	F	9-11-8	JOSEPH W FOUNDS	TH EXPLORATION LLC	1/8+	921 76	N/A	N/A	N/A
10*17377	F	9-11-8	MILTON HOWARD EZELLE JR AND ELIZABETH A EZELLE	TH EXPLORATION LLC	1/8+	921 123	N/A	N/A	N/A
10*17416	F	9-11-8	ANDREW M. ORTIZ	TH EXPLORATION, LLC	1/8+	921 346	N/A	N/A	N/A
10*17438	F	9-11-8	DENNIS M WILSON	TH EXPLORATION LLC	1/8+	921 476	N/A	N/A	N/A
10*17440	F	9-11-8	KENDRA WALISA	TH EXPLORATION LLC	1/8+	927 484	N/A	N/A	N/A
10*17441	F	9-11-8	RALPH J WILSON	TH EXPLORATION LLC	1/8+	921 522	N/A	N/A	N/A

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10*17442	F	9-11-8	SHANE ALLEN AND MENDY JEAN ALLEN	TH EXPLORATION LLC	1/8+	921 134	N/A	N/A	N/A
10*17443	F	9-11-8	MICHELLE MORROW-BACK	TH EXPLORATION LLC	1/8+	921 337	N/A	N/A	N/A
10*17444	F	9-11-8	KELLY FOUNDS CAMPBELL	TH EXPLORATION LLC	1/8+	921 99	N/A	N/A	N/A
10*17449	F	9-11-8	PHYLLIS J BLAKE	TH EXPLORATION LLC	1/8+	921 150	N/A	N/A	N/A
10*17482	F	9-11-8	TERESA EZELLE RALYA AND DAVID L RALYA	TH EXPLORATION LLC	1/8+	927 487	N/A	N/A	N/A
10*17483	F	9-11-8	RICHARD I PYLE	TH EXPLORATION LLC	1/8+	921 359	N/A	N/A	N/A
10*17484	F	9-11-8	NELDA S JACKSON	TH EXPLORATION LLC	1/8+	921 330	N/A	N/A	N/A
10*17485	F	9-11-8	MARGIE ANN JACKSON ROBBINS GRAHAM	TH EXPLORATION LLC	1/8+	921 91	N/A	N/A	N/A
10*17526	F	9-11-8	JEFFREY L REEVES AND JODY L REEVES	TH EXPLORATION LLC	1/8+	921 370	N/A	N/A	N/A
10*17527	F	9-11-8	JAMES MICHAEL EZELL AND LUCILLE D EZELL	TH EXPLORATION LLC	1/8+	921 111	N/A	N/A	N/A
10*17552	F	9-11-8	JOHN BEVACQUA AND PATRICIA A BEVACQUA	TH EXPLORATION LLC	1/8+	921 144	N/A	N/A	N/A
10*17554	F	9-11-8	MICHAEL T RANKIN	TH EXPLORATION LLC	1/8+	921 361	N/A	N/A	N/A
10*17561	F	9-11-8	KATHRYN L & ROGER L TYRELL	TH EXPLORATION, LLC	1/8+	921 519	N/A	N/A	N/A
10*17564	F	9-11-8	JAMES R & TRACEY E NICKOLSON	TH EXPLORATION, LLC	1/8+	921 340	N/A	N/A	N/A
10*17565	F	9-11-8	JESSE ALLEN JACKSON AND ELIZABETH D JACKSON	TH EXPLORATION LLC	1/8+	921 327	N/A	N/A	N/A
10*17566	F	9-11-8	NATHAN P & BARBARA T ERDOSSY	TH EXPLORATION, LLC	1/8+	921 108	N/A	N/A	N/A
10*17588	F	9-11-8	JAMES M JACKSON	TH EXPLORATION LLC	1/8+	921 325	N/A	N/A	N/A
10*17589	F	9-11-8	MARY CHRISTINE MCKENNA	TH EXPLORATION, LLC	1/8+	921 332	N/A	N/A	N/A
10*17677	F	9-11-8	GEORGE M GONTA JR	TH EXPLORATION, LLC	1/8+	921 89	N/A	N/A	N/A
10*17744	F	9-11-8	SAM PRESLEY EZELL	TH EXPLORATION LLC	1/8+	921 116	N/A	N/A	N/A
10*47051.223.1	F	9-11-8	JEAN ANNE GORBY STORCH	TH EXPLORATION LLC	1/8+	877 216	N/A	N/A	N/A
10*47051.223.10	F	9-11-8	ROBERT E GORBY	TH EXPLORATION LLC	1/8+	908 47	N/A	N/A	N/A
10*47051.223.11	F	9-11-8	ELIZABETH ESTEP	TH EXPLORATION LLC	1/8+	908 39	N/A	N/A	N/A
10*47051.223.12	F	9-11-8	ALICE GORBY MARTIN	TH EXPLORATION LLC	1/8+	908 52	N/A	N/A	N/A
10*47051.223.13	F	9-11-8	JAMES A GORBY	TH EXPLORATION LLC	1/8+	908 42	N/A	N/A	N/A
10*47051.223.14	F	9-11-8	JUSTIN RINE AND BECKY RINE	TH EXPLORATION LLC	1/8+	907 639	N/A	N/A	N/A
10*47051.223.15	F	9-11-8	LARRY D TAUNT AND NANCY L TAUNT	TH EXPLORATION LLC	1/8+	908 14	N/A	N/A	N/A
10*47051.223.16	F	9-11-8	BETTY LOU STERN AND WILLIAM KEITH STERN	TH EXPLORATION LLC	1/8+	908 64	N/A	N/A	N/A
10*47051.223.17	F	9-11-8	RALPH E HUNTER JR AND CHARLOTTE HUNTER	TH EXPLORATION LLC	1/8+	908 9	N/A	N/A	N/A
10*47051.223.18	F	9-11-8	BRITTNEY MENEAR	TH EXPLORATION LLC	1/8+	908 57	N/A	N/A	N/A
10*47051.223.19	F	9-11-8	JASON RINE AND HEATHER RINE	TH EXPLORATION LLC	1/8+	907 629	N/A	N/A	N/A
10*47051.223.20	F	9-11-8	BARBARA A BUZZARD	TH EXPLORATION LLC	1/8+	908 24	N/A	N/A	N/A
10*47051.223.21	F	9-11-8	GARY T WARD AND SHARON D WARD	TH EXPLORATION LLC	1/8+	908 19	N/A	N/A	N/A
10*47051.223.22	F	9-11-8	SALLY COLE	TH EXPLORATION LLC	1/8+	908 74	N/A	N/A	N/A
10*47051.223.23	F	9-11-8	RONALD S CRIM	TH EXPLORATION LLC	1/8+	908 81	N/A	N/A	N/A
10*47051.223.24	F	9-11-8	JO DEE K DAVIS	TH EXPLORATION LLC	1/8+	908 136	N/A	N/A	N/A
10*47051.223.25	F	9-11-8	JOANNE WELCH	TH EXPLORATION LLC	1/8+	908 141	N/A	N/A	N/A
10*47051.223.26	F	9-11-8	WENDY L SMARKEL	TH EXPLORATION LLC	1/8+	908 69	N/A	N/A	N/A
10*47051.223.27	F	9-11-8	TIMI J HOBBS	TH EXPLORATION LLC	1/8+	908 277	N/A	N/A	N/A
10*47051.223.28	F	9-11-8	KAREN S GAST	TH EXPLORATION LLC	1/8+	908 150	N/A	N/A	N/A
10*47051.223.29	F	9-11-8	PATSY JO RAJU	TH EXPLORATION LLC	1/8+	908 155	N/A	N/A	N/A
10*47051.223.30	F	9-11-8	LAURIE DRIGGERS MANDERSON	TH EXPLORATION LLC	1/8+	908 165	N/A	N/A	N/A
10*47051.223.31	F	9-11-8	JANICE M GONTA GAVALIK	TH EXPLORATION LLC	1/8+	908 180	N/A	N/A	N/A
10*47051.223.32	F	9-11-8	JOSEPH GORBY DAKAN	TH EXPLORATION LLC	1/8+	908 175	N/A	N/A	N/A
10*47051.223.33	F	9-11-8	NANCY CIAFFAGLIONE HOUSLEY	TH EXPLORATION LLC	1/8+	908 185	N/A	N/A	N/A
10*47051.223.34	F	9-11-8	JOHN CIAFFAGLIONE	TH EXPLORATION LLC	1/8+	908 170	N/A	N/A	N/A
10*47051.223.35	F	9-11-8	DEBRA L CIAFFAGLIONE	TH EXPLORATION LLC	1/8+	908 192	N/A	N/A	N/A
10*47051.223.5	F	9-11-8	HAROLD S BROWN II AND MARIA A BROWN	TH EXPLORATION LLC	1/8+	907 641	N/A	N/A	N/A
10*47051.223.6	F	9-11-8	JOSHUA RINE AND REBECCA RINE	TH EXPLORATION LLC	1/8+	907 634	N/A	N/A	N/A
10*47051.223.7	F	9-11-8	JACK R WILSON JR AND JANE A WILSON	TH EXPLORATION LLC	1/8+	908 4	N/A	N/A	N/A
10*47051.223.8	F	9-11-8	DAVID M WILSON	TH EXPLORATION LLC	1/8+	907 649	N/A	N/A	N/A
10*47051.223.9	F	9-11-8	LINDA DELBERT	TH EXPLORATION LLC	1/8+	908 32	N/A	N/A	N/A
10*15606	G	9-12-2	CHK-MAC LLC	CHESAPEAKE APPALACHIA LLC	1/8+	798 150	N/A	Chesapeake to Chevron: 30/461	Chevron to Tug Hill: 36/148
10*16145	G	9-12-2	CHARLES STEVEN JOHNSON AND SHIRLEY LOUISE JOHNSON	TH EXPLORATION LLC	1/8+	924 612	N/A	N/A	N/A
10*16238	G	9-12-2	SUSAN MARIE JOHNSON AKA SUSAN MARIE HUBER	TH EXPLORATION LLC	1/8+	924 614	N/A	N/A	N/A
10*16932	G	9-12-2	HAYMAKER PROPERTIES LP	CHEVRON U.S.A. INC.	1/8+	902 447	N/A	N/A	Chevron to Tug Hill: 37/437

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Operator's Well No. Ten High 1S - 5HM

Lease Name or No	Tag	Parcel	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Deed Book / Page	Assignment	Assignment	Assignment
10*47051.309.1	G	9-12-2	LESLIE E QUIGLEY	TH EXPLORATION LLC	1/8+	905 8	N/A	N/A	N/A
10*47051.309.2	G	9-12-2	LEWIS M QUIGLEY AND MAXINE V QUIGLEY	TH EXPLORATION LLC	1/8+	907 217	N/A	N/A	N/A
10*47051.309.3	G	9-12-2	GERALD W QUIGLEY AND VICKI L QUIGLEY	TH EXPLORATION LLC	1/8+	905 12	N/A	N/A	N/A
10*16145	H	9-12-28	CHARLES STEVEN JOHNSON AND SHIRLEY LOUISE JOHNSON	TH EXPLORATION LLC	1/8+	924 612	N/A	N/A	N/A
10*16238	H	9-12-28	SUSAN MARIE JOHNSON AKA SUSAN MARIE HUBER	TH EXPLORATION LLC	1/8+	924 614	N/A	N/A	N/A
10*16932	H	9-12-28	HAYMAKER PROPERTIES LP	CHEVRON U.S.A. INC.	1/8+	902 447	N/A	N/A	Chevron to Tug Hill: 37/437
10*47051.309.1	H	9-12-28	LESLIE E QUIGLEY	TH EXPLORATION LLC	1/8+	905 8	N/A	N/A	N/A
10*47051.309.2	H	9-12-28	LEWIS M QUIGLEY AND MAXINE V QUIGLEY	TH EXPLORATION LLC	1/8+	907 217	N/A	N/A	N/A
10*47051.309.3	H	9-12-28	GERALD W QUIGLEY AND VICKI L QUIGLEY	TH EXPLORATION LLC	1/8+	905 12	N/A	N/A	N/A
10*47051.312.0	I	9-12-37	JAN GRIMES SIMNACHER LEONARD A SIMNACHER	TH EXPLORATION LLC	1/8+	904 472	N/A	N/A	N/A
10*47051.140.1	J	9-12-32	DAVID P CHAPMAN & DEBORAH BORCK-CHAPMAN	TH EXPLORATION LLC	1/8+	866 318	N/A	N/A	N/A
10*47051.140.2	J	9-12-32	DOROTHY SULLIVAN POA JAMES REID SULLIVAN	TH EXPLORATION LLC	1/8+	873 501	N/A	N/A	N/A
10*15477	K	9-14-18	RONALD A WYCINSKI	TH EXPLORATION LLC	1/8+	906 241	N/A	N/A	N/A
10*15730	K	9-14-18	FRANCES V CARPENTER	TH EXPLORATION LLC	1/8+	906 256	N/A	N/A	N/A
10*15752	K	9-14-18	KIM O CHAMBERS AND DEBRA CHAMBERS	TH EXPLORATION LLC	1/8+	906 258	N/A	N/A	N/A
10*16017	K	9-14-18	FLOYD A MCFADDEN	TH EXPLORATION LLC	1/8+	906 260	N/A	N/A	N/A
10*16018	K	9-14-18	BARBARA MCFADDEN ALBRIGHT	TH EXPLORATION LLC	1/8+	906 262	N/A	N/A	N/A
10*16030	K	9-14-18	JOSEPH F CHMIELEWSKI AND SANDRA CHMIELEWSKI	TH EXPLORATION LLC	1/8+	906 264	N/A	N/A	N/A
10*16031	K	9-14-18	CARL J CHMIELEWSKI AND KATHLEEN A CHMIELEWSKI	TH EXPLORATION LLC	1/8+	906 266	N/A	N/A	N/A
10*16083	K	9-14-18	CECIL HARRY LILLY, III AND PAMELA KAY KNIGHT LILLY	TH EXPLORATION LLC	1/8+	912 47	N/A	N/A	N/A
10*16085	K	9-14-18	KATHARYN ANNETTE LILLY LAING AND FREDDIE JOE LAING	TH EXPLORATION LLC	1/8+	912 45	N/A	N/A	N/A
10*16086	K	9-14-18	KATHARYN DAY LILLY	TH EXPLORATION LLC	1/8+	906 272	N/A	N/A	N/A
10*16087	K	9-14-18	MARY PENELOPE LILLY MURPHY	TH EXPLORATION LLC	1/8+	912 41	N/A	N/A	N/A
10*16131	K	9-14-18	ERIC S DOBBS	TH EXPLORATION LLC	1/8+	902 68	N/A	N/A	N/A
10*16144	K	9-14-18	PATTIE S MADRID	TH EXPLORATION LLC	1/8+	906 278	N/A	N/A	N/A
10*16180	K	9-14-18	LARRY L CHAMBERS	TH EXPLORATION LLC	1/8+	906 280	N/A	N/A	N/A
10*16181	K	9-14-18	NORMA CHRISTINE WHIPP AND GERALD WAYNE BLACK	TH EXPLORATION LLC	1/8+	906 281	N/A	N/A	N/A
10*16182	K	9-14-18	FIRST CHRISTIAN CHURCH OF MOUNDSVILLE BY ROGER FRANCIS AND ROBERT ALBERT TRUSTEES	TH EXPLORATION LLC	1/8+	906 283	N/A	N/A	N/A
10*16183	K	9-14-18	ALLEN R L DAVIS AND DIANA LEE PATTERSON	TH EXPLORATION LLC	1/8+	906 285	N/A	N/A	N/A
10*16239	K	9-14-18	ANGELA L OLDFIELD AND KENNETH W OLDFIELD	TH EXPLORATION LLC	1/8+	906 287	N/A	N/A	N/A
10*16240	K	9-14-18	BONNIE SUE PATTERSON SWISHER	TH EXPLORATION LLC	1/8+	906 289	N/A	N/A	N/A
10*16285	K	9-14-18	JOHN A SHUTZ AND CYNTHIA J SHUTZ	TH EXPLORATION LLC	1/8+	906 291	N/A	N/A	N/A
10*16441	K	9-14-18	GEORGE FRANKLIN AND NANCY ANN REED	TH EXPLORATION LLC	1/8+	924 619	N/A	N/A	N/A
10*16442	K	9-14-18	FRED T AND JERRY L CHAMBERS	TH EXPLORATION LLC	1/8+	924 174	N/A	N/A	N/A
10*16443	K	9-14-18	BARBARA BROWN CHAMBERS	TH EXPLORATION LLC	1/8+	924 621	N/A	N/A	N/A
10*16444	K	9-14-18	CATHERINE ELLEN CHAMBERS	TH EXPLORATION LLC	1/8+	924 623	N/A	N/A	N/A
10*16445	K	9-14-18	DOUGLAS C AND GWENDLYN D LEWTON	TH EXPLORATION LLC	1/8+	925 123	N/A	N/A	N/A
10*16483	K	9-14-18	JOHN C AND BARBARA H WINTER	TH EXPLORATION LLC	1/8+	924 178	N/A	N/A	N/A
10*16486	K	9-14-18	DAVID ALAN WILKINSON AND PATRICIA LYNN WILKINSON	TH EXPLORATION LLC	1/8+	924 180	N/A	N/A	N/A
10*16490	K	9-14-18	WILLIAM H AND MERRY C COTTON	TH EXPLORATION LLC	1/8+	924 176	N/A	N/A	N/A
10*16498	K	9-14-18	SHELLY YEATER	TH EXPLORATION LLC	1/8+	925 283	N/A	N/A	N/A
10*16511	K	9-14-18	DOUGLAS R BOWEN	TH EXPLORATION LLC	1/8+	906 475	N/A	N/A	N/A
10*16531	K	9-14-18	KATHY DOBBS WELLS	TH EXPLORATION LLC	1/8+	906 472	N/A	N/A	N/A
10*16532	K	9-14-18	JEAN ANN MCFADDEN	TH EXPLORATION LLC	1/8+	906 459	N/A	N/A	N/A
10*16533	K	9-14-18	SHIRLEY ANN DOBBS	TH EXPLORATION LLC	1/8+	906 469	N/A	N/A	N/A
10*16534	K	9-14-18	TERRY LEE LASAVAGE	TH EXPLORATION LLC	1/8+	906 443	N/A	N/A	N/A
10*16535	K	9-14-18	CHARLES E CARSON AND MARY KAY CARSON	TH EXPLORATION LLC	1/8+	906 420	N/A	N/A	N/A
10*16537	K	9-14-18	KIM D BOWEN AND MADONNA M BOWEN	TH EXPLORATION LLC	1/8+	907 415	N/A	N/A	N/A
10*16540	K	9-14-18	JAMES A WINTER AND CONNIE G WINTER	TH EXPLORATION LLC	1/8+	924 184	N/A	N/A	N/A
10*16569	K	9-14-18	JANICE C BALE	TH EXPLORATION LLC	1/8+	907 425	N/A	N/A	N/A
10*16570	K	9-14-18	ROBERT D BOWEN AND MARCIA M R BOWEN	TH EXPLORATION LLC	1/8+	907 420	N/A	N/A	N/A
10*16576	K	9-14-18	LINDA A MINER AND MICHAEL W MINER	TH EXPLORATION LLC	1/8+	907 484	N/A	N/A	N/A
10*16580	K	9-14-18	HAROLD C MCFADDEN	TH EXPLORATION LLC	1/8+	907 480	N/A	N/A	N/A
10*16581	K	9-14-18	HELEN L SCHILLING	TH EXPLORATION LLC	1/8+	907 489	N/A	N/A	N/A
10*16582	K	9-14-18	DORA BROCK BRAMMER	TH EXPLORATION LLC	1/8+	907 429	N/A	N/A	N/A
10*16680	K	9-14-18	RONALD J AND JENNIFER CHAMBERS FICCA	TH EXPLORATION LLC	1/8+	924 186	N/A	N/A	N/A



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Lease Name or No	Tag	Parcel	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Deed Book / Page	Assignment	Assignment	Assignment
10*16726	K	9-14-18	LESLEY K WHITE	TH EXPLORATION LLC	1/8+	924 182	N/A	N/A	N/A
10*16733	K	9-14-18	SARAH L BISHOP	TH EXPLORATION LLC	1/8+	924 172	N/A	N/A	N/A
10*16835	K	9-14-18	ERNEST CARL AUGUSTINE JR	TH EXPLORATION LLC	1/8+	924 188	N/A	N/A	N/A
10*16882	K	9-14-18	JAMES LEROY AND DARLENE DOBBS OWENS	TH EXPLORATION LLC	1/8+	924 190	N/A	N/A	N/A
10*16948	K	9-14-18	FREDERICK M LEWTON	TH EXPLORATION LLC	1/8+	924 136	N/A	N/A	N/A
10*16949	K	9-14-18	STEVEN R AND BRIANNE L UTT	TH EXPLORATION LLC	1/8+	924 138	N/A	N/A	N/A
10*16950	K	9-14-18	JAY E AND CECILIA E LEWTON	TH EXPLORATION LLC	1/8+	924 134	N/A	N/A	N/A
10*16952	K	9-14-18	RUSSELL D HERVEY	TH EXPLORATION LLC	1/8+	924 132	N/A	N/A	N/A
10*16953	K	9-14-18	DONALD T AND JEAN K HOGAN	TH EXPLORATION LLC	1/8+	924 140	N/A	N/A	N/A
10*16965	K	9-14-18	WILLIAM L WRIGHT AND CAROLINA WRIGHT	TH EXPLORATION LLC	1/8+	914 524	N/A	N/A	N/A
10*16966	K	9-14-18	JOHN GILLETTE AND BARBARA GILLETTE	TH EXPLORATION LLC	1/8+	913 377	N/A	N/A	N/A
10*16967	K	9-14-18	TARA JEANNE MINOR AND JENNIFER A KNAPP	TH EXPLORATION LLC	1/8+	914 612	N/A	N/A	N/A
10*16990	K	9-14-18	ROSEMARY H BEAVERS	TH EXPLORATION LLC	1/8+	924 152	N/A	N/A	N/A
10*16992	K	9-14-18	LINDA C ABRAHAM	TH EXPLORATION LLC	1/8+	924 148	N/A	N/A	N/A
10*16993	K	9-14-18	JULIA HOOVER	TH EXPLORATION LLC	1/8+	924 150	N/A	N/A	N/A
10*16995	K	9-14-18	DIANE ELSIE RAMSEY	TH EXPLORATION LLC	1/8+	924 146	N/A	N/A	N/A
10*17129	K	9-14-18	ROBERTA JANE PARKINSON	TH EXPLORATION LLC	1/8+	924 142	N/A	N/A	N/A
10*17131	K	9-14-18	LAURA E TOTTEN AND LONNIE R TOTTEN	TH EXPLORATION LLC	1/8+	924 154	N/A	N/A	N/A
10*17134	K	9-14-18	UNITED CHRISTIAN MISSIONARY SOCIETY	TH EXPLORATION LLC	1/8+	924 144	N/A	N/A	N/A
10*17139	K	9-14-18	ALICE G WEINER AND GERALD S WEINER	TH EXPLORATION LLC	1/8+	915 131	N/A	N/A	N/A
10*17209	K	9-14-18	GAYLE S SHANNON	TH EXPLORATION LLC	1/8+	924 168	N/A	N/A	N/A
10*17289	K	9-14-18	HAROLD R HUNT JR AND ELIZABETH A HUNT	TH EXPLORATION LLC	1/8+	924 170	N/A	N/A	N/A
10*17396	K	9-14-18	CHRISTINE L KIDD	TH EXPLORATION LLC	1/8+	924 158	N/A	N/A	N/A
10*17413	K	9-14-18	ROBERT M CHAMBERS AND CHARLOTTE A CHAMBERS	TH EXPLORATION LLC	1/8+	924 160	N/A	N/A	N/A
10*17436	K	9-14-18	ANDREW M HOOVER AND DINAH R HOOVER	TH EXPLORATION LLC	1/8+	924 156	N/A	N/A	N/A
10*17448	K	9-14-18	FREDERICK L HERVEY AND CATHY J HERVEY	TH EXPLORATION LLC	1/8+	924 162	N/A	N/A	N/A
10*17452	K	9-14-18	ALAN H & MARY K DEGARMO	TH EXPLORATION, LLC	1/8+	924 164	N/A	N/A	N/A
10*17487	K	9-14-18	DEBORAH R MOKOSH	TH EXPLORATION LLC	1/8+	924 166	N/A	N/A	N/A
10*17503	K	9-14-18	JANICE L KUHN	TH EXPLORATION LLC	1/8+	924 122	N/A	N/A	N/A
10*17504	K	9-14-18	GREGG ALAN MILLER AND BETH ANN MILLER	TH EXPLORATION LLC	1/8+	924 118	N/A	N/A	N/A
10*17505	K	9-14-18	MICHAEL R & LEANNE DOBBS	TH EXPLORATION, LLC	1/8+	924 116	N/A	N/A	N/A
10*17515	K	9-14-18	GLADYS E DOBBS	TH EXPLORATION LLC	1/8+	923 541	N/A	N/A	N/A
10*17516	K	9-14-18	MARY V DOBBS	TH EXPLORATION LLC	1/8+	923 539	N/A	N/A	N/A
10*17517	K	9-14-18	JULIO ENRIQUE & DEBRA K TORRES	TH EXPLORATION, LLC	1/8+	923 537	N/A	N/A	N/A
10*17520	K	9-14-18	LUCY P SULLIVAN	TH EXPLORATION LLC	1/8+	923 533	N/A	N/A	N/A
10*17528	K	9-14-18	DEAN E GARRISON	TH EXPLORATION LLC	1/8+	923 535	N/A	N/A	N/A
10*17555	K	9-14-18	AARON AND JANA K PARRY	TH EXPLORATION LLC	1/8+	924 113	N/A	N/A	N/A
10*17559	K	9-14-18	MARVIN JERRY BLAKE AND LINDA D BLAKE	TH EXPLORATION LLC	1/8+	923 528	N/A	N/A	N/A
10*17560	K	9-14-18	TREVOR HOOKS	TH EXPLORATION LLC	1/8+	924 110	N/A	N/A	N/A
10*17563	K	9-14-18	DONALD L WOOD	TH EXPLORATION LLC	1/8+	923 523	N/A	N/A	N/A
10*17579	K	9-14-18	DON COFFIELD & GLENDA DOBBS	TH EXPLORATION, LLC	1/8+	923 525	N/A	N/A	N/A
10*17580	K	9-14-18	PAUL CRAIG CUNNINGHAM	TH EXPLORATION LLC	1/8+	923 530	N/A	N/A	N/A
10*17581	K	9-14-18	PAULA WEIRES	TH EXPLORATION LLC	1/8+	923 486	N/A	N/A	N/A
10*17582	K	9-14-18	JOHN THOMAS ERAZMUS AND JEAN R ERAZMUS	TH EXPLORATION LLC	1/8+	924 124	N/A	N/A	N/A
10*17612	K	9-14-18	BEVERLY A LEDBETTER	TH EXPLORATION, LLC	1/8+	923 480	N/A	N/A	N/A
10*17613	K	9-14-18	CARLTON DOBBS JR AND MIKHAIL PROKOPENKO	TH EXPLORATION LLC	1/8+	924 120	N/A	N/A	N/A
10*17614	K	9-14-18	DAVID DOBBS	TH EXPLORATION, LLC	1/8+	923 489	N/A	N/A	N/A
10*17615	K	9-14-18	PAULA JO WRIGHT	TH EXPLORATION, LLC	1/8+	923 482	N/A	N/A	N/A
10*17616	K	9-14-18	RONALD & ELIZABETH DOBBS	TH EXPLORATION, LLC	1/8+	924 107	N/A	N/A	N/A
10*17617	K	9-14-18	UNITED DISCIPLES OF CHRIST CHURCH	TH EXPLORATION LLC	1/8+	924 129	N/A	N/A	N/A
10*17664	K	9-14-18	RUDOLPH H PARSONS	TH EXPLORATION, LLC	1/8+	923 511	N/A	N/A	N/A
10*17667	K	9-14-18	THOMAS BRIAN WARRICK	TH EXPLORATION, LLC	1/8+	923 509	N/A	N/A	N/A
10*17668	K	9-14-18	KENNETH R DOBBS	TH EXPLORATION, LLC	1/8+	923 503	N/A	N/A	N/A
10*17671	K	9-14-18	JAMES L STOUT	TH EXPLORATION LLC	1/8+	923 484	N/A	N/A	N/A
10*17674	K	9-14-18	HOWARD L & BETH E WOOD	TH EXPLORATION, LLC	1/8+	923 505	N/A	N/A	N/A
10*17675	K	9-14-18	GREGORY D & CAROLYN J WIBLE	TH EXPLORATION, LLC	1/8+	923 507	N/A	N/A	N/A

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10*17676	K	9-14-18	JAMES C & DEIDRE G DORIA	TH EXPLORATION, LLC	1/8+	923 513	N/A	N/A	N/A
10*17700	K	9-14-18	ROGER L & MARILYN L GARRISON	TH EXPLORATION, LLC	1/8+	923 472	N/A	N/A	N/A
10*17701	K	9-14-18	SUE ANN WORD	TH EXPLORATION, LLC	1/8+	923 470	N/A	N/A	N/A
10*17702	K	9-14-18	TAMMY BETH RAMSEY	TH EXPLORATION, LLC	1/8+	925 500	N/A	N/A	N/A
10*17703	K	9-14-18	SHIRLEY N COX	TH EXPLORATION, LLC	1/8+	923 498	N/A	N/A	N/A
10*17708	K	9-14-18	BETTY LOU NOBLE	TH EXPLORATION LLC	1/8+	924 127	N/A	N/A	N/A
10*17711	K	9-14-18	DEBRA A WENNEMAN AND KURT J WENNEMAN	TH EXPLORATION LLC	1/8+	923 520	N/A	N/A	N/A
10*17731	K	9-14-18	JAMES J MCGHEE AND JEANNINE CHAMBERS MCGHEE	TH EXPLORATION LLC	1/8+	914 519	N/A	N/A	N/A
10*17766	K	9-14-18	EDWARD S & NANCY A ROSENTHAL	TH EXPLORATION, LLC	1/8+	923 495	N/A	N/A	N/A
10*17767	K	9-14-18	WILLIAM K & LINDA J MERRITT	TH EXPLORATION, LLC	1/8+	923 474	N/A	N/A	N/A
10*17769	K	9-14-18	GLADYS FRAZIER KING	TH EXPLORATION, LLC	1/8+	923 492	N/A	N/A	N/A
10*17771	K	9-14-18	CHARLES AND LISA WARRICK	TH EXPLORATION, LLC	1/8+	923 477	N/A	N/A	N/A
10*17830	K	9-14-18	BRIAN AND MELINDA MASTERS	TH EXPLORATION LLC	1/8+	925 319	N/A	N/A	N/A
10*17878	K	9-14-18	ROBERT E & SARAH M ROUSH	TH EXPLORATION, LLC	1/8+	924 590	N/A	N/A	N/A
10*17879	K	9-14-18	HARRY R WRIGHT JR	TH EXPLORATION, LLC	1/8+	924 588	N/A	N/A	N/A
10*17880	K	9-14-18	ANNA M WRIGHT	TH EXPLORATION, LLC	1/8+	924 586	N/A	N/A	N/A
10*17881	K	9-14-18	WAYLON L & ANGELA J MURPHEE	TH EXPLORATION, LLC	1/8+	924 555	N/A	N/A	N/A
10*17885	K	9-14-18	JOHN RUSSELL BECKER	TH EXPLORATION, LLC	1/8+	924 540	N/A	N/A	N/A
10*47051.325.1	K	9-14-18	JUDITH A LEWANDOSKY AND ALAN E LEWANDOSKY	TH EXPLORATION LLC	1/8+	906 225	N/A	N/A	N/A
10*47051.325.2	K	9-14-18	TIMMY LEE STOUT AND DOROTHY MARIE STOUT	TH EXPLORATION LLC	1/8+	906 222	N/A	N/A	N/A
10*47051.325.3	K	9-14-18	NICHOLAS D PAVLIK AND GLORIA K PAVUK	TH EXPLORATION LLC	1/8+	906 228	N/A	N/A	N/A
10*47051.325.4	K	9-14-18	JAMES H WHITE AND RITA FRANKS WHITE	TH EXPLORATION LLC	1/8+	906 230	N/A	N/A	N/A
10*47051.325.5	K	9-14-18	SAMUEL ALAN MCCORD AND WINIFRED A MCKEE	TH EXPLORATION LLC	1/8+	906 232	N/A	N/A	N/A
10*47051.325.6	K	9-14-18	THOMAS O MCCORD	TH EXPLORATION LLC	1/8+	906 235	N/A	N/A	N/A
10*47051.325.7	K	9-14-18	SHERON JONES	TH EXPLORATION LLC	1/8+	906 237	N/A	N/A	N/A
10*47051.325.8	K	9-14-18	RICK PAVLIK	TH EXPLORATION LLC	1/8+	906 239	N/A	N/A	N/A
10*15752	L	9-15-3	KIM O CHAMBERS AND DEBRA CHAMBERS	TH EXPLORATION LLC	1/8+	906 258	N/A	N/A	N/A
10*16017	L	9-15-3	FLOYD A MCFADDEN	TH EXPLORATION LLC	1/8+	906 260	N/A	N/A	N/A
10*16018	L	9-15-3	BARBARA MCFADDEN ALBRIGHT	TH EXPLORATION LLC	1/8+	906 262	N/A	N/A	N/A
10*16143	L	9-15-3	MARY LOU CHAMBERS	TH EXPLORATION LLC	1/8+	906 276	N/A	N/A	N/A
10*16144	L	9-15-3	PATTIE S MADRID	TH EXPLORATION LLC	1/8+	906 278	N/A	N/A	N/A
10*16180	L	9-15-3	LARRY L CHAMBERS	TH EXPLORATION LLC	1/8+	906 280	N/A	N/A	N/A
10*16181	L	9-15-3	NORMA CHRISTINE WHIPP AND GERALD WAYNE BLACK	TH EXPLORATION LLC	1/8+	906 281	N/A	N/A	N/A
10*16182	L	9-15-3	FIRST CHRISTIAN CHURCH OF MOUNDSVILLE BY ROGER FRANCIS AND ROBERT ALBERT TRUSTEES	TH EXPLORATION LLC	1/8+	906 283	N/A	N/A	N/A
10*16239	L	9-15-3	ANGELA L OLDFIELD AND KENNETH W OLDFIELD	TH EXPLORATION LLC	1/8+	906 287	N/A	N/A	N/A
10*16285	L	9-15-3	JOHN A SHUTZ AND CYNTHIA J SHUTZ	TH EXPLORATION LLC	1/8+	906 291	N/A	N/A	N/A
10*16441	L	9-15-3	GEORGE FRANKLIN AND NANCY ANN REED	TH EXPLORATION LLC	1/8+	924 619	N/A	N/A	N/A
10*16442	L	9-15-3	FRED T AND JERRY L CHAMBERS	TH EXPLORATION LLC	1/8+	924 174	N/A	N/A	N/A
10*16443	L	9-15-3	BARBARA BROWN CHAMBERS	TH EXPLORATION LLC	1/8+	924 621	N/A	N/A	N/A
10*16444	L	9-15-3	CATHERINE ELLEN CHAMBERS	TH EXPLORATION LLC	1/8+	924 623	N/A	N/A	N/A
10*16445	L	9-15-3	DOUGLAS C AND GWENDLYN D LEWTON	TH EXPLORATION LLC	1/8+	925 123	N/A	N/A	N/A
10*16483	L	9-15-3	JOHN C AND BARBARA H WINTER	TH EXPLORATION LLC	1/8+	924 178	N/A	N/A	N/A
10*16486	L	9-15-3	DAVID ALAN WILKINSON AND PATRICIA LYNN WILKINSON	TH EXPLORATION LLC	1/8+	924 180	N/A	N/A	N/A
10*16490	L	9-15-3	WILLIAM H AND MERRY C COTTON	TH EXPLORATION LLC	1/8+	924 176	N/A	N/A	N/A
10*16511	L	9-15-3	DOUGLAS R BOWEN	TH EXPLORATION LLC	1/8+	906 475	N/A	N/A	N/A
10*16532	L	9-15-3	JEAN ANN MCFADDEN	TH EXPLORATION LLC	1/8+	906 459	N/A	N/A	N/A
10*16534	L	9-15-3	TERRY LEE LASAVAGE	TH EXPLORATION LLC	1/8+	906 443	N/A	N/A	N/A
10*16535	L	9-15-3	CHARLES E CARSON AND MARY KAY CARSON	TH EXPLORATION LLC	1/8+	906 420	N/A	N/A	N/A
10*16537	L	9-15-3	KIM D BOWEN AND MADONNA M BOWEN	TH EXPLORATION LLC	1/8+	907 415	N/A	N/A	N/A
10*16540	L	9-15-3	JAMES A WINTER AND CONNIE G WINTER	TH EXPLORATION LLC	1/8+	924 184	N/A	N/A	N/A
10*16569	L	9-15-3	JANICE C BALE	TH EXPLORATION LLC	1/8+	907 425	N/A	N/A	N/A
10*16570	L	9-15-3	ROBERT D BOWEN AND MARCIA M R BOWEN	TH EXPLORATION LLC	1/8+	907 420	N/A	N/A	N/A
10*16576	L	9-15-3	LINDA A MINER AND MICHAEL W MINER	TH EXPLORATION LLC	1/8+	907 484	N/A	N/A	N/A
10*16580	L	9-15-3	HAROLD C MCFADDEN	TH EXPLORATION LLC	1/8+	907 480	N/A	N/A	N/A
10*16581	L	9-15-3	HELEN L SCHILLING	TH EXPLORATION LLC	1/8+	907 489	N/A	N/A	N/A
10*16582	L	9-15-3	DORA BROCK BRAMMER	TH EXPLORATION LLC	1/8+	907 429	N/A	N/A	N/A

WW-6A1 Supplement

Operator's Well No. Ten High 1S - 5HM  
 047-051-01964

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Lease Name or No	Tag	Parcel	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Deed Book / Page	Assignment	Assignment	Assignment
10*16680	L	9-15-3	RONALD J AND JENNIFER CHAMBERS FICCA	TH EXPLORATION LLC	1/8+	924 186	N/A	N/A	N/A
10*16726	L	9-15-3	LESLEY K WHITE	TH EXPLORATION LLC	1/8+	924 182	N/A	N/A	N/A
10*16733	L	9-15-3	SARAH L BISHOP	TH EXPLORATION LLC	1/8+	924 172	N/A	N/A	N/A
10*16835	L	9-15-3	ERNEST CARL AUGUSTINE JR	TH EXPLORATION LLC	1/8+	924 188	N/A	N/A	N/A
10*16948	L	9-15-3	FREDERICK M LEWTON	TH EXPLORATION LLC	1/8+	924 136	N/A	N/A	N/A
10*16949	L	9-15-3	STEVEN R AND BRIANNE L UTT	TH EXPLORATION LLC	1/8+	924 138	N/A	N/A	N/A
10*16950	L	9-15-3	JAY E AND CECILIA E LEWTON	TH EXPLORATION LLC	1/8+	924 134	N/A	N/A	N/A
10*16952	L	9-15-3	RUSSELL D HERVEY	TH EXPLORATION LLC	1/8+	924 132	N/A	N/A	N/A
10*16953	L	9-15-3	DONALD T AND JEAN K HOGAN	TH EXPLORATION LLC	1/8+	924 140	N/A	N/A	N/A
10*16990	L	9-15-3	ROSEMARY H BEAVERS	TH EXPLORATION LLC	1/8+	924 152	N/A	N/A	N/A
10*16992	L	9-15-3	LINDA C ABRAHAM	TH EXPLORATION LLC	1/8+	924 148	N/A	N/A	N/A
10*16993	L	9-15-3	JULIA HOOVER	TH EXPLORATION LLC	1/8+	924 150	N/A	N/A	N/A
10*16995	L	9-15-3	DIANE ELSIE RAMSEY	TH EXPLORATION LLC	1/8+	924 146	N/A	N/A	N/A
10*17129	L	9-15-3	ROBERTA JANE PARKINSON	TH EXPLORATION LLC	1/8+	924 142	N/A	N/A	N/A
10*17131	L	9-15-3	LAURA E TOTTEN AND LONNIE R TOTTEN	TH EXPLORATION LLC	1/8+	924 154	N/A	N/A	N/A
10*17134	L	9-15-3	UNITED CHRISTIAN MISSIONARY SOCIETY	TH EXPLORATION LLC	1/8+	924 14	N/A	N/A	N/A
10*17209	L	9-15-3	GAYLE S SHANNON	TH EXPLORATION LLC	1/8+	924 168	N/A	N/A	N/A
10*17289	L	9-15-3	HAROLD R HUNT JR AND ELIZABETH A HUNT	TH EXPLORATION LLC	1/8+	924 170	N/A	N/A	N/A
10*17396	L	9-15-3	CHRISTINE L KIDD	TH EXPLORATION LLC	1/8+	924 158	N/A	N/A	N/A
10*17413	L	9-15-3	ROBERT M CHAMBERS AND CHARLOTTE A CHAMBERS	TH EXPLORATION LLC	1/8+	924 160	N/A	N/A	N/A
10*17436	L	9-15-3	ANDREW M HOOVER AND DINAH R HOOVER	TH EXPLORATION LLC	1/8+	924 156	N/A	N/A	N/A
10*17448	L	9-15-3	FREDERICK L HERVEY AND CATHY J HERVEY	TH EXPLORATION LLC	1/8+	924 162	N/A	N/A	N/A
10*17452	L	9-15-3	ALAN H & MARY K DEGARMO	TH EXPLORATION, LLC	1/8+	924 164	N/A	N/A	N/A
10*17486	L	9-15-3	JOSELYN M KEELY	TH EXPLORATION LLC	1/8+	929 364	N/A	N/A	N/A
10*17487	L	9-15-3	DEBORAH R MOKOSH	TH EXPLORATION LLC	1/8+	924 166	N/A	N/A	N/A
10*17563	L	9-15-3	DONALD L WOOD	TH EXPLORATION LLC	1/8+	923 523	N/A	N/A	N/A
10*17617	L	9-15-3	UNITED DISCIPLES OF CHRIST CHURCH	TH EXPLORATION LLC	1/8+	924 129	N/A	N/A	N/A
10*17674	L	9-15-3	HOWARD L WOOD AND BETH E WOOD	TH EXPLORATION LLC	1/8+	923 505	N/A	N/A	N/A
10*17675	L	9-15-3	GREGORY DEANE WIBLE AND CAROLYN JEAN WIBLE	TH EXPLORATION LLC	1/8+	923 507	N/A	N/A	N/A
10*17701	L	9-15-3	SUE ANN WORD	TH EXPLORATION, LLC	1/8+	923 470	N/A	N/A	N/A
10*17702	L	9-15-3	TAMMY BETH RAMSEY	TH EXPLORATION LLC	1/8+	925 500	N/A	N/A	N/A
10*17731	L	9-15-3	JAMES J MCGHEE AND JEANNINE CHAMBERS MCGHEE	TH EXPLORATION LLC	1/8+	914 519	N/A	N/A	N/A
10*47051.325.1	L	9-15-3	JUDITH A LEWANDOSKY AND ALAN E LEWANDOSKY	TH EXPLORATION LLC	1/8+	906 225	N/A	N/A	N/A
10*47051.325.3	L	9-15-3	NICHOLAS D PAVLIK AND GLORIA K PAVLIK	TH EXPLORATION LLC	1/8+	906 228	N/A	N/A	N/A
10*47051.325.4	L	9-15-3	JAMES H WHITE AND RITA FRANKS WHITE	TH EXPLORATION LLC	1/8+	906 230	N/A	N/A	N/A
10*47051.325.5	L	9-15-3	SAMUEL ALAN MCCORD AND WINIFRED A MCKEE	TH EXPLORATION LLC	1/8+	906 232	N/A	N/A	N/A
10*47051.325.6	L	9-15-3	THOMAS O MCCORD	TH EXPLORATION LLC	1/8+	906 235	N/A	N/A	N/A
10*47051.325.7	L	9-15-3	SHERON JONES	TH EXPLORATION LLC	1/8+	906 237	N/A	N/A	N/A
10*47051.325.8	L	9-15-3	RICK PAVLIK	TH EXPLORATION LLC	1/8+	906 239	N/A	N/A	N/A
10*16071	M	9-15-4	VIRGINIA LESLIE BERTRAM	TH EXPLORATION LLC	1/8+	901 370	N/A	N/A	N/A
10*16402	M	9-15-4	VALERIE L WAGNER	TH EXPLORATION LLC	1/8+	921 464	N/A	N/A	N/A
10*16421	M	9-15-4	SAMUEL EDGAR LEWIS AND ELIZABETH LEWIS	TH EXPLORATION LLC	1/8+	921 449	N/A	N/A	N/A
10*16491	M	9-15-4	BELA N WELLENREITER	TH EXPLORATION LLC	1/8+	921 467	N/A	N/A	N/A
10*17303	M	9-15-4	MICHAEL EVES	TH EXPLORATION LLC	1/8+	909 516	N/A	N/A	N/A
10*17320	M	9-15-4	ROBERT M RICHARDSON AND NANCY S RICHARDSON	TH EXPLORATION LLC	1/8+	909 528	N/A	N/A	N/A
10*17325	M	9-15-4	PHYLLIS ADAMS AND JOSEPH ADAMS	TH EXPLORATION LLC	1/8+	909 520	N/A	N/A	N/A
10*17340	M	9-15-4	JEAN R DRIGGERS AND WILLIAM C DRIGGERS	TH EXPLORATION LLC	1/8+	909 524	N/A	N/A	N/A
10*17341	M	9-15-4	JUDITH V RICHARDSON AND DENNIS L ROBICHAUD	TH EXPLORATION LLC	1/8+	921 456	N/A	N/A	N/A
10*17412	M	9-15-4	CHARLES L SHILLITO	TH EXPLORATION LLC	1/8+	921 458	N/A	N/A	N/A
10*17439	M	9-15-4	WILLARD D MCCALL JR AND ADELE HUEY MCCALL	TH EXPLORATION LLC	1/8+	921 454	N/A	N/A	N/A
10*17509	M	9-15-4	BRIAN A MCCALL	TH EXPLORATION LLC	1/8+	921 451	N/A	N/A	N/A
10*17525	M	9-15-4	PAUL W STIFEL AND MARY M GROVER-STIFEL	TH EXPLORATION LLC	1/8+	921 460	N/A	N/A	N/A
10*18294	M	9-15-4	MARY M AND WINFRED K MARTIN	TH EXPLORATION, LLC	1/8+	929 342	N/A	N/A	N/A
10*47051.318.46	M	9-15-4	CAROL L BOBBY AND DONALD J BOBBY	TH EXPLORATION LLC	1/8+	905 603	N/A	N/A	N/A
10*47051.318.48	M	9-15-4	DEBORAH SUE KYLE 231 EAST 24TH AVENUE	TH EXPLORATION LLC	1/8+	905 600	N/A	N/A	N/A



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

3. Successors and Assigns. The terms of this Assignment shall be binding upon and inure to the benefit of the parties hereto and each of their respective successors and assigns, and such terms shall be covenants running with the land, and with each subsequent transfer or assignment thereof.

4. Further Assurances. Assignor and Assignee hereby agree to take all actions and execute, acknowledge, and deliver all such instruments as are necessary or advisable to effectuate the purposes of this Assignment.

5. Counterparts; Recordation. This Assignment may be executed in any number of counterparts, each of which will be deemed an original instrument, but all of which shall collectively constitute one and the same instrument; provided that none of the parties will be bound to this Assignment unless and until all parties have executed a counterpart. For recording purposes, the signature and/or acknowledgment pages from multiple counterparts may be combined with one or more other counterparts without affecting the effect or validity of this Assignment. Assignee will be responsible for recording this Assignment in the appropriate public record, and will bear any costs associated with such recording.

6. Drafting. Preparation of this Assignment has been a joint effort of the parties and the resulting Assignment must not be construed more severely against any of the parties than against any other.

7. Incorporation. This Assignment is subject to and expressly incorporates the terms of the Acreage Trade Agreement by and between Assignor and Assignee. The Acreage Trade Agreement will govern to the extent of any conflict between the terms of this Assignment and the Acreage Trade Agreement.

(The remainder of this page intentionally left blank, signature pages to follow)

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WV Department of  
Environmental Protection

IN WITNESS WHEREOF, and intending to be legally bound hereby, Assignor and Assignee have caused this Assignment to be duly executed the day and year first above written.

ASSIGNOR:

CHEVRON U.S.A. INC.

By: Marc Tate  
Name: Marc Tate  
Title: Attorney-In-Fact

ASSIGNEE:

TH EXPLORATION, LLC

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

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Environmental Protection

IN WITNESS WHEREOF, and intending to be legally bound hereby, Assignor and Assignee have caused this Assignment to be duly executed the day and year first above written.

ASSIGNOR:

CHEVRON U.S.A. INC.

By: \_\_\_\_\_  
Name: Marc Tate  
Title: Attorney-In-Fact

ASSIGNEE:

TH EXPLORATION, LLC

By: David D. Kalish  
Name: David D. Kalish  
Title: VP-Land

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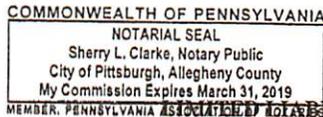
CORPORATE ACKNOWLEDGEMENT

STATE/Commonwealth of PENNSYLVANIA )  
 ) SS:  
COUNTY OF ALLEGHENY )

On this the 16th day of May, 2016, before me, SHERRY L. CLARKE the undersigned authority, personally appeared Marc Tate, who acknowledged himself to be the Attorney-In-Fact of **CHEVRON U.S.A. INC.**, a Pennsylvania corporation, and that he as such Attorney-In-Fact, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as Attorney-In-Fact.

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

MY COMMISSION EXPIRES: March 31, 2019



Sherry L. Clarke  
Notary Public

MEMBER, PENNSYLVANIA ASSOCIATED NOTARIES LIMITED LIABILITY COMPANY ACKNOWLEDGEMENT

STATE/Commonwealth of \_\_\_\_\_ )  
 ) SS:  
COUNTY OF \_\_\_\_\_ )

On this the \_\_\_\_\_ day of \_\_\_\_\_, 2016, before me, \_\_\_\_\_ the undersigned authority, personally appeared \_\_\_\_\_, who acknowledged himself to be a \_\_\_\_\_, a limited liability company and that he as such \_\_\_\_\_, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the limited liability company by himself as \_\_\_\_\_.

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

MY COMMISSION EXPIRES:

\_\_\_\_\_  
Notary Public

Prepared by:

CHEVRON U.S.A. INC.  
Attn: Land Department  
700 Cherrington Parkway,  
Coraopolis, PA 15108

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10/27/2017



**CORPORATE ACKNOWLEDGEMENT**

STATE/Commonwealth of PENNSYLVANIA )  
 ) SS:  
COUNTY OF ALLEGHENY )

On this the \_\_\_\_ day of \_\_\_\_\_, 2016, before me, \_\_\_\_\_  
the undersigned authority, personally appeared Marc Tate, who acknowledged himself to  
be the Attorney-In-Fact of CHEVRON U.S.A. INC., a Pennsylvania corporation, and that he as such  
Attorney-In-Fact, being authorized to do so, executed the foregoing instrument for the purposes therein  
contained by signing the name of the corporation by himself as Attorney-In-Fact.

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

MY COMMISSION EXPIRES:

\_\_\_\_\_  
Notary Public

**LIMITED LIABILITY COMPANY ACKNOWLEDGEMENT**

STATE/Commonwealth of Texas )  
 ) SS:  
COUNTY OF Tarrant )

On this the 17<sup>th</sup> day of May, 2016, before me,  
Jennifer Mchugh the undersigned authority, personally appeared David D. Kalish, who  
acknowledged himself to be Vice President Land of TH Exploration, a limited liability  
company and that he as such Vice President Land, being authorized to do so, executed the  
foregoing instrument for the purposes therein contained by signing the name of the limited liability  
company by himself as Vice President Land.

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

MY COMMISSION EXPIRES: 1-26-2019

Jennifer M. Hugh  
Notary Public

**Prepared by:**

CHEVRON U.S.A. INC.  
Attn: Land Department  
700 Cherrington Parkway,  
Coraopolis, PA 15108



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Environmental ProtectionEXHIBIT A - LEASES TO BE ASSIGNED TO TH EXPLORATION, LLC  
MARSHALL COUNTY, WEST VIRGINIA

Attached to and made a part of that certain Assignment and Conveyance effective May 17, 2016 between Chevron U.S.A. Inc. and TH Exploration, LLC

ID	AGMT NAME	LESSEE	EFF DT	BK - PG	INSTRUMENT NO.	DEPTH	GROSS ACRS	APN	LESS & EXCEPT
876481	ANDERSON CAROL J ET AL	CHEVRON USA INC	1/23/2012	BK 772 PG 226	INST 1327661	ALL	92.50	09-0007-0027-0000-0000; 09-0007-0029-0000-0000; 09-0007-0029-0001-0000	54.45 GROSS AC OF 09-0007-0027-0000-0000, 09-0007-0029-0000-0000, & 09-0007-0029-0001- 0000 (AS DEPICTED ON EXHIBIT A-1)
938387	ANDERSON EMMA - SFX	CHEVRON USA INC	3/26/2015	BK 861 PG 586	INST 1378408	UPP	87.40	09-0011-0006-0000-0000; 09-0011-0006-0001-0000; 09-0011-0006-0002-0000	
938586	ASTON DIANE B - SFX	CHEVRON USA INC	2/5/2015	BK 864 PG 595	INST 1380296	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
934693	ASTON DONALD - SFX	CHEVRON USA INC	8/31/2014	BK 848 PG 274	INST 1371515	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
934733	ASTON HENRY W - SFX	CHEVRON USA INC	8/19/2014	BK 847 PG 138	INST 1370856	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
936946	ASTON ISAAC R - SFX	CHEVRON USA INC	2/13/2015	BK 886 PG 136	INST 1396358	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
934692	ASTON JOSEPH JR AIF MELVIN J ASTON - SFX	CHEVRON USA INC	9/4/2014	BK 848 PG 280	INST 1371518	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
939812	ASTON MARY MARGARET - SFX	CHEVRON USA INC	3/4/2015	BK 868 PG 283	INST 1382307	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
934694	ASTON PAUL J - SFX	CHEVRON USA INC	8/31/2014	BK 848 PG 277	INST 1371517	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
936943	ASTON THOMAS G - SFX	CHEVRON USA INC	12/15/2014	BK 860 PG 083	INST 1377843	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
934570	BETTINAZZI ELLEN L - SFX	CHEVRON USA INC	8/19/2014	BK 847 BK 496	INST 1371048	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
938388	BONAR GARY M ET UX - SFX	CHEVRON USA INC	3/25/2015	BK 861 PG 577	INST 1378405	UPP	87.40	09-0011-0006-0000-0000; 09-0011-0006-0001-0000; 09-0011-0006-0002-0000	
917507	BOREN JAMIE C - SFX	CHEVRON USA INC	5/13/2013	BK 797 PG 331	INST 1344700	ALL	53.33	09-0006-0008-0000-0000	
934696	BURKEY DELLA M - SFX	CHEVRON USA INC	8/31/2014	BK 848 PG 435	INST 1371671	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
904336	BURNS CYNTHIA GAY - SFX	CHEVRON USA INC	10/12/2012	BK 782 PG 114	INST 1334035	ALL	53.33	09-0006-0008-0000-0000	
913307	CHERRY VICKI J ET VIR - SFX	CHEVRON USA INC	3/11/2013	BK 793 PG 318	INST 1342015	ALL	60.00	09-0006-0012-0000-0000	
933712	CHESTNUT HOLDINGS LLC	REPUBLIC ENERGY VENTURES LLC	6/17/2014	BK 839 PG 170	INST 1366448	ALL	126.89	09-0004-0018-0000-0000; 09-0006-0005-0000-0000	89.16 GROSS AC OF 09-0004-0018-0000-0000 & 09-0006-0005-0000-0000 (AS DEPICTED ON EXHIBIT A-2)
921543	CHK-MAC LLC	CHESAPEAKE APPALACHIA LLC	4/1/2013	BK 798 PG 150	INST 1345205	ALL	142.38	09-0012-0002-0000-0000	

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ID	AGMT NAME	LESSEE	EFF DT	BK - PG	INSTRUMENT NO.	DEPTH	GROSS ACRS	APN	LESS & EXCEPT
935623	CIRONE JUDITH A - SFX	CHEVRON USA INC	9/26/2014	BK 848 PG 428	INST 1371665	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
920633	CLARK ROBERT L - SFX	CHESAPEAKE APPALACHIA LLC	6/25/2009	BK 685 PG 239	INST 1274143	ALL	110.00	09-0011-0009-0000-0000; 09-0011-0010-0000-0000	
867835	COFFEY FRANCES - SFX	TRIENERGY HOLDINGS, LLC	9/1/2010	BK 718 PG 378	INST 1297328	ALL	486.46	09-0006-0009-0000-0000; 09-0006-0010-0000-0000; 09-0006-0011-0000-0000; 09-0006-0015-0000-0000; 09-0010-0009-0000-0000; 09-0010-0011-0000-0000; 09-0011-0012-0000-0000	
938389	COLLUMS JUDALENE K - SFX	CHEVRON USA INC	3/26/2015	BK 861 PG 571	INST 1378403	UPP	87.40	09-0011-0006-0000-0000; 09-0011-0006-0001-0000; 09-0011-0006-0002-0000	
935270	CONKLE LARRY LEE - SFX	CHEVRON USA INC	11/10/2014	BK 863 PG 354	INST 1379401	MCLS	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
935274	CONKLE ROY A - SFX	CHEVRON USA INC	11/10/2014	BK 863 PG 311	INST 1379391	MCLS	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
904443	CRADDOCK FLOY CARLEEN - SFX	CHEVRON USA INC	10/20/2012	BK 782 PG 348	INST 1334306	ALL	53.33	09-0006-0008-0000-0000	
936607	CRAWFORD MARTHA - SFX	CHEVRON USA INC	11/21/2014	BK 863 PG 542	INST 1379760	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
868163	CROW CARLA S	TRIENERGY HOLDINGS, LLC	12/16/2010	BK 728 PG 412	INST 1302558	ALL	6.34	09-0005-0017-0000-0000	
867834	CROW DAVID E - SFX	TRIENERGY HOLDINGS, LLC	10/12/2010	BK 718 PG 376	INST 1297352	ALL	486.46	09-0006-0009-0000-0000; 09-0006-0010-0000-0000; 09-0006-0011-0000-0000; 09-0006-0015-0000-0000; 09-0010-0009-0000-0000; 09-0010-0011-0000-0000; 09-0011-0012-0000-0000	
867845	CROW DESIRE L - SFX	TRIENERGY HOLDINGS, LLC	9/8/2010	BK 718 PG 334	INST 1297332	ALL	486.46	09-0006-0009-0000-0000; 09-0006-0010-0000-0000; 09-0006-0011-0000-0000; 09-0006-0015-0000-0000; 09-0010-0009-0000-0000; 09-0010-0011-0000-0000; 09-0011-0012-0000-0000	
921537	CROW ISAIC ET UX	CHESAPEAKE APPALACHIA LLC	12/25/1900	BK 74 PG 394	NA	ALL	30.00	09-0014-0024-0000-0000	

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ID	AGMT NAME	LESSEE	EFF DT	BK - PG	INSTRUMENT NO.	DEPTH	GROSS ACRES	APN	LESS & EXCEPT
868090	CROW JOHN - SFX	TRIENERGY HOLDINGS, LLC	3/9/2011	BK 726 PG 580	INST 1301672	ALL	486.46	09-0006-0009-0000-0000; 09-0006-0010-0000-0000; 09-0006-0011-0000-0000; 09-0006-0015-0000-0000; 09-0010-0009-0000-0000; 09-0010-0011-0000-0000; 09-0011-0012-0000-0000	
867844	CROW L PAUL - SFX	TRIENERGY HOLDINGS, LLC	9/9/2010	BK718 PG 336	INST 1297333	ALL	486.46	09-0006-0009-0000-0000; 09-0006-0010-0000-0000; 09-0006-0011-0000-0000; 09-0006-0015-0000-0000; 09-0010-0009-0000-0000; 09-0010-0011-0000-0000; 09-0011-0012-0000-0000	
868091	CROW TIMOTHY - SFX	TRIENERGY HOLDINGS, LLC	3/9/2011	BK 726 PG 582	INST 1301673	ALL	486.46	09-0006-0009-0000-0000; 09-0006-0010-0000-0000; 09-0006-0011-0000-0000; 09-0006-0015-0000-0000; 09-0010-0009-0000-0000; 09-0010-0011-0000-0000; 09-0011-0012-0000-0000	
920825	DAKAN JOSEPH D - SFX	CHESAPEAKE APPALACHIA LLC	11/18/2009	BK 695 PG 519	INST 1282558	ALL	131.00	09-0005-0004-0000-0000; 09-0005-0004-0001-0000	109 GROSS AC OF 09-0005-0004-0000-0000 & 09-0005-0004-0001-0000 (AS DEPICTED ON EXHIBIT A-1)
936819	DANIEL MARY JANE - SFX	CHEVRON USA INC	12/8/2014	BK 858 PG 028	INST 1376640	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
934698	DAVIS EMMA JANE - SFX	CHEVRON USA INC	8/31/2014	BK 848 PG 271	INST 1371513	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
934363	DAYTON JAMES W - SFX	CHEVRON USA INC	7/28/2014	BK 847 PG 567	INST 1371084	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
935254	DAYTON KENNETH L. - SFX	CHEVRON USA INC	11/4/2014	BK 852 PG 366	INST 1374060	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
940301	DAYTON WILLIAM E AIF CONNIE L DAYTON - SFX	CHEVRON USA INC	4/1/2015	BK 871 PG 190	INST 1384613	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
904731	DENMAN WILLIAM RIAL - SFX	CHEVRON USA INC	10/15/2012	BK 782 PG 109	INST 1334034	ALL	53.33	09-0006-0008-0000-0000	
920799	DOBBS GARY LEE - SFX	CHESAPEAKE APPALACHIA LLC	11/17/2009	BK 693 PG 289	INST 1280321	ALL	21.78	09-0014-0015-0000-0000	

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ID	AGMT NAME	LESSEE	EFF DT	BK - PG	INSTRUMENT NO.	DEPTH	GROSS ACRES	APN	LESS & EXCEPT
920798	DOBBS JOHN DANIEL - SFX	CHESAPEAKE APPALACHIA LLC	11/17/2009	BK 694 PG 125	INST 1280977	ALL	21.78	09-0014-0015-0000-0000	
920597	DOBBS WARREN J - SFX	CHESAPEAKE APPALACHIA LLC	7/7/2009	BK 686 PG 321	INST 1275436	ALL	91.00	09-0012-0020-0000-0000	
938584	EMERSON ANNA - SFX	CHEVRON USA INC	2/4/2015	BK 864 PG 603	INST 1380299	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
866416	FLETCHER JERRY ET UX - SFX	TRIENERGY, INC	5/22/2007	BK 661 PG 154	INST 117384	ALL	103.30	09-0007-0006-0000-0000	5.007 GROSS AC OF 09-0007-0006-0000-0000 (AS DEPICTED ON EXHIBIT A-1)
904339	FROHNAPFEL MARY RUTH - SFX	CHEVRON USA INC	10/10/2012	BK 781 PG 312	INST 1333615	ALL	60.00	09-0006-0012-0000-0000	
904744	FROWEN SANDRA - SFX	CHEVRON USA INC	10/10/2012	BK 781 PG 307	INST 1333614	ALL	60.00	09-0006-0012-0000-0000	
920827	GAST KAREN S - SFX	CHESAPEAKE APPALACHIA LLC	12/4/2009	BK 694 PG 534	INST 1281603	ALL	131.00	09-0005-0004-0000-0000; 09-0005-0004-0001-0000	109 GROSS AC OF 09-0005-0004-0000-0000 & 09-0005-0004-0001-0000 (AS DEPICTED ON EXHIBIT A-1)
923484	GATTS YVONNE S - SFX	CHEVRON USA INC	6/10/2014	BK 835 PG 035	INST 1364246	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
867879	GELLNER DIANNE ET VIR - SFX	TRIENERGY HOLDINGS, LLC	9/13/2010	BK 718 PG 345	INST 1297334	ALL	486.46	09-0006-0009-0000-0000; 09-0006-0010-0000-0000; 09-0006-0011-0000-0000; 09-0006-0015-0000-0000; 09-0010-0009-0000-0000; 09-0010-0011-0000-0000; 09-0011-0012-0000-0000	
920828	GONTA ADA HAZEL - SFX	CHESAPEAKE APPALACHIA LLC	12/15/2009	BK 695 PG 183	INST 1281936	ALL	131.00	09-0005-0004-0000-0000; 09-0005-0004-0001-0000	109 GROSS AC OF 09-0005-0004-0000-0000 & 09-0005-0004-0001-0000 (AS DEPICTED ON EXHIBIT A-1)
907366	GOODNIGHT ARNIE ET UX	CHEVRON USA INC	8/23/2012	BK 777 PG 059	INST 1330837	ALL	101.73	09-0007-0005-0000-0000; 09-0007-0014-0000-0000	44.11 GROSS AC OF 09-0007-0005-0000-0000 & 09-0007-0014-0000-0000 (AS DEPICTED ON EXHIBIT A-1)
920824	GORBY IVAN F - SFX	CHESAPEAKE APPALACHIA LLC	11/23/2009	BK 695 PG 527	INST 1282565	ALL	131.00	09-0005-0004-0000-0000; 09-0005-0004-0001-0000	109 GROSS AC OF 09-0005-0004-0000-0000 & 09-0005-0004-0001-0000 (AS DEPICTED ON EXHIBIT A-1)
920826	GORBY JOHN E - SFX	CHESAPEAKE APPALACHIA LLC	11/24/2009	BK 695 PG 523	INST 1282562	ALL	131.00	09-0005-0004-0000-0000; 09-0005-0004-0001-0000	109 GROSS AC OF 09-0005-0004-0000-0000 & 09-0005-0004-0001-0000 (AS DEPICTED ON EXHIBIT A-1)
904623	GROVES FLOYDENE S - SFX	CHEVRON USA INC	10/31/2012	BK 783 PG 619	INST 1335464	ALL	53.33	09-0006-0008-0000-0000	

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921585	HAGEDORN CHARLES R JR ET UX - SFX	CHEVRON USA INC	12/12/2013	BK 816 PG 423	INST 1355767	ALL	206.89	09-0007-0003-0000-0000; 09-0007-0003-0001-0000	61.39 GROSS AC OF 09-0007-0003-0000-0000 & 09-0007-0003-0001-0000 (AS DEPICTED ON EXHIBIT A-1)
913313	HAMAR JEFFIE - SFX	CHEVRON USA INC	2/21/2013	BK 792 PG 213	INST 1341258	ALL	53.33	09-0006-0008-0000-0000	
866788	HARTZELL RAY C ET UX	AB RESOURCES LLC	10/20/2009	BK 689 PG 162	INST 1277848	ALL	34.50	09-0006-0013-0000-0000	
868227	HARVETH RICHARD L ET UX	TRIENERGY HOLDINGS, LLC	1/3/2011	BK 729 PG 638	INST 1303323	ALL	1.65	09-0014-0054-0000-0000	
917603	HAVINS WILLIAM K - SFX	CHEVRON USA INC	5/29/2013	BK 800 PG 144	INST 1346383	ALL	53.33	09-0006-0008-0000-0000	
921295	HAYHURST A FLORIDA COMPANY	CHESAPEAKE APPALACHIA LLC	11/12/2010	BK 724 PG 008	INST 1300160	MCLS	91.65	09-0011-0013-0000-0000	
921292	HAYHURST A FLORIDA COMPANY - SFX	CHESAPEAKE APPALACHIA LLC	11/12/2010	BK 724 PG 009	INST 1300161	MCLS	94.36	09-0014-0001-0000-0000; 09-0014-0001-0001-0000; 09-0014-0002-0000-0000; 09-0014-0003-0000-0000; 09-0014-0004-0000-0000; 09-0014-0005-0000-0000; 09-0014-0006-0000-0000; 09-0014-0007-0000-0000; 09-0014-0008-0000-0000; 09-0014-0009-0000-0000; 09-0014-0010-0000-0000	
921293	HAYHURST COMPANY - SFX	CHESAPEAKE APPALACHIA LLC	11/12/2010	BK 727 PG 253	INST 1301999	ALL	5.00	09-0012-0031-0000-0000	
920634	HAYHURST COMPANY A FLORIDA COMPANY - SFX	CHESAPEAKE APPALACHIA LLC	5/5/2010	BK 715 PG 442	INST 1296144	ALL	110.00	09-0011-0009-0000-0000; 09-0011-0010-0000-0000	
923477	HEINZEROTH DAVID - SFX	CHEVRON USA INC	6/16/2014	BK 836 PG 219	INST 13650150	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
923465	HELPER JANE L - SFX	CHEVRON USA INC	6/19/2014	BK 836 PG 342	INST 1365241	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
940302	HENCEROTH DOUGLAS PAUL AIF EMILY M HENCEROTH - SFX	CHEVRON USA INC	3/28/2015	BK 871 PG 193	INST 1384615	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
937573	HENCEROTH EMILY M - SFX	CHEVRON USA INC	1/8/2015	BK 862 PG 574	INST 1379327	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
937574	HENNIGER GEORGE E - SFX	CHEVRON USA INC	1/6/2015	BK 863 PG 612	INST 1379787	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	

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867883	HOLLIDAY JACQUELINE ET VIR - SFX	TRIENERGY HOLDINGS, LLC	9/18/2010	BK 718 PG 347	INST 1297336	MCLS	486.46	09-0006-0009-0000-0000; 09-0006-0010-0000-0000; 09-0006-0011-0000-0000; 09-0006-0015-0000-0000; 09-0010-0009-0000-0000; 09-0010-0011-0000-0000; 09-0011-0012-0000-0000	
866651	HUBBS ROBERT ET AL	CHIEF EXPLORATION & DEVELOPMENT LLC	9/8/2008	BK 677 PG 521	INST 1265447	ALL	108.61	09-0007-0007-0000-0000	102.669 GROSS AC OF 09-0007-0007-0000-0000 (AS DEPICTED ON EXHIBIT A-1)
935291	HUGHES TERESA ANNE - SFX	CHEVRON USA INC	11/10/2014	BK 863 PG 343	INST 1379398	MCLS	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
938390	HUPP NAOMI - SFX	CHEVRON USA INC	3/27/2015	BK 861 PG 604	INST 1378413	UPP	87.40	09-0011-0006-0000-0000; 09-0011-0006-0001-0000; 09-0011-0006-0002-0000	
904435	JARMON JOYCE HOPE - SFX	CHEVRON USA INC	10/17/2012	BK 782 PG 329	INST 1334301	ALL	53.33	09-0006-0008-0000-0000	
935256	JOHNSON NORMAN G - SFX	CHEVRON USA INC	9/30/2014	BK 848 PG 363	INST 1371653	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
923479	JONES MARIAN D - SFX	CHEVRON USA INC	6/10/2014	BK 835 PG 038	INST 1364247	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
904727	KAY ALTA BELL - SFX	CHEVRON USA INC	10/15/2012	BK 782 PG 089	INST 1334031	ALL	53.33	09-0006-0008-0000-0000	
867329	KELLEY DONALD B ET UX - SFX	TRIENERGY HOLDINGS, LLC	3/17/2010	BK 704 PG 348	INST 1288929	ALL	48.05	9999-0000-4470-0900	
920436	KERNS WILLIAM F ET UX	CHESAPEAKE APPALACHIA LLC	1/16/2009	BK 677 PG 561	INST 1265702	ALL	87.40	09-0011-0006-0000-0000; 09-0011-0006-0001-0000; 09-0011-0006-0002-0000	
867836	KEYES KAY - SFX	TRIENERGY HOLDINGS, LLC	9/2/2010	BK 718 PG 330	INST 1297329	ALL	486.46	09-0006-0009-0000-0000; 09-0006-0010-0000-0000; 09-0006-0011-0000-0000; 09-0006-0015-0000-0000; 09-0010-0009-0000-0000; 09-0010-0011-0000-0000; 09-0011-0012-0000-0000	

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867855	KIELGCZEWSKI ROSE MARIE - SFX	TRIENERGY HOLDINGS, LLC	9/9/2010	BK 718 PG 354	INST 1297338	ALL	486.46	09-0006-0009-0000-0000; 09-0006-0010-0000-0000; 09-0006-0011-0000-0000; 09-0006-0015-0000-0000; 09-0010-0009-0000-0000; 09-0010-0011-0000-0000; 09-0011-0012-0000-0000	
936942	KUHN MARY GLADYS BY AIF CONNIE LYONS - SFX	CHEVRON USA INC	12/15/2014	BK 860 PG 089	INST 1377845	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
940181	LAUGHTON GLEN MATTHEW - SFX	CHEVRON USA INC	5/14/2015	BK 873 PG 324	INST 1386674	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
935259	LAUGHTON RONALD BEN - SFX	CHEVRON USA INC	11/1/2014	BK 852 PG 360	INST 1374057	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
944097	LEACH DONALD E ET AL	CHEVRON USA INC	10/14/2015	BK 882 PG 209	INST 1393778	ALL	12.73	09-0005-0018-0000-0000; 09-0005-0020-0000-0000	
918258	LEVESQUE REBECCA BELL - SFX	CHEVRON USA INC	6/10/2013	BK 800 PG 515	INST 1346808	ALL	53.33	09-0006-0008-0000-0000	
904791	LEWIS MERRIET E- SFX	CHEVRON USA INC	10/11/2012	BK 782 PG125	INST 1334057	ALL	53.33	09-0006-0008-0000-0000	
904540	LITTLEFIELD JO ANN - SFX	CHEVRON USA INC	10/23/2012	BK 783 PG 141	INST 1334954	ALL	53.33	09-0006-0008-0000-0000	
913328	LOWRY CHARLOTTE L - SFX	CHEVRON USA INC	2/22/2013	BK 792 PG 208	INST 1341257	ALL	53.33	09-0006-0008-0000-0000	
904528	MADISON ANN - SFX	CHEVRON USA INC	10/25/2012	BK 783 PG 176	INST 1334966	ALL	53.33	09-0006-0008-0000-0000	
866663	MASON JAMES ET AL	AB RESOURCES LLC	9/30/2009	BK 692 PG 461	INST 1279606	ALL	180.99	09-0010-0004-0000-0000; 09-0010-0005-0000-0000; 09-0010-0006-0000-0000; 09-0006-0014-0000-0000	ALL OF 09-0010-0004-0000-0000 (OR 67.29 GROSS AC AS DEPICTED ON EXHIBIT A-2)
894583	MASON RONALD KEITH ET UX - SFX	CHEVRON USA INC	5/21/2012	BK 772 PG 445	INST 1327926	ALL	60.00	09-0006-0012-0000-0000	
920491	MASON VICKIE - SFX	CHESAPEAKE APPALACHIA LLC	4/14/2009	BK 680 PG 413	INST 1268757	ALL	33.33	09-0011-0003-0000-0000	
920504	MASON VICKIE - SFX	CHESAPEAKE APPALACHIA LLC	4/14/2009	BK 680 PG 405	INST 1268754	ALL	36.51	09-0010-0012-0000-0000	
920498	MASON VICKIE FKA CROW VICKIE J - SFX	CHESAPEAKE APPALACHIA LLC	4/14/2009	BK 680 PG 409	INST 1268755	ALL	71.12	09-0010-0013-0000-0000	
920636	MASON VICKIE J AKA CROW VICKIE J - SFX	CHESAPEAKE APPALACHIA LLC	6/22/2009	BK 686 PG 239	INST 1275410	ALL	106.89	09-0011-0005-0000-0000	
920279	MCCARDLE KENNETH M ET UX REV LIVING TRST	CHEVRON USA INC	12/18/2013	BK 816 PG 499	INST 1355787	ALL	109.95	09-0011-0011-0000-0000	
921162	MCCONNELL WILLIAM D	CHESAPEAKE APPALACHIA LLC	5/8/2010	BK 715 PG 447	INST 1296148	ALL	15.00	09-0010-0014-0000-0000	

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ID	AGMT NAME	LESSEE	EFF DT	BK - PG	INSTRUMENT NO.	DEPTH	GROSS ACRS	APN	LESS & EXCEPT
937840	MCGILTON KEVIN E ET UX - SFX	CHEVRON USA INC	1/5/2015	BK 850 PG 351	INST 1372504	MCLS	63.51	09-0007-0016-0000-0000; 09-0007-0017-0000-0000; 09-0007-0018-0000-0000; 09-0007-0019-0000-0000; 09-0007-0020-0000-0000	22.9 GROSS AC OF 09-0007-0016-0000-0000, 09-0007-0017-0000-0000 & 09-0007-0018-0000- 0000 (AS DEPICTED ON EXHIBIT A-1)
920644	MEADE ORVILLE JACKSON - SFX	CHESAPEAKE APPALACHIA LLC	8/14/2009	BK 687 PG 144	INST 1277086	ALL	47.25	09-0013-0022-0000-0000	
921558	MONEY FOR MINERALS LLC - SFX	CHEVRON USA INC	12/6/2013	BK 817 PG 424	INST 1356188	ALL	103.21	09-0015-0018-0000-0000	
866498	MOORE, RONALD AND EDNA	TRIENERGY, INC	6/4/2007	BK 661 PG 449	INST 1316895	ALL	154.44	09-0007-0012-0000-0000; 09-0007-0012-0001-0000; 09-0007-0013-0000-0000	38.37 GROSS AC OF 09-0007-0012-0001-0000 (AS DEPICTED ON EXHIBIT A-1)
904730	MORGAN LAURA L - SFX	CHEVRON USA INC	10/11/2012	BK 782 PG 119	INST 1334038	ALL	53.33	09-0006-0008-0000-0000	
938587	MYERS PATTY L - SFX	CHEVRON USA INC	2/10/2015	BK 867 PG 100	INST 1381450	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
935261	OLDFIELD KAREN KAY - SFX	CHEVRON USA INC	10/14/2014	BK 854 PG 111	INST 1375382	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
936443	OLDFIELD KENNETH WENDELL - SRX	CHEVRON USA INC	11/7/2014	BK 861 PG 589	INST 1378409	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
866771	OTT BETTY R	TRIENERGY HOLDINGS, LLC	10/12/2009	BK 687 PG 604	INST 1276968	ALL	11.43	09-0005-0014-0004-0000; 09-0005-0019-0000-0000	7.33 GROSS AC OF 09-0005-0014-0004-0000 (AS DEPICTED ON EXHIBIT A-1)
906791	PATRELLA VINCENT ET UX - SFX	CHEVRON USA INC	12/20/2012	BK 789 PG 446	INST 1339783	ALL	162.69	09-0006-0003-0000-0000; 09-0010-0003-0000-0000	ALL OF 09-0006-0003-0000-0000 (OR 96.937 GROSS AC AS DEPICTED ON EXHIBIT A-2)
867833	PHELPS ELAINE ET VIR - SFX	TRIENERGY HOLDINGS, LLC	9/1/2010	BK 718 PG 326	INST 1297327	ALL	486.46	09-0006-0009-0000-0000; 09-0006-0010-0000-0000; 09-0006-0011-0000-0000; 09-0006-0015-0000-0000; 09-0010-0009-0000-0000; 09-0010-0011-0000-0000; 09-0011-0012-0000-0000	
904539	PRICKETT CHARLOTTE - SFX	CHEVRON USA INC	10/25/2012	BK 783 PG 191	INST 1334969	ALL	53.33	09-0006-0008-0000-0000	
920833	RAJU PATSY JO - SFX	CHESAPEAKE APPALACHIA LLC	12/11/2009	BK 694 PG 561	INST 1281612	ALL	131.00	09-0005-0004-0000-0000; 09-0005-0004-0001-0000	109 GROSS AC OF 09-0005-0004-0000-0000 & 09-0005-0004-0001-0000 (AS DEPICTED ON EXHIBIT A-1)
923481	REYNOLDS SHARON M - SFX	CHEVRON USA INC	6/18/2014	BK 840 PG 322	INST 1367225	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
923480	RINE CHARLES A - SFX	CHEVRON USA INC	6/10/2014	BK 835 PG 022	INST 1364242	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	

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936941	RINE DANIEL L - SFX	CHEVRON USA INC	12/15/2014	BK 860 PG 086	INST 1377844	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
923467	RINE DAVID F - SFX	CHEVRON USA INC	6/19/2014	BK 837 PG 130	INST 1365603	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
923478	RINE GLADYS M - SFX	CHEVRON USA INC	6/18/2014	BK 836 PG 329	INST 1365236	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
934362	RINE JAY LEROY - SFX	CHEVRON USA INC	7/31/2014	BK 840 PG 319	INST 1367240	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
935383	RINE MICHAEL J ET UX	CENTRAL MICHIGAN EXPLORATION LLC	3/13/2008	BK 668 PG 147	INST 1252027	ALL	107.46	09-0007-0001-0000-0000	
923470	RINE PAUL WAYNE - SFX	CHEVRON USA INC	7/22/2014	BK 837 PG 133	INST 1365607	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
923476	RINE PHILLIP C - SFX	CHEVRON USA INC	6/18/2014	BK 836 PG 332	INST 1365238	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
906416	ROUPE CHRISTOPHER A ET UX - SFX	CHEVRON USA INC	12/20/2012	BK 789 PG 439	INST 1339782	ALL	162.69	09-0006-0003-0000-0000; 09-0010-0003-0000-0000	ALL OF 09-0006-0003-0000-0000 (OR 96.937 GROSS AC AS DEPICTED ON EXHIBIT A-2)
906599	ROUPE WILLIAM B - SFX	CHEVRON USA INC	12/20/2012	BK 789 PG 430	INST 1339781	ALL	162.69	09-0006-0003-0000-0000; 09-0010-0003-0000-0000	ALL OF 09-0006-0003-0000-0000 (OR 96.937 GROSS AC AS DEPICTED ON EXHIBIT A-2)
906598	ROUPE WILLIAM N ET UX - SFX	CHEVRON USA INC	12/20/2012	BK 789 PG 415	INST 1339776	ALL	162.69	09-0006-0003-0000-0000; 09-0010-0003-0000-0000	ALL OF 09-0006-0003-0000-0000 (OR 96.937 GROSS AC AS DEPICTED ON EXHIBIT A-2)
923482	RUCKMAN GLADYS - SFX	CHEVRON USA INC	6/16/2014	BK 840 PG 319	INST 1367224	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
920599	SAMPSON RUTH NAOMI BY AIF SAMPSON H CARL - SFX	CHESAPEAKE APPALACHIA LLC	7/15/2009	BK 686 PG 284	INST 1275425	ALL	91.00	09-0012-0020-0000-0000	
936448	SEAVER JENNIFER - SFX	CHEVRON USA INC	11/10/2014	BK 853 PG 272	INST 1374550	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
936350	SEAVER PAULA R	CHEVRON USA INC	11/1/2014	BK 853 PG 483	INST 1374550	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
935264	SEAVER ROBERT J - SFX	CHEVRON USA INC	10/9/2014	BK 854 PG 077	INST 1375364	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
913324	SIBURT ALAN K ET UX - SFX	CHEVRON USA INC	3/11/2013	BK 793 PG 325	INST 1342017	ALL	60.00	09-0006-0012-0000-0000	
913322	SIBURT JAMES B ET UX - SFX	CHEVRON USA INC	3/11/2013	BK 793 PG 332	INST 1342018	ALL	60.00	09-0006-0012-0000-0000	
904346	SIBURT KENNETH D - SFX	CHEVRON USA INC	10/10/2012	BK 781 PG 218	INST 1333354	ALL	60.00	09-0006-0012-0000-0000	
913327	SIBURT RODNEY L - SFX	CHEVRON USA INC	3/12/2013	BK 793 PG 346	INST 1342020	ALL	60.00	09-0006-0012-0000-0000	

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ID	AGMT NAME	LESSEE	EFF DT	BK - PG	INSTRUMENT NO.	DEPTH	GROSS ACRS	APN	LESS & EXCEPT
938219	SNYDER MICHAEL J	CHEVRON USA INC	1/16/2015	BK 865 PG 186	INST 1380389	MCLS	99.02	09-0005-0005-0000-0000; 09-0005-0005-0001-0000; 09-0005-0005-0002-0000; 09-0005-0005-0003-0000; 09-0005-0005-0004-0000; 09-0005-0021-0000-0000; 09-0005-0022-0000-0000; 09-0005-0023-0000-0000; 09-0005-0024-0000-0000	50 GROSS AC OF 09-0005-0005-0000-0000, 09-0005-0005-0001-0000, 09-0005-0005-0002-0000, 09-0005-0005-0003-0000, 09-0005-0005-0004-0000, 09-0005-0021-0000-0000, 09-0005-0022-0000-0000 & 09-0005-0023-0000-0000 (AS DEPICTED ON EXHIBIT A-1)
920645	SNYDER TAMALA JANE - SFX	CHESAPEAKE APPALACHIA LLC	8/14/2009	BK 687 PG 151	INST 1277088	ALL	47.25	09-0013-0022-0000-0000	
920492	SOUTH MARY A - SFX	CHESAPEAKE APPALACHIA LLC	4/18/2009	BK 682 PG 231	INST 1270057	ALL	33.33	09-0011-0003-0000-0000	
920499	SOUTH MARY A - SFX	CHESAPEAKE APPALACHIA LLC	4/18/2009	BK 681 PG 410	INST 1269482	ALL	71.12	09-0010-0013-0000-0000	
920506	SOUTH MARY A - SFX	CHESAPEAKE APPALACHIA LLC	4/18/2009	BK 681 PG 414	INST 1269483	ALL	36.51	09-0010-0012-0000-0000	
920638	SOUTH MARY A - SFX	CHESAPEAKE APPALACHIA LLC	9/11/2009	BK 690 PG 615	INST 1278434	ALL	106.89	09-0011-0005-0000-0000	
923483	STALNAKER KATHERINE A	CHEVRON USA INC	6/12/2014	BK 840 PG 325	INST 1367227	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
867769	STERN WILLIAM K ET UX	NPAR, LLC	9/6/2010	BK 718 PG 320	INST 1297324	ALL	121.85	09-0014-0020-0000-0000; 09-0014-0020-0002-0000	
923074	STEVENS SARAH - SFX	CHEVRON USA INC	5/8/2014	BK 834 PG 432	INST 1364045	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
923341	STEVENS THOMAS L - SFX	CHEVRON USA INC	5/26/2014	BK 836 PG 290	INST 1365221	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
935249	STIRLING LAWRENCE W - SFX	CHEVRON USA INC	11/3/2014	BK 852 PG 384	INST 1374067	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
904726	STURMAN CRAIG - SFX	CHEVRON USA INC	10/12/2012	BK 782 PG 130	INST 1334059	ALL	53.33	09-0006-0008-0000-0000	
904747	STURMAN JANIE E	CHEVRON USA INC	10/10/2012	BK 782 PG 140	INST 1334062	ALL	53.33	09-0006-0008-0000-0000	
904728	STURMAN JOHN FRANK - SFX	CHEVRON USA INC	10/12/2012	BK 782 PG 135	INST 1334060	ALL	53.33	09-0006-0008-0000-0000	
904723	STURMAN WILLIAM H - SFX	CHEVRON USA INC	10/10/2012	BK 782 PG 145	INST 1334063	ALL	53.33	09-0006-0008-0000-0000	
868107	VENANGO 21ST CENTURY ENERGY INC - SFX	TRIENERGY HOLDINGS, LLC	8/24/2010	BK 722 PG 281	INST 1299176	ALL	206.89	09-0007-0003-0000-0000	56.9 GROSS AC OF 09-0007-0003-0000-0000 (AS DEPICTED ON EXHIBIT A-1)
920598	WADE SHARON KAY - SFX	CHESAPEAKE APPALACHIA LLC	7/7/2009	BK 686 PG 262	INST 1275417	ALL	91.00	09-0012-0020-0000-0000	

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866754	WELLMAN RALPH E - SFX	TRIENERGY HOLDINGS, LLC	7/29/2009	BK 686 PG 412	INST 1275614	ALL	206.89	09-0007-0003-0000-0000 09-0007-0003-0001-0000	61.39 GROSS AC OF 09-0007-0003-0000-0000 & 09-0007-0003-0001 (AS DEPICTED ON EXHIBIT A-1)
934438	WHEELER SUSAN JANE - SFX	CHEVRON USA INC	8/6/2014	BK 847 PG 473	INST 1371041	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
920493	WHETZAL MARK L - SFX	CHESAPEAKE APPALACHIA LLC	5/7/2009	BK 682 PG 544	INST 1270655	ALL	33.33	09-0011-0003-0000-0000	
920500	WHETZAL MARK L - SFX	CHESAPEAKE APPALACHIA LLC	5/7/2009	BK 682 PG 560	INST 1270659	ALL	71.12	09-0010-0013-0000-0000	
920507	WHETZAL MARK L - SFX	CHESAPEAKE APPALACHIA LLC	5/7/2009	BK 683 PG 073	INST 1271009	ALL	36.51	09-0010-0012-0000-0000	
920641	WHETZAL MARK L - SFX	CHESAPEAKE APPALACHIA LLC	11/12/2009	BK 693 PG 576	INST 1280826	ALL	106.89	09-0011-0005-0000-0000	
920494	WHETZAL RAY A JR - SFX	CHESAPEAKE APPALACHIA LLC	5/7/2009	BK 682 PG 548	INST 1270656	ALL	33.33	09-0011-0003-0000-0000	
920501	WHETZAL RAY A JR - SFX	CHESAPEAKE APPALACHIA LLC	5/7/2009	BK 682 PG 584	INST 1270661	ALL	71.12	09-0010-0013-0000-0000	
920508	WHETZAL RAY A JR - SFX	CHESAPEAKE APPALACHIA LLC	5/7/2009	BK 683 PG 069	INST 1271008	ALL	36.51	09-0010-0012-0000-0000	
920640	WHETZAL RAY A JR - SFX	CHESAPEAKE APPALACHIA LLC	11/12/2009	BK 693 PG 571	INST 1280825	ALL	106.89	09-0011-0005-0000-0000	
920496	WHETZAL ROBERT L - SFX	CHESAPEAKE APPALACHIA LLC	5/12/2009	BK 682 PG 552	INST 1270657	ALL	33.33	09-0011-0003-0000-0000	
920503	WHETZAL ROBERT L - SFX	CHESAPEAKE APPALACHIA LLC	5/12/2009	BK 682PG 500	INST 1270641	ALL	71.12	09-0010-0013-0000-0000	
920509	WHETZAL ROBERT L - SFX	CHESAPEAKE APPALACHIA LLC	5/12/2009	BK 682 PG 536	INST 1270653	ALL	36.51	09-0010-0012-0000-0000	
920639	WHETZAL ROBERT L - SFX	CHESAPEAKE APPALACHIA LLC	10/9/2009	BK 690 PG 559	INST 1278415	ALL	106.89	09-0011-0005-0000-0000	
920497	WHETZAL SHARON L - SFX	CHESAPEAKE APPALACHIA LLC	5/20/2009	BK 682 PG 556	INST 1270658	ALL	33.33	09-0011-0003-0000-0000	
920502	WHETZAL SHARON L - SFX	CHESAPEAKE APPALACHIA LLC	5/20/2009	BK 682 PG 568	INST 1270663	ALL	71.12	09-0010-0013-0000-0000	
920510	WHETZAL SHARON L - SFX	CHESAPEAKE APPALACHIA LLC	5/20/2009	BK 682 PG 540	INST 1270654	ALL	36.51	09-0010-0012-0000-0000	
920637	WHETZAL SHARON L - SFX	CHESAPEAKE APPALACHIA LLC	8/13/2009	BK 687 PG 147	INST 1277087	ALL	106.89	09-0011-0005-0000-0000	
936506	WHETZEL BRENDA JOYCE - SFX	CHEVRON USA INC	11/10/2014	BK 863 PG 635	INST 1379799	MCLS	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	

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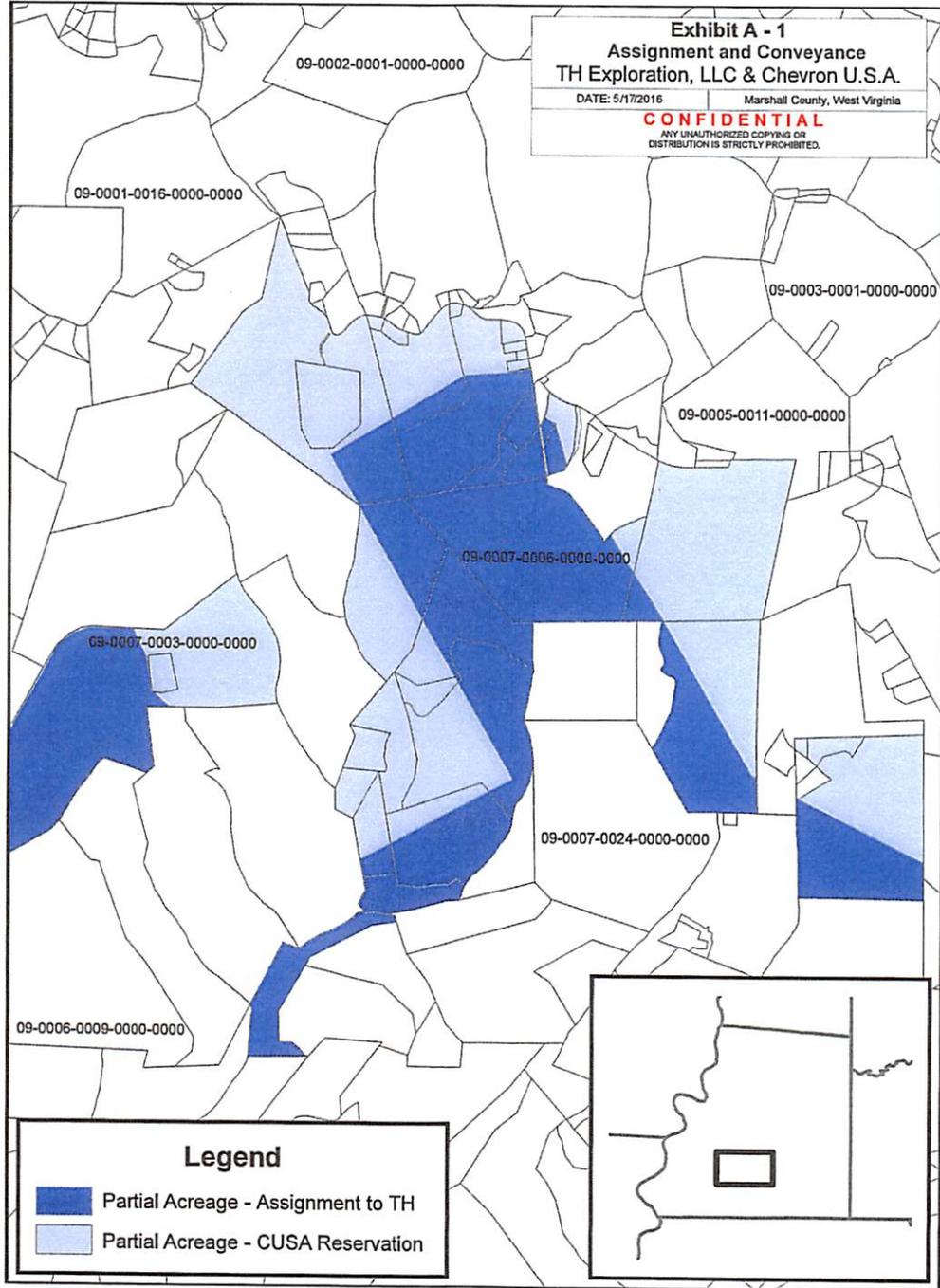
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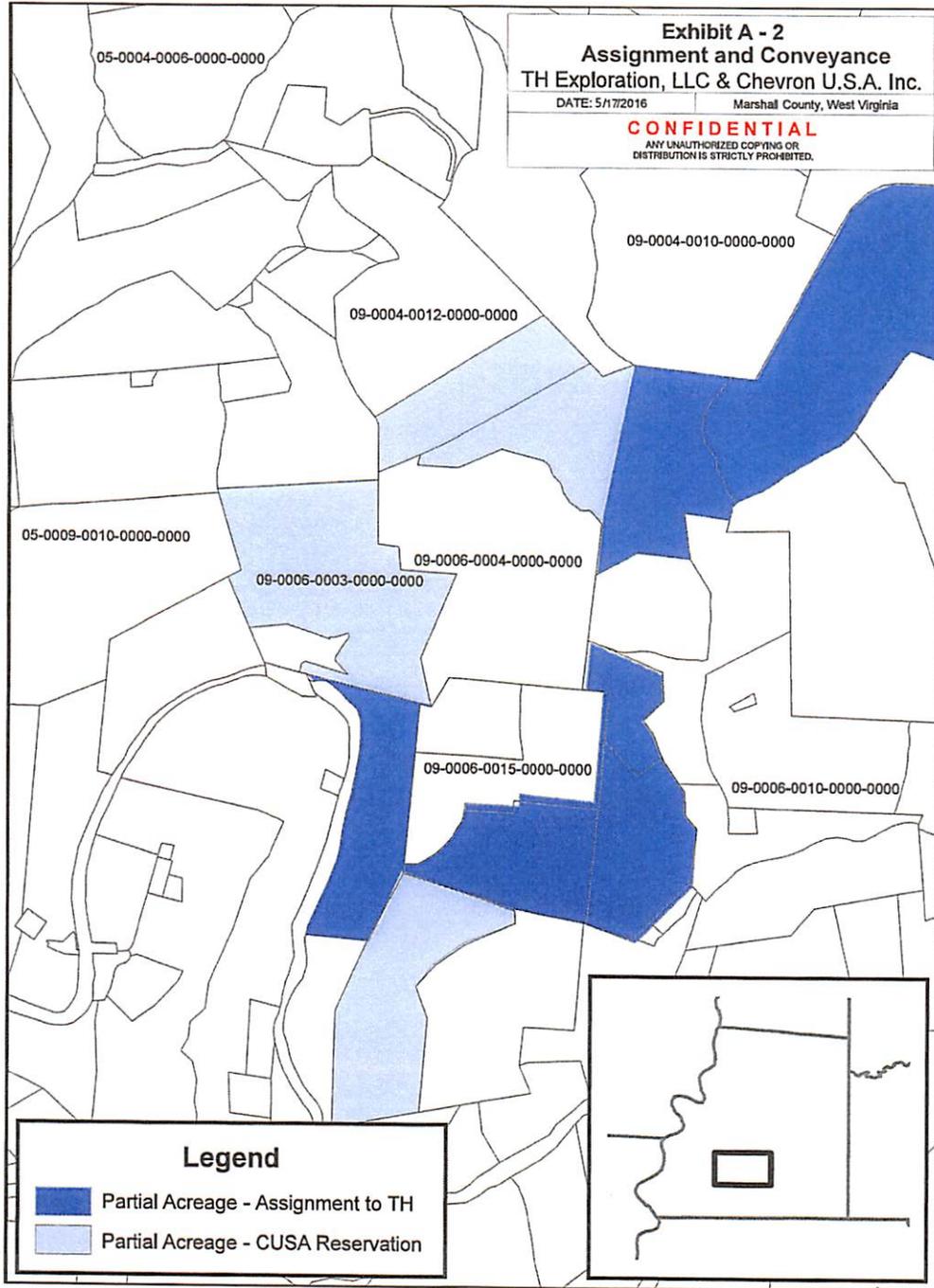
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906502	WHITLATCH RICKY L ET AL	CHEVRON USA INC	9/15/2012	BK 780 PG 226	INST 1333035	ALL	143.66	09-0007-0015-0000-0000; 09-0007-0021-0000-0000; 09-0007-0030-0000-0000; 09-0007-0031-0000-0000	73.28 GROSS AC OF 09-0007-0015-0000-0000, 09-0007-0021-0000-0000, 09-0007-0030-0000- 0000 & 09-0007-0031-0000-0000 (AS DEPICTED ON EXHIBIT A-1)
923073	WILHELM MICHELLE R - SFX	CHEVRON USA INC	5/12/2014	BK 834 PG 456	INST 1364057	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
923108	WORKMAN ARTHUR R ET UX - SFX	CHEVRON USA INC	5/20/2014	BK 837 PG 361	INST 1365803	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
866564	YEATER SHERWOOD - SFX	TRIENERGY, INC	5/29/2007	BK 748 PG 268	INST 117736	ALL	103.30	09-0007-0006-0000-0000	5.007 GROSS AC OF 09-0007-0006-0000-0000 (AS DEPICTED ON EXHIBIT A-1)
934697	ZEHNDER RONALD A - SFX	CHEVRON USA INC	8/27/2014	BK 847 PG 213	INST 1370895	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	
923076	ZHENDER ROBERT S - SFX	CHEVRON USA INC	5/9/2014	BK 834 PG 437	INST 1364046	ALL	151.79	09-0007-0022-0000-0000; 09-0007-0024-0000-0000	



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**Exhibit A - 2**  
**Assignment and Conveyance**  
 TH Exploration, LLC & Chevron U.S.A. Inc.  
 DATE: 5/17/2016      Marshall County, West Virginia  
**CONFIDENTIAL**  
 ANY UNAUTHORIZED COPYING OR  
 DISTRIBUTION IS STRICTLY PROHIBITED.

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 2nd day of May, 2016, was presented for and by me, admitted to record in my office upon the above certificate as to the parties therein named this 20th day of May, 2016 at 12:43 o'clock P.M.

CPS 5M 4/16

TESTE: Jan Pest

Clerk **RECEIVED**  
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047-051-01964

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

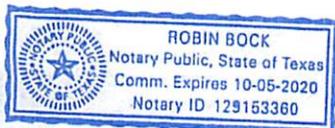
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MARSHALL County 03:44:28 PM  
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Document Type HIS  
Pages Recorded 1  
Book-Page 28-62  
Recording Fee \$5.00  
Additional \$6.00

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

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10/27/2017



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**MEMORANDUM OF AGREEMENT**

This Memorandum of Agreement is entered into this 17 day of August, 2017, between **Tug Hill Operating, LLC (THQ)**, a Texas limited liability company, whose address is 1320 S. University Drive, Suite 500, Fort Worth, TX 76107, and **EQT Production Company (EQT)**, a Pennsylvania company, whose address is 625 Liberty Avenue, Suite 1700, Pittsburgh, PA 15222.

**PARTIES AND AGREEMENT REFERENCE:** THQ and EQT entered into a letter agreement ("Letter Agreement") dated August 17, 2017 (the "Commencement Date") outlining their intent to pursue definitive agreements allowing, among other things, THQ to develop those certain oil and gas leases controlled by EQT in the Meade District of Marshall County, West Virginia, dated March 15, 2008 and April 1, 2008 and of record in Book 668, Page 605 and Book 673, Page 431, respectively, in the Office of the Clerk of the County Commission of the aforesaid County and State, and granting THQ the right to proceed with permitting certain horizontal wells through such EQT oil and gas lease.

**Parcel Numbers: 9-15-15 & 9-15-3**

1. **TERM:** The well permitting rights granted to THQ in the Letter Agreement will terminate upon the earlier of (i) one hundred eighty (180) days from the Commencement Date, or (ii) the parties entering into the definitive agreement(s) described in the Letter Agreement.

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

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

Tug Hill Operating, LLC

[Signature]

By: SEAN WILLIS

Its: VICE PRESIDENT

EQT Production Company

[Signature]

By: Erin R. Centofanti  
Senior Vice President

Its: Development

Marshall County  
Jan Pest, Clerk  
Instrument 1428633  
08/22/2017 @ 03:37:00 PM  
AGREEMENT  
Book 936 @ Page 589  
Pages Recorded 3  
Recording Cost \$ 11.0

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

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WV Department of  
Environmental Protection

10/27/2017

STATE OF Texas \_\_\_\_\_;

COUNTY OF Tarrant \_\_\_\_\_:

Before me, Kaitlin McCawley, a Notary Public, on this day personally appeared Sean Willis, known to me to be the Vice President of Engineering & Development, manager AP Region, 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 21 day of August, 2017. My Commission expires: 05/08/2021.

[SEAL]



Kaitlin McCawley  
Notary Public

STATE OF \_\_\_\_\_;

COUNTY OF \_\_\_\_\_:

Before me, \_\_\_\_\_, a Notary Public, on this day personally appeared \_\_\_\_\_, known to me to be the \_\_\_\_\_ of \_\_\_\_\_, 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 \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_. My Commission expires: \_\_\_\_\_.

[SEAL]

\_\_\_\_\_  
Notary Public

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Environmental Protection

STATE OF \_\_\_\_\_;

COUNTY OF \_\_\_\_\_;

Before me, \_\_\_\_\_, a Notary Public, on this day personally appeared \_\_\_\_\_, known to me to be the \_\_\_\_\_ of \_\_\_\_\_, 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 \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_. My Commission expires: \_\_\_\_\_.

[SEAL]

\_\_\_\_\_  
Notary Public

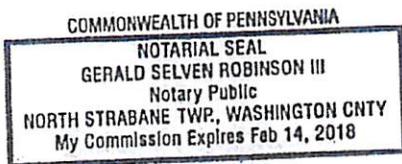
COMMONWEALTH OF PENNSYLVANIA;

COUNTY OF ALLEGHENY:

Before me, Gerald Selven Robinson, III, a Notary Public, on this day personally appeared Erin Centofanti, known to me to be the Senior Vice President of Asset Development of EQT Production Company, 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 17th day of August, 2017. My Commission expires: February 14, 2018.

[SEAL]

  
\_\_\_\_\_  
Notary Public



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10/27/2017



August 16, 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 1S-5HM

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 1S-5HM well plat. THO has conducted a full title search in the relevant Court House to confirm its ownership under said County Routes and is not currently aware of any recorded document that would suggest an ownership other than THO.

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

Sincerely,

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

Amy L. Miller  
Permitting Specialist - Appalachia

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

Date of Notice Certification: 04/21/2017

API No. 47- 051 -

Operator's Well No. Ten High 1S-5HM

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>527307.78</u>
County:	<u>Marshall</u>		Northing:	<u>4406356.83</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 checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED  <input type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or  <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)  <input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION  <input checked="" type="checkbox"/> 5. PUBLIC NOTICE  <input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		<b>OOG OFFICE USE ONLY</b>  <input checked="" type="checkbox"/> RECEIVED/ NOT REQUIRED  <input type="checkbox"/> RECEIVED  <input checked="" type="checkbox"/> RECEIVED/ NOT REQUIRED   <input checked="" type="checkbox"/> RECEIVED  <input checked="" type="checkbox"/> RECEIVED  <input checked="" type="checkbox"/> RECEIVED
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**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.

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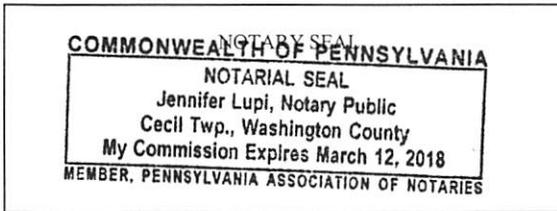
10/27/2017

**Certification of Notice is hereby given:**

THEREFORE, I Amy L. 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: Tug Hill Operating, LLC  
By: Amy L. Miller  
Its: Permitting Specialist - Appalachia  
Telephone: 724-749-8388

Address: 380 Southpointe Blvd, Southpointe Plaza II, Suite 200  
Canonsburg, PA 15317  
Facsimile: 724-338-2030  
Email: amiller@tug-hillop.com



Subscribed and sworn before me this 16<sup>th</sup> day of August, 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 [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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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: 8/16/2017 Date Permit Application Filed: 8/17/2017

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. Otte  
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: 46226 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

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WW-6A  
(8-13)

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Office of Oil and Gas  
API NO. 47- 051 -  
OPERATOR WELL NO. Ten High 1S-5HM  
Well Pad Name: Ten High  
AUG 25 2017  
WV Department of  
Environmental Protection

047-051-01964

**Notice is hereby given:**

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

**This Notice Shall Include:**

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

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

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

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

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

**Well Location Restrictions**

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

10/27/2017



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

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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.

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API NO. 47-051 047-051-01964  
OPERATOR WELL NO. Ten High 1S-6HM  
Well Pad Name: Ten High

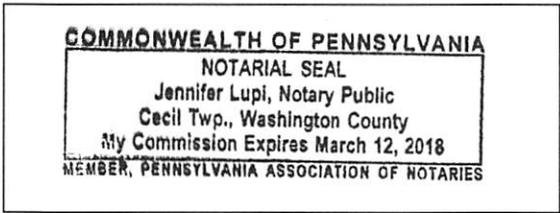
**Notice is hereby given by:**

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



Subscribed and sworn before me this 16<sup>th</sup> day of Aug., 2017.  
Jennifer Lupi Notary Public  
My Commission Expires March 12, 2018

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Operator Well Nos. TEN HIGH 1S-5HM

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

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

**Exhibit WW-6A**

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

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

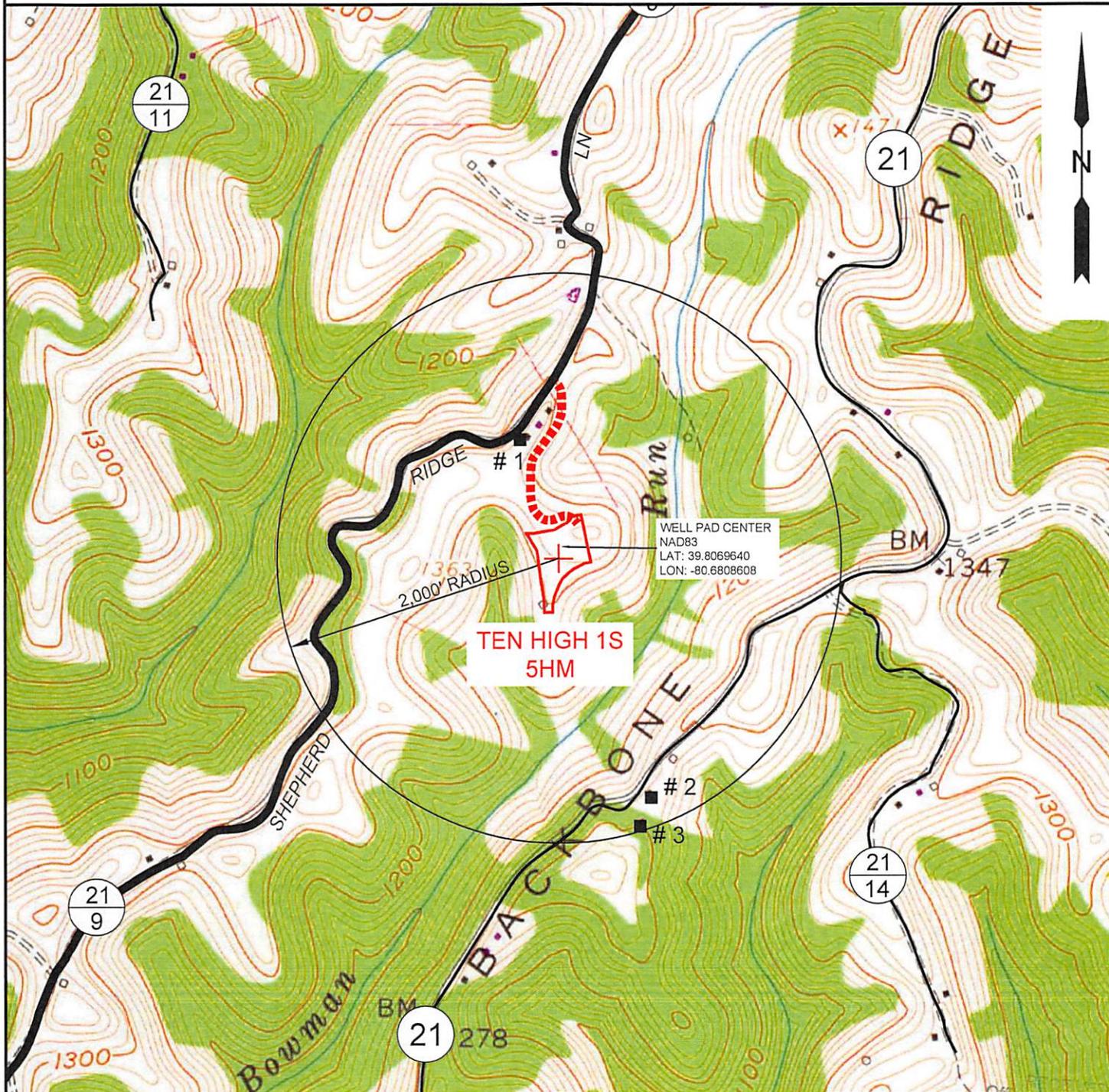
Well: Ten High 1S – 5HM  
 District: Meade (House #'s 1-3)  
 State: WV

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.

<p><b>House 1</b>            TM 7 Pcl. 24            Lawrence &amp; Shirley Conkle Ests            Phone: 304-845-1808; 304-848-1808  <b>Physical Address:</b>            77B Shepards Lane            932 Shepherd Ridge Ln.            Glen Easton, WV 26039  <b>Tax Address:</b>            75 Arlington Ave.            Moundsville, WV 26041</p>	<p><b>House 2</b>            TM 7 Pcl. 25            Thomas R. &amp; Kimberly Whitfield            Phone: 304-843-1753  <b>Physical Address:</b>            53 Sallys Backbone Rd.            1834 Sally's Backbone Rd.            Glen Easton, WV 26039  <b>Tax Address:</b>            1838 Sallys Backbone Rd.            Glen Easton, WV 26039</p>	<p><b>House 3</b>            TM 7 Pcl. 25            Thomas R. &amp; Kimberly Whitfield            Phone: 304-843-1753  <b>Physical Address:</b>            53 Sallys Backbone Rd.            1838 Sally's Backbone Rd.            Glen Easton, WV 26039  <b>Tax Address:</b>            Same</p>
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# PROPOSED TEN HIGH 1S - 5HM



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

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Land & Energy Development  
Solutions from the ground up.  
P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26351 • (304) 462-5634  
www.slsurveys.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR:	
COUNTY	DISTRICT	TUG HILL OPERATING, LLC	
MARSHALL	MEADE	380 SOUTHPOINTE BLVD	
		SUITE 200	
		CANONSBURG, PA 15317	
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	8655	08-09-17	1" = 1000'



**TUG HILL**  
OPERATING

10/27/2017

WW-6A3  
(1/12)

Operator Well No. TEN HIGH 1S-5HM

**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:** December 9, 2016      **Date of Planned Entry:** December 20, 2016

**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.

Address: 75 ARLINGTON AVENUE  
MOUNDSVILLE, WV 26041

Name: LARRY CONKLE

Address: 154 CONKLE DRIVE  
GLEN EASTON, WV 26039      **\*\*SEE ATTACHED\*\***

COAL OWNER OR LESSEE

Name: MURRAY ENERGY CORPORATION

Address: 46226 NATIONAL ROAD  
ST. CLAIRSVILLE, OH 43950

MINERAL OWNER(s)

Name: ESTATE OF LAWRENCE & SHIRLEY MAE CONKLE c/o Roy Conkle

Address: 75 ARLINGTON AVENUE  
MOUNDSVILLE, WV 26041      **\*\*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 -80.6809192</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 CONKLE, SR.</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: TUG HILL OPERATING, LLC

Telephone: (724) 749-8388

Email: jwhite@tug-hilltop.com

Address: 380 SOUTHPOINTE BLVD., SOUTHPOINTE PLAZA II, SUITE 200  
CANONSBURG, PA 15317

Facsimile: (724) 388-2030

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**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).

**10/27/2017**

Operator Well No. TEN HIGH 1S-5HM

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

**Surface Owner(s):**

**Name:** Teresa Hughes /  
**Address:** 252 Conkle Drive  
Glen Easton, WV 26039

Brenda Joyce Wetzel /  
RD 1, Box 79  
Glen Easton, WV 26039

**Surface Owner(s) Access Road:**

**Name:** Robert G. Hubbs and Scarlett E. Otte /  
132 Sheperd Ridge Lane  
Glen Easton, WV 26039

**Mineral Owner(s):**

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

Larry Conkle /  
154 Conkle Drive  
Glen Easton, WV 26039

Teresa Hughes /  
252 Conkle Drive  
Glen Easton, WV 26039

Brenda Joyce Wetzel /  
RD 1, Box 79  
Glen Easton, WV 26039

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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:** 08/14/2017      **Date Permit Application Filed:** 08/18/2017

**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 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\*\***

**Notice is hereby given:**

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

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>527,307.78</u>
County: <u>Marshall</u>		Northing: <u>4,406,356.83</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>		

**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: amiller@tug-hillop.com

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

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Operator Well Nos. TEN HIGH 1S-5HM

**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

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## WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

## Division of Highways

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

Jim Justice  
Governor

Thomas J. Smith, P. E.  
Secretary of Transportation/  
Commissioner of Highways

May 16, 2017

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

Subject: DOH Permit for the Ten High 1N Pad, Marshall County  
Ten High 1S Unit-5HM Well site

47-51-01964

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2017-0127 which has 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,

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

Cc: Jonathan White  
Tug Hill Operating, LLC  
CH, OM, D-6  
File

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

Well No. Ten High 1S-5HM

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

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**APPROVED**  
**WVDEP OOG**  
 5/18/2017

**Exhibit A: Final Design - Issue for Permitting**

**Ten High Well Site**  
 Site Design, Construction Plan, &  
 Erosion and Sediment Control Plans  
 Tug Hill Operating  
 Meade District  
 Marshall County  
 Latitude 39 80696402°  
 Longitude -80 68086081°  
 Middle Fish Creek Watershed

**Permit Site Information**  
 Ten High Well Site  
 Emergency Number: 304-845-1920  
 Meade District, Marshall County, WV  
 Watershed: Middle Fish Creek Watershed  
 Tug Hill Contact Number: 1-817-632-3400



Scale	Horizontal	Vertical
1" = 100'	1" = 100'	1" = 100'
1" = 200'	1" = 200'	1" = 200'
1" = 300'	1" = 300'	1" = 300'
1" = 400'	1" = 400'	1" = 400'
1" = 500'	1" = 500'	1" = 500'

<b>Project Contacts</b>	<b>Owner and Designer</b>
<b>Lead Designer:</b> Tug Hill Operating 10000 Tug Hill Road Meade, WV 26041	<b>Lead Designer:</b> K&S Engineering, Inc. 10000 Tug Hill Road Meade, WV 26041
<b>Project Location:</b> Ten High Well Site Meade District Marshall County, WV	<b>Project Location:</b> Ten High Well Site Meade District Marshall County, WV
<b>Project Schedule:</b> Start Date: 12/2016 End Date: 12/2017	<b>Project Schedule:</b> Start Date: 12/2016 End Date: 12/2017

<b>Adjacent Owners</b>	<b>Adjacent Owners</b>
North: [Owner Name]	South: [Owner Name]
East: [Owner Name]	West: [Owner Name]

<b>Legend</b>	<b>Legend</b>
1. Proposed Well	1. Proposed Well
2. Proposed Access Road	2. Proposed Access Road
3. Proposed Erosion Control	3. Proposed Erosion Control
4. Proposed Sediment Control	4. Proposed Sediment Control
5. Proposed Stormwater Management	5. Proposed Stormwater Management
6. Proposed Utility Lines	6. Proposed Utility Lines
7. Proposed Fencing	7. Proposed Fencing
8. Proposed Signage	8. Proposed Signage
9. Proposed Survey Points	9. Proposed Survey Points
10. Proposed Easement	10. Proposed Easement

**TUG HILL OPERATING**  
 THE EXHIBIT IS PREPARED FOR [Client Name]  
 K&S Engineering, Inc.  
 10000 Tug Hill Road  
 Meade, WV 26041  
 Scale: As Shown  
 Date: 05/18/2017  
 Sheet: 25 of 33

10/27/2017

