



west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

March 6, 2018
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

TUG HILL OPERATING, LLC
1320 SOUTH UNIVERSITY DRIVE, SUITE 500

FORT WORTH , TX 76107

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

Modified Lateral

TUG HILL OPERATING, LLC

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin
Chief

Operator's Well Number: TEN HIGH 1S-5HM
Farm Name: LAWRENCE & SHIRLEY CONKLE ESTS
U.S. WELL NUMBER: 47-051-01964-00-00
Horizontal 6A / New Drill
Date Issued: March 6, 2018

Promoting a healthy environment.

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 Oil Underground Storage

Other _____

(b) If Gas Shallow Deep

Horizontal

6) Existing Pad: Yes or No No

Jan 12/20/17

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: 17,466'

11) Proposed Horizontal Leg Length: ~~40,180'~~ *FE 9711.69'* ^{LA}

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 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.

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	110'	100'	216FT^3(CTS)
Fresh Water	13 3/8"	NEW	H40	48#	1,086'	1,076'	1039ft^3(CTS)
Coal	13 3/8"	NEW	H40	48#	1,086'	1,076'	1039ft^3(CTS)
Intermediate	9 5/8"	NEW	J55	36#	2,814'	2,804'	917ft^3(CTS)
Production	5 1/2"	NEW	P110	20#	17,476'	17,466'	4456ft^3(CTS)
Tubing	2 3/8"	NEW	N80	4.7#		7,120'	
Liners	N/A						

Ju
12/20/17

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			

WW-6B
(10/14)

API NO. 47-051 - 01964 MOD
OPERATOR WELL NO. Ten High 1S-5HM
Well Pad Name: Ten High

JZ
12/20/11

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 25,450,000 lb proppant and 393,476 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

*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 CaCl₂ + 46.5% Fresh Water*

- Premium NE-1 – Class A Portland API spec
- CaCl₂ – 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
- CaCl₂ – 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



Well: Ten High 1S-05HM (P)
 Site: Ten High
 Project: Marshall County, West Virginia
 Design: rev3

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 1 1/100' build
3	2500.00	5.00	259.46	2459.37	-3.99	-21.43	1.00	259.46	-4.72	Begin 5.00' tangent
4	4006.37	5.00	259.46	4000.00	-28.00	-150.51	0.00	0.00	-33.14	Begin 3 7/100' build
5	4639.18	23.98	259.46	4609.88	-56.85	-305.48	3.00	-0.01	-67.25	Begin 23.98' tangent
6	6336.63	23.98	259.46	6160.77	-183.11	-883.83	0.00	0.00	-216.55	Begin 10 7/100' build/turn
7	7285.69	89.00	155.00	6742.00	-795.21	-969.51	10.00	-103.65	352.33	Begin 89.00° lateral section
8	7505.69	89.00	155.00	6745.84	-894.57	-876.55	0.00	0.00	572.16	Begin 2 7/100' turn
9	7755.68	89.00	150.00	6750.20	-1216.21	-761.17	2.00	-90.01	821.28	Begin 89.00° lateral section
10	17465.58	89.00	150.00	6919.13	-9523.91	4093.13	0.00	0.00	0458.17	PBHL/TD 17465.58 MD/6919.13 TVD

Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD83 West Virginia - HARN
 Ellipsoid: GRS 1990
 Zone: Zone 17N (B4 W to 78 W)

System Datum: Mean Sea Level
 Depth Reference: GL=1310 @ 1310.00usft

Northing: 14456508.50 Easting: 1730099.88 Latitude: 39.80670630 Longitude: -80.88076685

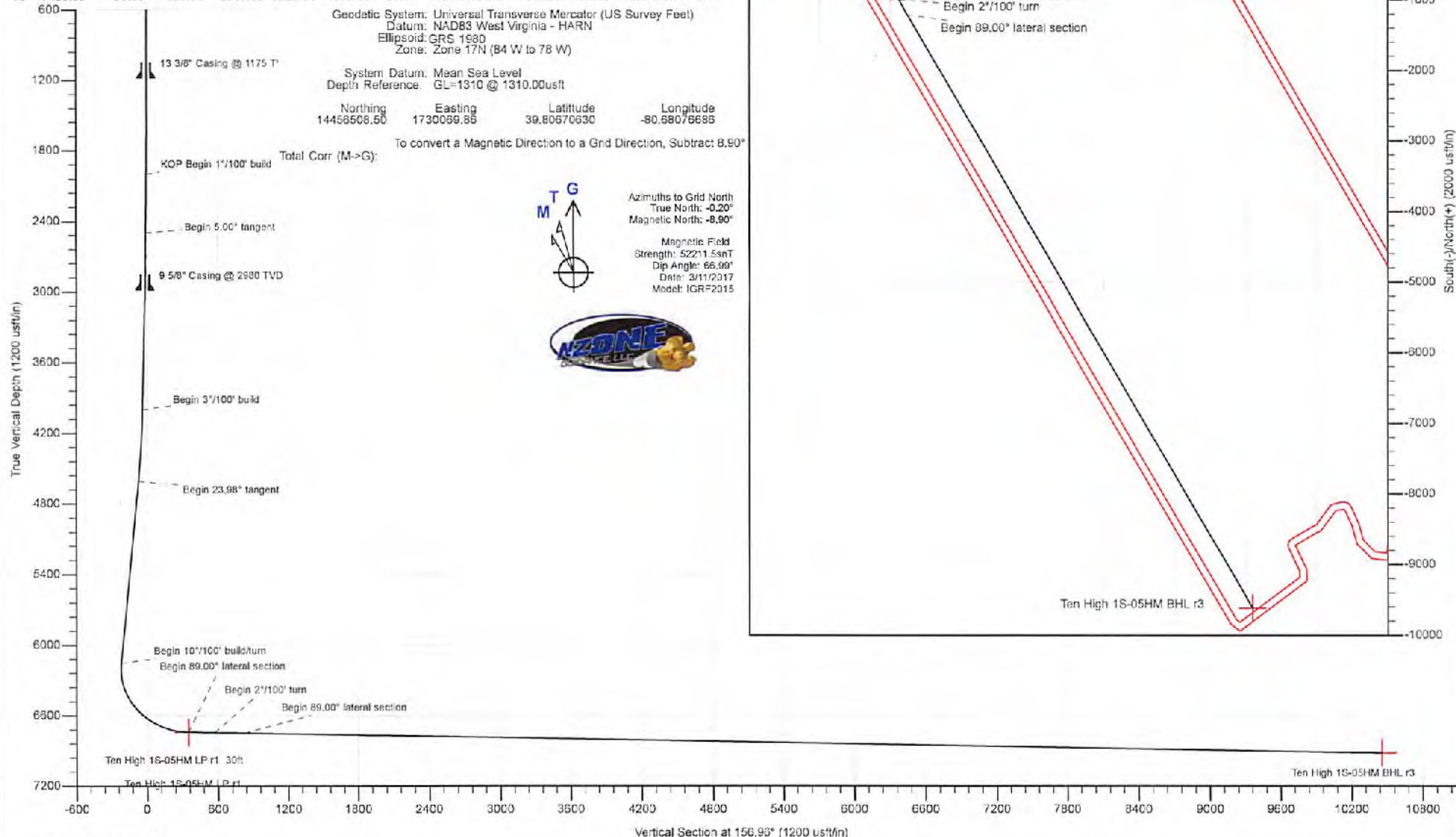
To convert a Magnetic Direction to a Grid Direction, Subtract 8.90°

Total Corr. (M->G):



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



SI-01964 map



Planning Report - Geographic

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ten High 1S-05HM (P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL=1310 @ 1310.00usft
Project:	Marshall County, West Virginia	MD Reference:	GL=1310 @ 1310.00usft
Site:	Ten High	North Reference:	Grid
Well:	Ten High 1S-05HM (P)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

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

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

Well	Ten High 1S-05HM (P)					
Well Position	+N/-S	0.00 usft	Northing:	14,456,508.50 usft	Latitude:	39.80670630
	+E/-W	0.00 usft	Easting:	1,730,069.86 usft	Longitude:	-80.68076686
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft	Ground Level:	1,310.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/11/2017	-8.70	66.98	52,211.45563010

Design	rev3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	156.96

Plan Survey Tool Program	Date	12/15/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,464.80 rev3 (Original Hole)	MWD	
			MWD - Standard	

51-01964/med



Planning Report - Geographic

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ten High 1S-05HM (P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL=1310 @ 1310.00usft
Project:	Marshall County, West Virginia	MD Reference:	GL=1310 @ 1310.00usft
Site:	Ten High	North Reference:	Grid
Well:	Ten High 1S-05HM (P)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

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		
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00		
2,500.00	5.00	259.46	2,499.37	-3.99	-21.43	1.00	1.00	0.00	259.46		
4,006.37	5.00	259.46	4,000.00	-28.00	-150.51	0.00	0.00	0.00	0.00		
4,639.18	23.98	259.46	4,609.88	-56.85	-305.48	3.00	3.00	0.00	-0.01		
6,336.63	23.98	259.46	6,160.77	-183.11	-983.83	0.00	0.00	0.00	0.00		
7,285.69	89.00	155.00	6,742.00	-795.21	-969.51	10.00	6.85	-11.01	-103.65	Ten High 1S-05HM LF	
7,505.69	89.00	155.00	6,745.84	-994.57	-878.55	0.00	0.00	0.00	0.00		
7,755.68	89.00	150.00	6,750.20	-1,216.21	-761.17	2.00	0.00	-2.00	-90.01		
17,465.58	89.00	150.00	6,919.13	-9,623.91	4,093.13	0.00	0.00	0.00	0.00	Ten High 1S-05HM BI	



Planning Report - Geographic

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ten High 1S-05HM (P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL=1310 @ 1310.00usft
Project:	Marshall County, West Virginia	MD Reference:	GL=1310 @ 1310.00usft
Site:	Ten High	North Reference:	Grid
Well:	Ten High 1S-05HM (P)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

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	14,456,508.50	1,730,059.86	39.80670630	-80.68076686	
100.00	0.00	0.00	100.00	0.00	0.00	14,456,508.50	1,730,089.88	39.80670630	-80.68076686	
200.00	0.00	0.00	200.00	0.00	0.00	14,456,508.50	1,730,059.86	39.80670630	-80.68076686	
300.00	0.00	0.00	300.00	0.00	0.00	14,456,508.50	1,730,089.88	39.80670630	-80.68076686	
400.00	0.00	0.00	400.00	0.00	0.00	14,456,508.50	1,730,059.86	39.80670630	-80.68076686	
500.00	0.00	0.00	500.00	0.00	0.00	14,456,508.50	1,730,089.88	39.80670630	-80.68076686	
600.00	0.00	0.00	600.00	0.00	0.00	14,456,508.50	1,730,089.88	39.80670630	-80.68076686	
700.00	0.00	0.00	700.00	0.00	0.00	14,456,508.50	1,730,059.86	39.80670630	-80.68076686	
800.00	0.00	0.00	800.00	0.00	0.00	14,456,508.50	1,730,089.88	39.80670630	-80.68076686	
900.00	0.00	0.00	900.00	0.00	0.00	14,456,508.50	1,730,059.86	39.80670630	-80.68076686	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,456,508.50	1,730,089.88	39.80670630	-80.68076686	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,456,508.50	1,730,089.86	39.80670630	-80.68076686	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,456,508.50	1,730,089.88	39.80670630	-80.68076686	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,456,508.50	1,730,089.86	39.80670630	-80.68076686	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,456,508.50	1,730,089.88	39.80670630	-80.68076686	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,456,508.50	1,730,089.86	39.80670630	-80.68076686	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,456,508.50	1,730,089.88	39.80670630	-80.68076686	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,456,508.50	1,730,059.86	39.80670630	-80.68076686	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,456,508.50	1,730,089.88	39.80670630	-80.68076686	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,456,508.50	1,730,059.86	39.80670630	-80.68076686	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,456,508.50	1,730,089.88	39.80670630	-80.68076686	
KOP Begin 1°/100' build										
2,100.00	1.00	259.46	2,099.99	-0.16	-0.88	14,456,508.34	1,730,089.00	39.80670587	-80.68076992	
2,200.00	2.00	259.46	2,199.96	-0.64	-3.43	14,456,507.87	1,730,066.43	39.80670458	-80.68077909	
2,300.00	3.00	259.46	2,299.86	-1.44	-7.72	14,456,507.07	1,730,082.14	39.80670243	-80.68079437	
2,400.00	4.00	259.46	2,399.67	-2.55	-13.72	14,456,505.95	1,730,056.14	39.80669943	-80.68081575	
2,500.00	5.00	259.46	2,499.36	-3.99	-21.43	14,456,504.52	1,730,048.43	39.80669556	-80.68084323	
2,500.00	5.00	259.46	2,499.37	-3.99	-21.43	14,456,504.52	1,730,048.43	39.80669556	-80.68084323	
Begin 5.00° tangent										
2,599.99	5.00	259.46	2,598.98	-5.56	-30.00	14,456,502.92	1,730,039.86	39.80669127	-80.68087378	
2,699.99	5.00	259.46	2,698.80	-7.18	-38.57	14,456,501.33	1,730,031.29	39.80668697	-80.68090429	
2,799.99	5.00	259.46	2,798.22	-8.77	-47.14	14,456,499.73	1,730,022.72	39.80668268	-80.68093482	
2,899.99	5.00	259.46	2,897.84	-10.37	-55.71	14,456,498.14	1,730,014.15	39.80667838	-80.68096535	
2,999.99	5.00	259.46	2,997.46	-11.96	-64.28	14,456,496.54	1,730,005.59	39.80667409	-80.68099588	
3,099.99	5.00	259.46	3,097.08	-13.55	-72.85	14,456,494.95	1,729,997.02	39.80666979	-80.68102641	
3,199.99	5.00	259.46	3,196.70	-15.15	-81.41	14,456,493.36	1,729,988.45	39.80666550	-80.68105694	
3,299.99	5.00	259.46	3,296.31	-16.74	-89.98	14,456,491.76	1,729,979.88	39.80666120	-80.68108747	
3,399.99	5.00	259.46	3,395.93	-18.34	-98.55	14,456,490.17	1,729,971.31	39.80665691	-80.68111800	
3,499.99	5.00	259.46	3,495.55	-19.93	-107.12	14,456,488.57	1,729,962.74	39.80665262	-80.68114853	
3,599.99	5.00	259.46	3,595.17	-21.53	-115.69	14,456,486.98	1,729,954.17	39.80664832	-80.68117906	
3,699.99	5.00	259.46	3,694.79	-23.12	-124.26	14,456,485.38	1,729,945.61	39.80664403	-80.68120959	
3,799.99	5.00	259.46	3,794.41	-24.71	-132.83	14,456,483.79	1,729,937.04	39.80663973	-80.68124012	
3,899.99	5.00	259.46	3,894.03	-26.31	-141.39	14,456,482.20	1,729,928.47	39.80663544	-80.68127065	
3,999.99	5.00	259.46	3,993.65	-27.90	-149.96	14,456,480.60	1,729,919.90	39.80663114	-80.68130118	
4,006.37	5.00	259.46	4,000.00	-28.00	-150.51	14,456,480.50	1,729,919.35	39.80663087	-80.68130313	
Begin 3°/100' build										
4,099.99	7.81	259.46	4,093.03	-29.91	-160.77	14,456,478.59	1,729,909.09	39.80662572	-80.68133971	
4,199.99	10.81	259.46	4,191.70	-32.87	-176.67	14,456,475.63	1,729,893.19	39.80661775	-80.68139836	
4,299.99	13.81	259.46	4,289.39	-36.77	-197.63	14,456,471.73	1,729,872.23	39.80660725	-80.68147103	
4,399.99	16.81	259.46	4,385.83	-41.60	-223.58	14,456,466.90	1,729,846.28	39.80659424	-80.68156350	
4,499.99	19.81	259.46	4,480.76	-47.35	-254.46	14,456,461.15	1,729,815.40	39.80657875	-80.68167353	
4,599.99	22.81	259.46	4,573.91	-54.00	-290.19	14,456,454.50	1,729,779.68	39.80656084	-80.68180081	
4,639.18	23.98	259.46	4,609.88	-56.85	-305.48	14,456,451.66	1,729,764.38	39.80655317	-80.68185532	
Begin 23.98° tangent										

SI-01964
MWB



Planning Report - Geographic

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ten High 1S-05HM (P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL=1310 @ 1310.00usft
Project:	Marshall County, West Virginia	MD Reference:	GL=1310 @ 1310.00usft
Site:	Ten High	North Reference:	Grid
Well:	Ten High 1S-05HM (P)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
4,699.99	23.98	259.46	4,665.44	-61.37	-329.79	14,456,447.13	1,729,740.08	39.80654099	-80.68194190	
4,799.99	23.98	259.46	4,756.81	-68.81	-369.75	14,456,439.89	1,729,700.11	39.80652095	-80.68208429	
4,899.99	23.98	259.46	4,848.17	-76.25	-409.71	14,456,432.26	1,729,660.15	39.80650091	-80.68222668	
4,999.99	23.98	259.46	4,939.54	-83.69	-449.67	14,456,424.82	1,729,620.19	39.80648087	-80.68236907	
5,099.99	23.98	259.46	5,030.90	-91.12	-489.63	14,456,417.38	1,729,580.23	39.80646083	-80.68251146	
5,199.99	23.98	259.46	5,122.27	-98.56	-529.60	14,456,409.94	1,729,540.27	39.80644080	-80.68265384	
5,299.99	23.98	259.46	5,213.63	-106.00	-569.56	14,456,402.50	1,729,500.30	39.80642076	-80.68279623	
5,399.99	23.98	259.46	5,305.00	-113.44	-609.52	14,456,395.06	1,729,460.34	39.80640072	-80.68293862	
5,499.99	23.98	259.46	5,396.36	-120.88	-649.48	14,456,387.63	1,729,420.38	39.80638068	-80.68308101	
5,599.99	23.98	259.46	5,487.73	-128.32	-689.45	14,456,380.19	1,729,380.42	39.80636064	-80.68322399	
5,699.99	23.98	259.46	5,579.09	-135.75	-729.41	14,456,372.75	1,729,340.45	39.80634060	-80.68336578	
5,799.99	23.98	259.46	5,670.46	-143.19	-769.37	14,456,365.31	1,729,300.49	39.80632056	-80.68350817	
5,899.99	23.98	259.46	5,761.82	-150.63	-809.33	14,456,357.87	1,729,260.53	39.80630052	-80.68365056	
5,999.99	23.98	259.46	5,853.19	-158.07	-849.30	14,456,350.43	1,729,220.57	39.80628048	-80.68379294	
6,099.99	23.98	259.46	5,944.56	-165.51	-889.28	14,456,343.00	1,729,180.60	39.80626044	-80.68393533	
6,199.99	23.98	259.46	6,035.92	-172.95	-929.22	14,456,335.56	1,729,140.64	39.80624040	-80.68407772	
6,299.99	23.98	259.46	6,127.29	-180.38	-969.18	14,456,328.12	1,729,100.68	39.80622036	-80.68422010	
6,336.63	23.98	259.46	6,160.77	-183.11	-983.83	14,456,325.39	1,729,086.04	39.80621302	-80.68427228	
Begin 10°/100' build/turn										
6,399.99	23.27	243.71	6,218.87	-191.02	-1,007.73	14,456,317.49	1,729,062.13	39.80619153	-80.68435749	
6,499.99	25.34	219.77	6,310.22	-216.28	-1,039.21	14,456,292.22	1,729,030.65	39.80612246	-80.68446990	
6,599.99	30.53	201.39	6,398.70	-256.46	-1,062.22	14,456,252.02	1,729,007.64	39.80601228	-80.68455234	
6,699.99	37.55	188.53	6,481.63	-310.40	-1,076.07	14,456,198.11	1,728,993.80	39.80588435	-80.68460231	
6,799.99	45.56	179.51	6,556.47	-376.39	-1,080.32	14,456,132.11	1,728,989.54	39.80568316	-80.68461829	
6,899.99	54.10	172.70	6,620.96	-452.45	-1,074.86	14,456,056.05	1,728,995.00	39.80547422	-80.68459979	
6,999.99	62.86	167.25	6,673.14	-536.28	-1,059.84	14,455,972.22	1,729,010.02	39.80524367	-80.68454738	
7,099.99	72.00	162.60	6,711.42	-625.32	-1,035.73	14,455,883.19	1,729,034.13	39.80499911	-80.68446265	
7,199.99	81.13	158.42	6,734.83	-716.87	-1,003.26	14,455,791.64	1,729,066.60	39.80474738	-80.68434817	
7,285.69	89.00	155.00	6,742.00	-795.21	-969.51	14,455,713.29	1,729,100.35	39.80453190	-80.68422900	
Begin 89.00° lateral section										
7,299.99	89.00	155.00	6,742.25	-808.17	-963.47	14,455,700.34	1,729,106.39	39.80449626	-80.68420765	
7,399.99	89.00	155.00	6,743.99	-898.79	-921.22	14,455,609.72	1,729,148.65	39.80424699	-80.68405834	
7,499.99	89.00	155.00	6,745.74	-989.40	-878.96	14,455,519.10	1,729,190.90	39.80399773	-80.68390902	
7,505.69	89.00	155.00	6,745.84	-994.57	-876.55	14,455,513.94	1,729,193.31	39.80398352	-80.68390051	
Begin 2°/100' turn										
7,599.98	89.00	153.11	6,747.49	-1,079.35	-835.31	14,455,429.16	1,729,234.56	39.80375029	-80.68375472	
7,699.98	89.00	151.11	6,749.23	-1,167.72	-788.54	14,455,340.79	1,729,281.32	39.80350715	-80.68358933	
7,755.68	89.00	150.00	6,750.20	-1,216.21	-761.17	14,455,292.30	1,729,308.69	39.80337372	-80.68349249	
Begin 89.00° lateral section										
7,799.98	89.00	150.00	6,750.97	-1,254.57	-739.02	14,455,253.93	1,729,330.84	39.80326814	-80.68341410	
7,899.98	89.00	150.00	6,752.71	-1,341.16	-689.03	14,455,167.34	1,729,380.83	39.80302987	-80.68323719	
7,999.98	89.00	150.00	6,754.45	-1,427.75	-639.03	14,455,080.75	1,729,430.83	39.80279159	-80.68306028	
8,099.98	89.00	150.00	6,756.19	-1,514.34	-589.04	14,454,994.16	1,729,480.82	39.80255331	-80.68288337	
8,199.98	89.00	150.00	6,757.93	-1,600.93	-539.05	14,454,907.58	1,729,530.81	39.80231502	-80.68270646	
8,299.98	89.00	150.00	6,759.67	-1,687.52	-489.05	14,454,820.99	1,729,580.81	39.80207674	-80.68252955	
8,399.98	89.00	150.00	6,761.41	-1,774.11	-439.06	14,454,734.40	1,729,630.80	39.80183846	-80.68235265	
8,499.98	89.00	150.00	6,763.15	-1,860.70	-389.07	14,454,647.81	1,729,680.79	39.80160018	-80.68217575	
8,599.98	89.00	150.00	6,764.89	-1,947.28	-339.08	14,454,561.22	1,729,730.79	39.80136190	-80.68199884	
8,699.98	89.00	150.00	6,766.63	-2,033.87	-289.08	14,454,474.63	1,729,780.78	39.80112362	-80.68182194	
8,799.98	89.00	150.00	6,768.37	-2,120.46	-239.09	14,454,388.04	1,729,830.77	39.80088534	-80.68164504	
8,899.98	89.00	150.00	6,770.11	-2,207.05	-189.10	14,454,301.45	1,729,880.77	39.80064705	-80.68146814	
8,999.98	89.00	150.00	6,771.85	-2,293.64	-139.10	14,454,214.87	1,729,930.76	39.80040877	-80.68129125	
9,099.98	89.00	150.00	6,773.59	-2,380.23	-89.11	14,454,128.28	1,729,980.75	39.80017049	-80.68111435	
9,199.98	89.00	150.00	6,775.33	-2,466.82	-39.12	14,454,041.69	1,730,030.75	39.79993220	-80.68093745	

51-01964
MWD



Planning Report - Geographic

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ten High 1S-05HM (P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL=1310 @ 1310.00usft
Project:	Marshall County, West Virginia	MD Reference:	GL=1310 @ 1310.00usft
Site:	Ten High	North Reference:	Grid
Well:	Ten High 1S-05HM (P)	Survey Calculation Method:	Minimum Curvature
Wallbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,299.98	89.00	150.00	6,777.07	-2,553.41	10.88	14,453,955.10	1,730,080.74	39.79969392	-80.68078058	
9,399.98	89.00	150.00	6,778.81	-2,639.99	60.87	14,453,868.51	1,730,130.73	39.79945564	-80.68058367	
9,499.98	89.00	150.00	6,780.55	-2,726.58	110.86	14,453,781.92	1,730,180.73	39.79921735	-80.68040678	
9,599.98	89.00	150.00	6,782.29	-2,813.17	160.86	14,453,695.33	1,730,230.72	39.79897907	-80.68022968	
9,699.98	89.00	150.00	6,784.03	-2,899.76	210.85	14,453,608.74	1,730,280.71	39.79874078	-80.68005300	
9,799.98	89.00	150.00	6,785.77	-2,986.35	260.84	14,453,522.16	1,730,330.71	39.79850250	-80.67987811	
9,899.98	89.00	150.00	6,787.50	-3,072.94	310.84	14,453,435.57	1,730,380.70	39.79826421	-80.67969922	
9,999.98	89.00	150.00	6,789.24	-3,159.53	360.83	14,453,348.98	1,730,430.69	39.79802593	-80.67952234	
10,099.98	89.00	150.00	6,790.98	-3,246.12	410.82	14,453,262.39	1,730,480.69	39.79778764	-80.67934545	
10,199.98	89.00	150.00	6,792.72	-3,332.70	460.82	14,453,175.80	1,730,530.68	39.79754936	-80.67916857	
10,299.98	89.00	150.00	6,794.46	-3,419.29	510.81	14,453,089.21	1,730,580.67	39.79731107	-80.67899169	
10,399.98	89.00	150.00	6,796.20	-3,505.88	560.80	14,453,002.62	1,730,630.66	39.79707278	-80.67881481	
10,499.98	89.00	150.00	6,797.94	-3,592.47	610.80	14,452,916.03	1,730,680.66	39.79683450	-80.67863793	
10,599.98	89.00	150.00	6,799.68	-3,679.06	660.79	14,452,829.44	1,730,730.65	39.79659621	-80.67846105	
10,699.98	89.00	150.00	6,801.42	-3,765.65	710.78	14,452,742.86	1,730,780.64	39.79635792	-80.67828417	
10,799.98	89.00	150.00	6,803.16	-3,852.24	760.78	14,452,656.27	1,730,830.64	39.79611963	-80.67810730	
10,899.98	89.00	150.00	6,804.90	-3,938.83	810.77	14,452,569.68	1,730,880.63	39.79588135	-80.67793042	
10,999.98	89.00	150.00	6,806.64	-4,025.41	860.76	14,452,483.09	1,730,930.62	39.79564306	-80.67775355	
11,099.98	89.00	150.00	6,808.38	-4,112.00	910.75	14,452,396.50	1,730,980.62	39.79540477	-80.67757668	
11,199.98	89.00	150.00	6,810.12	-4,198.59	960.75	14,452,309.91	1,731,030.61	39.79516648	-80.67739980	
11,299.98	89.00	150.00	6,811.86	-4,285.18	1,010.74	14,452,223.32	1,731,080.60	39.79492819	-80.67722293	
11,399.98	89.00	150.00	6,813.60	-4,371.77	1,060.73	14,452,136.73	1,731,130.60	39.79468990	-80.67704607	
11,499.98	89.00	150.00	6,815.34	-4,458.36	1,110.73	14,452,050.15	1,731,180.59	39.79445161	-80.67686920	
11,599.98	89.00	150.00	6,817.08	-4,544.95	1,160.72	14,451,963.56	1,731,230.58	39.79421332	-80.67669233	
11,699.98	89.00	150.00	6,818.82	-4,631.54	1,210.71	14,451,876.97	1,731,280.58	39.79397503	-80.67651547	
11,799.98	89.00	150.00	6,820.56	-4,718.12	1,260.71	14,451,790.38	1,731,330.57	39.79373674	-80.67633860	
11,899.98	89.00	150.00	6,822.30	-4,804.71	1,310.70	14,451,703.79	1,731,380.56	39.79349845	-80.67616174	
11,999.98	89.00	150.00	6,824.04	-4,891.30	1,360.69	14,451,617.20	1,731,430.56	39.79326016	-80.67598488	
12,099.98	89.00	150.00	6,825.78	-4,977.89	1,410.69	14,451,530.61	1,731,480.55	39.79302187	-80.67580802	
12,199.98	89.00	150.00	6,827.52	-5,064.48	1,460.68	14,451,444.02	1,731,530.54	39.79278358	-80.67563116	
12,299.98	89.00	150.00	6,829.26	-5,151.07	1,510.67	14,451,357.44	1,731,580.54	39.79254529	-80.67545431	
12,399.98	89.00	150.00	6,831.00	-5,237.66	1,560.67	14,451,270.85	1,731,630.53	39.79230699	-80.67527745	
12,499.98	89.00	150.00	6,832.74	-5,324.25	1,610.66	14,451,184.26	1,731,680.52	39.79206870	-80.67510059	
12,599.98	89.00	150.00	6,834.48	-5,410.83	1,660.65	14,451,097.67	1,731,730.52	39.79183041	-80.67492374	
12,699.97	89.00	150.00	6,836.22	-5,497.42	1,710.65	14,451,011.08	1,731,780.51	39.79159212	-80.67474689	
12,799.97	89.00	150.00	6,837.96	-5,584.01	1,760.64	14,450,924.49	1,731,830.50	39.79135382	-80.67457004	
12,899.97	89.00	150.00	6,839.70	-5,670.60	1,810.63	14,450,837.90	1,731,880.49	39.79111553	-80.67439319	
12,999.97	89.00	150.00	6,841.44	-5,757.19	1,860.63	14,450,751.31	1,731,930.49	39.79087724	-80.67421634	
13,099.97	89.00	150.00	6,843.18	-5,843.78	1,910.62	14,450,664.73	1,731,980.48	39.79063894	-80.67403949	
13,199.97	89.00	150.00	6,844.92	-5,930.37	1,960.61	14,450,578.14	1,732,030.47	39.79040065	-80.67386264	
13,299.97	89.00	150.00	6,846.66	-6,016.96	2,010.61	14,450,491.55	1,732,080.47	39.79016235	-80.67368580	
13,399.97	89.00	150.00	6,848.40	-6,103.54	2,060.60	14,450,404.96	1,732,130.46	39.78992406	-80.67350895	
13,499.97	89.00	150.00	6,850.14	-6,190.13	2,110.59	14,450,318.37	1,732,180.45	39.78968576	-80.67333211	
13,599.97	89.00	150.00	6,851.88	-6,276.72	2,160.59	14,450,231.78	1,732,230.45	39.78944747	-80.67315527	
13,699.97	89.00	150.00	6,853.62	-6,363.31	2,210.58	14,450,145.19	1,732,280.44	39.78920917	-80.67297843	
13,799.97	89.00	150.00	6,855.36	-6,449.90	2,260.57	14,450,058.60	1,732,330.43	39.78897088	-80.67280159	
13,899.97	89.00	150.00	6,857.10	-6,536.49	2,310.56	14,449,972.02	1,732,380.43	39.78873258	-80.67262475	
13,999.97	89.00	150.00	6,858.84	-6,623.08	2,360.56	14,449,885.43	1,732,430.42	39.78849428	-80.67244791	
14,099.97	89.00	150.00	6,860.58	-6,709.67	2,410.55	14,449,798.84	1,732,480.41	39.78825599	-80.67227108	
14,199.97	89.00	150.00	6,862.32	-6,796.25	2,460.54	14,449,712.25	1,732,530.41	39.78801769	-80.67209424	
14,299.97	89.00	150.00	6,864.06	-6,882.84	2,510.54	14,449,625.66	1,732,580.40	39.78777939	-80.67191741	
14,399.97	89.00	150.00	6,865.80	-6,969.43	2,560.53	14,449,539.07	1,732,630.39	39.78754110	-80.67174058	
14,499.97	89.00	150.00	6,867.53	-7,056.02	2,610.52	14,449,452.48	1,732,680.39	39.78730280	-80.67156375	
14,599.97	89.00	150.00	6,869.27	-7,142.61	2,660.52	14,449,365.89	1,732,730.38	39.78706450	-80.67138692	
14,699.97	89.00	150.00	6,871.01	-7,229.20	2,710.51	14,449,279.31	1,732,780.37	39.78682620	-80.67121009	

51-01964
MWB



Planning Report - Geographic

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ten High 1S-05HM (P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL=1310 @ 1310.00usft
Project:	Marshall County, West Virginia	MD Reference:	GL=1310 @ 1310.00usft
Site:	Ten High	North Reference:	Grid
Well:	Ten High 1S-05HM (P)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
14,799.97	89.00	150.00	6,872.75	-7,315.79	2,760.50	14,448,192.72	1,732,830.37	39.78858790	-80.67103326	
14,899.97	89.00	150.00	6,874.49	-7,402.38	2,810.50	14,449,106.13	1,732,830.36	39.78634960	-80.67085644	
14,999.97	89.00	150.00	6,876.23	-7,488.96	2,860.48	14,449,019.54	1,732,830.35	39.78611131	-80.67067961	
15,099.97	89.00	150.00	6,877.97	-7,575.55	2,910.48	14,448,932.95	1,732,830.35	39.78587301	-80.67050279	
15,199.97	89.00	150.00	6,879.71	-7,662.14	2,960.48	14,448,846.36	1,733,030.34	39.78563471	-80.67032597	
15,299.97	89.00	150.00	6,881.45	-7,748.73	3,010.47	14,448,759.77	1,733,030.33	39.78539641	-80.67014915	
15,399.97	89.00	150.00	6,883.19	-7,835.32	3,060.46	14,448,673.18	1,733,130.33	39.78515811	-80.66997233	
15,499.97	89.00	150.00	6,884.93	-7,921.91	3,110.46	14,448,586.60	1,733,180.32	39.78491981	-80.66979551	
15,599.97	89.00	150.00	6,886.67	-8,008.50	3,160.45	14,448,500.01	1,733,230.31	39.78468150	-80.66961869	
15,699.97	89.00	150.00	6,888.41	-8,095.09	3,210.44	14,448,413.42	1,733,280.30	39.78444320	-80.66944187	
15,799.97	89.00	150.00	6,890.15	-8,181.67	3,260.44	14,448,326.83	1,733,330.30	39.78420490	-80.66926506	
15,899.97	89.00	150.00	6,891.89	-8,268.26	3,310.43	14,448,240.24	1,733,380.29	39.78398660	-80.66908825	
15,999.97	89.00	150.00	6,893.63	-8,354.85	3,360.42	14,448,153.65	1,733,430.28	39.78372830	-80.66891143	
16,099.97	89.00	150.00	6,895.37	-8,441.44	3,410.42	14,448,067.06	1,733,480.28	39.78349000	-80.66873462	
16,199.97	89.00	150.00	6,897.11	-8,528.03	3,460.41	14,447,980.47	1,733,530.27	39.78325169	-80.66855781	
16,299.97	89.00	150.00	6,898.85	-8,614.62	3,510.40	14,447,893.89	1,733,580.26	39.78301339	-80.66838100	
16,399.97	89.00	150.00	6,900.59	-8,701.21	3,560.39	14,447,807.30	1,733,630.26	39.78277509	-80.66820420	
16,499.97	89.00	150.00	6,902.33	-8,787.80	3,610.39	14,447,720.71	1,733,680.25	39.78253678	-80.66802739	
16,599.97	89.00	150.00	6,904.07	-8,874.38	3,660.38	14,447,634.12	1,733,730.24	39.78229848	-80.66785058	
16,699.97	89.00	150.00	6,905.81	-8,960.97	3,710.37	14,447,547.53	1,733,780.24	39.78206018	-80.66767378	
16,799.97	89.00	150.00	6,907.55	-9,047.56	3,760.37	14,447,460.94	1,733,830.23	39.78182187	-80.66749698	
16,899.97	89.00	150.00	6,909.29	-9,134.15	3,810.36	14,447,374.35	1,733,880.22	39.78158357	-80.66732018	
16,999.97	89.00	150.00	6,911.03	-9,220.74	3,860.35	14,447,287.76	1,733,930.22	39.78134526	-80.66714338	
17,099.97	89.00	150.00	6,912.77	-9,307.33	3,910.35	14,447,201.18	1,733,980.21	39.78110696	-80.66696658	
17,199.97	89.00	150.00	6,914.51	-9,393.92	3,960.34	14,447,114.59	1,734,030.20	39.78086865	-80.66678978	
17,299.97	89.00	150.00	6,916.25	-9,480.51	4,010.33	14,447,028.00	1,734,080.20	39.78063035	-80.66661298	
17,399.97	89.00	150.00	6,917.99	-9,567.09	4,060.33	14,446,941.41	1,734,130.19	39.78039204	-80.66643619	
17,465.58	89.00	150.00	6,919.13	-9,623.91	4,093.13	14,446,864.59	1,734,162.99	39.78023568	-80.66632018	

PBHL/TD 17465.58 MD/6919.13 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	-795.21	-889.51	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 7288.30usft MD (6742.05 TVD, -797.58 N, -968.41 E) - Point	0.00	0.01	6,742.00	-810.21	-895.49	14,455,698.29	1,729,074.37	39.80449098	-80.68432188	
Ten High 1S-05HM BHL - plan hits target center - Point	0.00	0.00	6,919.13	-9,623.91	4,093.13	14,446,864.59	1,734,162.99	39.78023568	-80.66632018	

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	
2,982.47	2,980.00	9 5/8" Casing @ 2980 TVD	9-5/8	12-1/4	

51-01904
MOD



Planning Report - Geographic

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ten High 1S-05HM (P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL=1310 @ 1310.00usft
Project:	Marshall County, West Virginia	MD Reference:	GL=1310 @ 1310.00usft
Site:	Ten High	North Reference:	Grid
Well:	Ten High 1S-05HM (P)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,000.00	2,000.00	0.00	0.00	KOP Begin 1°/100' build
2,500.00	2,489.37	-3.99	-21.43	Begin 5.00° tangent
4,006.37	4,000.00	-28.00	-150.51	Begin 3°/100' build
4,639.18	4,609.88	-56.85	-305.48	Begin 23.98° tangent
6,336.63	6,160.77	-183.11	-983.83	Begin 10°/100' build/turn
7,285.69	6,742.00	-795.21	-969.51	Begin 89.00° lateral section
7,505.69	6,745.84	-894.57	-876.55	Begin 2°/100' turn
7,755.68	6,750.20	-1,216.21	-761.17	Begin 89.00° lateral section
17,465.58	6,919.13	-9,623.91	4,093.13	PBHL/TD 17465.58 MD/8919.13 TVD

WW-9
(4/16)

API Number 47 - 051

- 01964 MOD

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 containment

Proposed Disposal Method For Treated Pit Wastes:

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

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

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

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

Additives to be used in drilling medium? Barite for weight

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

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

-Landfill or offsite name/permit number? Wetzel County Sanitary Landfill (SWF-1021 / WV0109105) and Westmoreland Sanitary Landfill, LLC (SAN1405 / PA DEP ECF1386426)

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

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

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

Company Official Signature _____

Company Official (Typed Name) Sean Gasser

Company Official Title Engineer

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

Kaitlin McCawley

Notary Public

My commission expires 05/08/2021



51-01964
MOD

Form WW-9

Operator's Well No. Ten High 18-5HM

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 Underhill*

Comments: _____

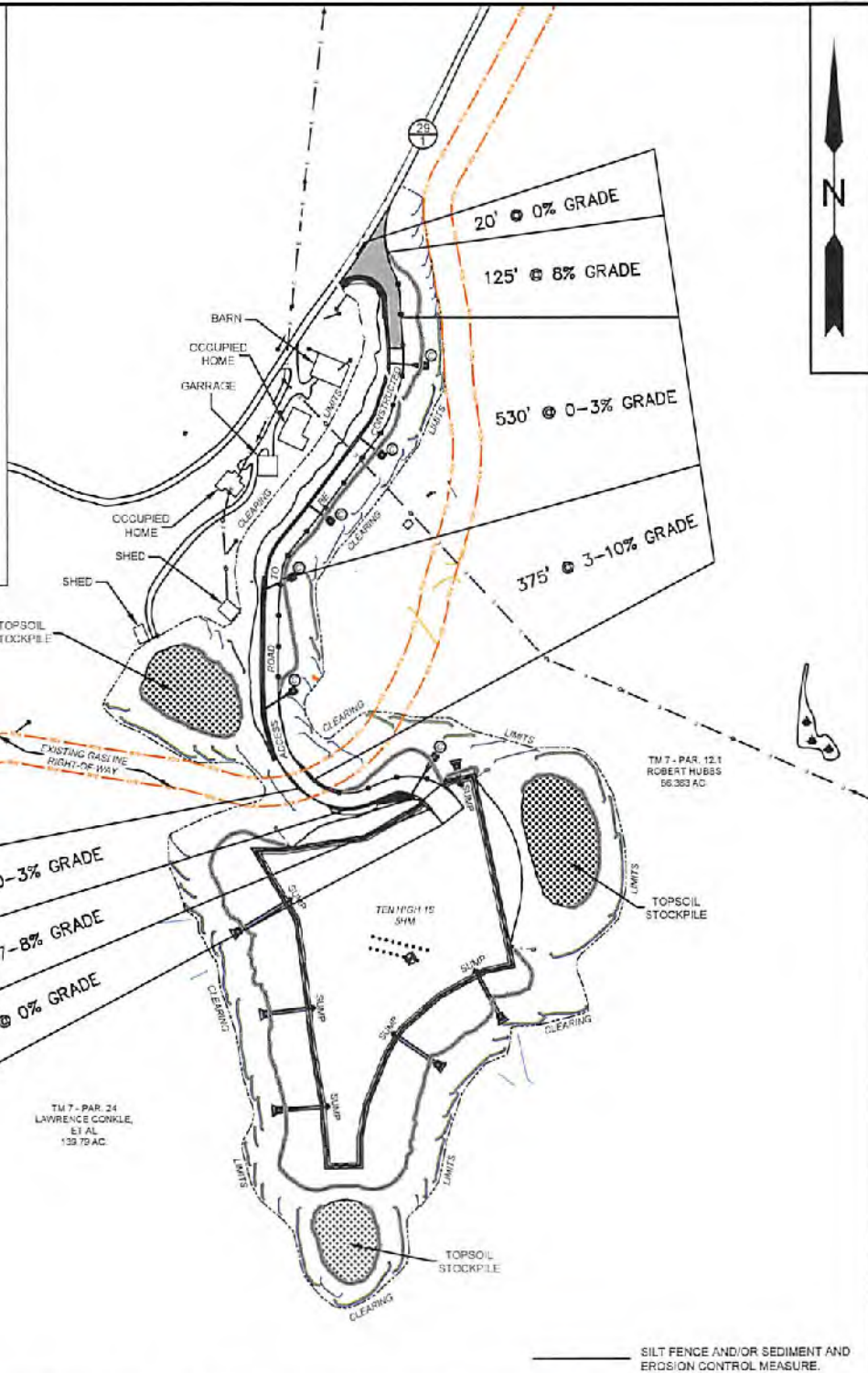
Title: Oil + Gas Inspector Date: 8/15/17

Field Reviewed? Yes No

PROPOSED TEN HIGH 1S - 5HM

NOTES:

1. - DENOTES INSTALL 18" PVC CULVERT AND APPLY APPROPRIATE SEDIMENT OUTLET CONTROL (R/P 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 SLOPES 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.



TM 7 - PAR 24
LAWRENCE CONKLE,
EVAL
139.75 AC.

TM 7 - PAR. 12.1
ROBERT HUBBS
56.383 AC.

SILT FENCE AND/OR SEDIMENT AND EROSION CONTROL MEASURE.

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www.slsurveys.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR:	
COUNTY	DISTRICT	TUG HILL OPERATING, LLC	
MARSHALL	MEADE	380 SOUTHPOINTE BLVD	
DRAWN BY		DATE	SCALE
K.G.M.		12-19-17	1" = 300'

TUG HILL
OPERATING



Well Site Safety Plan

Tug Hill Operating, LLC

gk
12/20/17

Well Name: Ten High 1S-5HM

Pad Location: Ten High

Marshall County, West Virginia

UTM (meters), NAD83, Zone 17:
Northing-4,406,352.60
Easting -527,326.35

December 2017

51-01964MED

WW-9

PROPOSED TEN HIGH 1S - 5HM

SUPPLEMENT PG. 2



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

Jan 8/15/17

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TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR:	
COUNTY	DISTRICT	TUG HILL OPERATING, LLC	
MARSHALL	MEADE	380 SOUTHPOINTE BLVD	
DRAWN BY		DATE	SCALE
K.G.M.		08-09-17	1" = 2000'

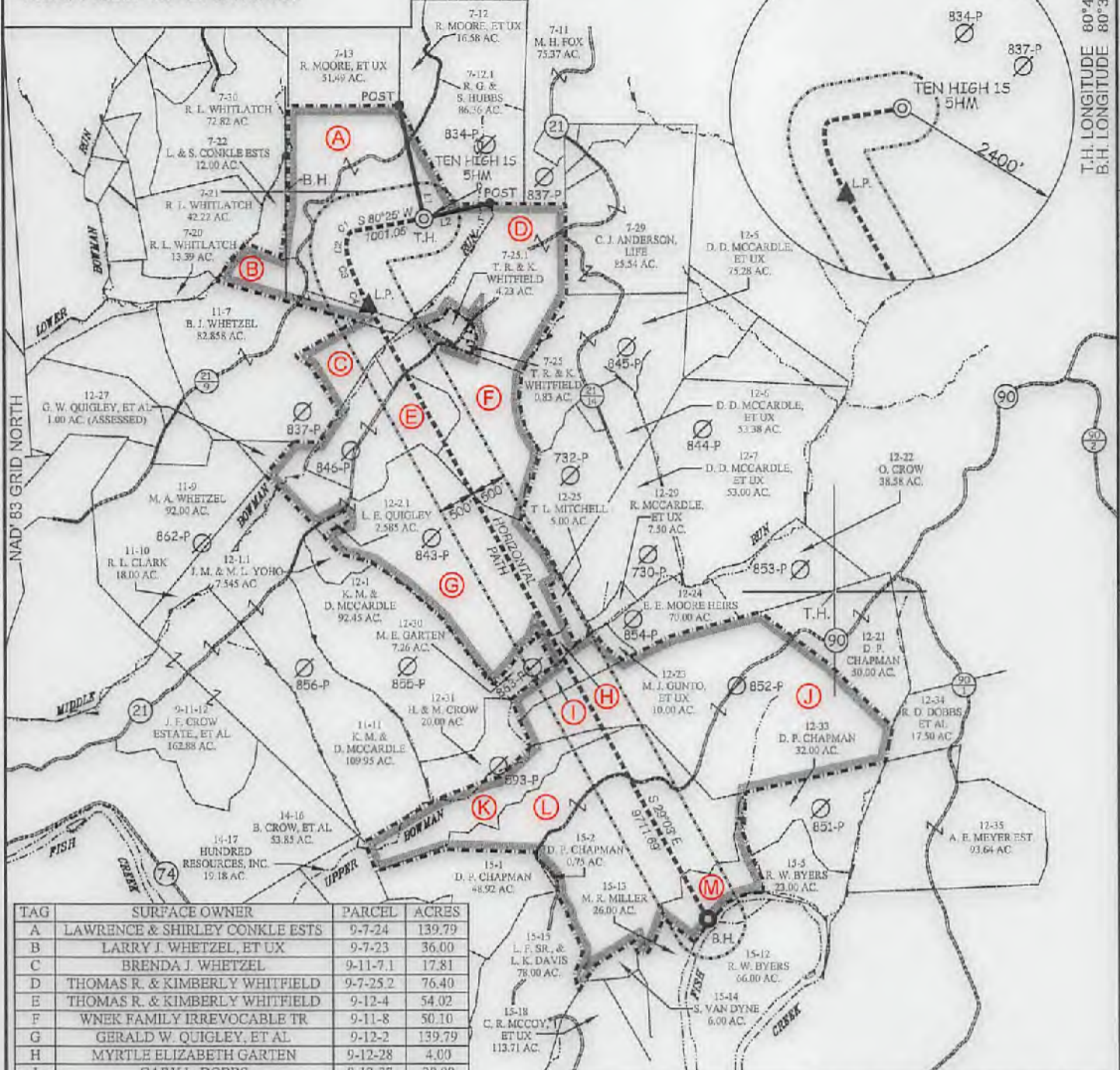
**TUG HILL
OPERATING**

TEN HIGH 1S LEASE
WELL 5HM
TUG HILL OPERATING

LINE	BEARING	DISTANCE
L1	N 12°15' W	1621.00
L2	N 76°41' E	945.95'

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 KOYSON, ET AL	9-15-4	26.40

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	125.55'	113.21'	S 44°44' W	119.21'
C2	270.07'	648.72'	S 00°26' E	267.30'
C3	389.15'	7644.99'	S 19°58' E	388.24'
C4	355.73'	3708.21'	S 25°48' E	355.59'

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www.slsurveyors.com

P.S.
677

Gregory A. Smith

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

NAD'83 S.P.C.(FT)	N. 476,126.48	E. 1,636,786.50
NAD'83 GEO.	LAT-(N) 39.806706	LONG-(W) 80.680787
NAD'83 UTM (M)	N. 4,406,352.90	E. 527,326.35
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 476,919.8	E. 1,636,007.9
NAD'83 GEO.	LAT-(N) 39.803374	LONG-(W) 80.683492
NAD'83 UTM (M)	N. 4,405,981.9	E. 527,094.3
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 468,429.3	E. 1,640,722.5
NAD'83 GEO.	LAT-(N) 39.780236	LONG-(W) 80.686320
NAD'83 UTM (M)	N. 4,403,419.2	E. 526,573.9



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

SCALE 1" = 2000' FILE NO. 8655P5HMR.dwg

DATE AUGUST 10, 20 17

REVISED DECEMBER 19, 20 17

OPERATORS WELL NO. TEN HIGH 1S-5HM

API WELL NO. 47 — 051 — 01964MOD

STATE COUNTY PERMIT

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



LEGEND

LEASE LINE	
SURFACE LINE	
WELL LATERAL	
OFFSET LINE	
TIE LINE	
CREEK	
ROAD	
COUNTY ROUTE	
PROPOSED WELL	
EXISTING WELL	
PERMITTED WELL	
TAX MAP-PARCEL	00-00
LEASE # (SEE PAGES 1,3,4,&5)	(A)

COUNTY NAME

PERMIT

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

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

11,613' B.H.

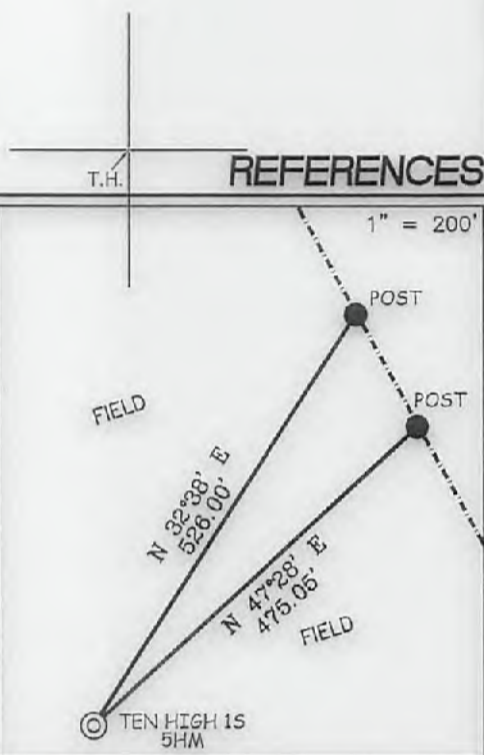
3,961' T.H.

TEN HIGH 1S LEASE
WELL 5HM
TUG HILL OPERATING

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

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)		
NAD'83 S.P.C.(FT)	N. 478,123.48	E. 1,636,789.50
NAD'83 GEO.	LAT-(N) 39.806706	LONG-(W) 80.680767
NAD'83 UTM (M)	N. 4,408,352.60	E. 527,326.85
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 476,919.8	E. 1,636,007.9
NAD'83 GEO.	LAT-(N) 39.803374	LONG-(W) 80.683492
NAD'83 UTM (M)	N. 4,405,961.9	E. 527,094.3
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 468,429.3	E. 1,640,722.6
NAD'83 GEO.	LAT-(N) 39.780236	LONG-(W) 80.666320
NAD'83 UTM (M)	N. 4,403,419.2	E. 528,573.9

T.H. LONGITUDE 80°40'00"
B.H. LONGITUDE 80°37'30"
4,164' B.H.
9,700' T.H.



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 DECEMBER 19, 20 17
OPERATORS WELL NO. TEN HIGH 1S-5HM
API WELL NO. 47 - 051 - 01964400
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8655P5HMR.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 <input type="checkbox"/>	GAS <input checked="" type="checkbox"/>	LIQUID INJECTION <input type="checkbox"/>	WASTE DISPOSAL <input type="checkbox"/>	IF "GAS" PRODUCTION <input checked="" type="checkbox"/>	STORAGE <input type="checkbox"/>	DEEP <input type="checkbox"/>	SHALLOW <input checked="" type="checkbox"/>											
LOCATION:	GROUND = 1,317.20' 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:	LEASE NO. <u>SEE ABOVE & SHEETS 3, 4, & 5</u>																		
DRILL	<input checked="" type="checkbox"/>	CONVERT	<input type="checkbox"/>	DRILL DEEPER	<input type="checkbox"/>	REDRILL	<input type="checkbox"/>	FRACTURE OR STIMULATE	<input checked="" type="checkbox"/>	PLUG OFF OLD FORMATION	<input type="checkbox"/>	PERFORATE NEW FORMATION	<input type="checkbox"/>	PLUG AND ABANDON	<input type="checkbox"/>	CLEAN OUT AND REPLUG	<input type="checkbox"/>	OTHER	<input type="checkbox"/>
PHYSICAL CHANGE IN WELL (SPECIFY)						TARGET FORMATION	MARCELLUS												
						ESTIMATED DEPTH	TVD: 6,865' / TMD: 17,466'												

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

COUNTY NAME
PERMIT

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
----------------------	-----------------------	-----------------------	---------	-----------

*See attached pages

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

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

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

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

Well Operator: Tug Hill Operating, LLC

By: Amy L. Miller *Amy Miller*

Its: Permit Specialist - Appalachia

SI-01964 MOD

WW-6A1 Supplement

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+	909 505	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 HIMELRICK JR AND KAREN HIMELRICK	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 49	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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Lease Name or No	Tag	Parcel	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Deed Book / Page	Assignment	Assignment	Assignment
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 85	N/A	N/A	N/A
10*47051.256.11	C	9-11-7.1	JOHN L MASON	TH EXPLORATION LLC	1/8+	905 87	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 RIDDLE 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*16389	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+	908 259	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 95	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 WHITTMAN	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+	921 375	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 WALUSA	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 BEVAQUA AND PATRICIA A BEVAQUA	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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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 MANIFAN	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+	890 408	N/A	N/A	N/A
10*15481	E	9-12-4	DEAN P RIGBY AND SUSAN RIGBY	TH EXPLORATION LLC	1/8+	908 157	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 SCHIEFER 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*16798	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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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+	927 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 WALLISA	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+	927 497	N/A	N/A	N/A
10*17483	E	9-12-4	RICHARD I PYLE	TH EXPLORATION LLC	1/8+	921 859	N/A	N/A	N/A
10*17484	E	9-12-4	NELDA S JACKSON	TH EXPLORATION LLC	1/8+	921 390	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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10*17589	E	9-12-4	MARY CHRISTINE MCKENNA	TH EXPLORATION LLC	1/8+	921	892	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
10*17744	E	9-12-4	SAM PRESLEY EZELL	TH EXPLORATION LLC	1/8+	921	116	N/A	N/A
10*18021	E	9-12-4	CHRISTOPHER & JACKIE HANIFAN	TH EXPLORATION, LLC	1/8+	927	267	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
10*47051.223.1	E	9-12-4	JEAN ANNE GORBY STORCH	TH EXPLORATION LLC	1/8+	877	216	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
10*47051.223.11	E	9-12-4	ELIZABETH ESTEP	TH EXPLORATION LLC	1/8+	908	37	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
10*47051.223.13	E	9-12-4	JAMES A GORBY	TH EXPLORATION LLC	1/8+	908	42	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
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
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
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
10*47051.223.18	E	9-12-4	BRITTNEY MENEAR	TH EXPLORATION LLC	1/8+	908	57	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
10*47051.223.20	E	9-12-4	BARBARA A BUZZARD	TH EXPLORATION LLC	1/8+	908	24	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
10*47051.223.22	E	9-12-4	SALLY COLE	TH EXPLORATION LLC	1/8+	908	74	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
10*47051.223.24	E	9-12-4	JO DEE K DAVIS	TH EXPLORATION LLC	1/8+	908	136	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
10*47051.223.26	E	9-12-4	WENDY L SMARKEL	TH EXPLORATION LLC	1/8+	908	69	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
10*47051.223.28	E	9-12-4	KAREN S GAST	TH EXPLORATION LLC	1/8+	908	150	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
10*47051.223.30	E	9-12-4	LAURIE DRIGGERS MANDERSON	TH EXPLORATION LLC	1/8+	908	165	N/A	N/A
10*47051.223.31	E	9-12-4	JANICE M GONTA GAVALIK	TH EXPLORATION LLC	1/8+	908	160	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
10*47051.223.33	E	9-12-4	NANCY CIAFFAGLIONE HOUSLEY	TH EXPLORATION LLC	1/8+	908	185	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
10*47051.223.35	E	9-12-4	DEBRA L CIAFFAGLIONE	TH EXPLORATION LLC	1/8+	927	264	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
10*47051.223.6	E	9-12-4	JOSHUA RINE AND REBECCA RINE	TH EXPLORATION LLC	1/8+	907	694	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
10*47051.223.8	E	9-12-4	DAVID M WILSON	TH EXPLORATION LLC	1/8+	907	649	N/A	N/A
10*47051.223.9	E	9-12-4	UNDA DELBERT	TH EXPLORATION LLC	1/8+	908	92	N/A	N/A
10*15463	F	9-11-8	CHARLES A RINE	TH EXPLORATION LLC	1/8+	908	274	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
10*15482	F	9-11-8	SUSAN NELSON	TH EXPLORATION LLC	1/8+	908	203	N/A	N/A
10*15686	F	9-11-8	JOHN OMER BOLTZ	TH EXPLORATION LLC	1/8+	908	160	N/A	N/A
10*15750	F	9-11-8	SANDRA K TRULL	TH EXPLORATION LLC	1/8+	908	229	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
10*16118	F	9-11-8	RUBY RIDDLE JACKSON	TH EXPLORATION LLC	1/8+	908	233	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
10*16298	F	9-11-8	GEOFFREY A SHIEFER AND STEPHANIE L SCHIEFER	TH EXPLORATION LLC	1/8+	908	238	N/A	N/A
10*16383	F	9-11-8	ROBERT STEPHEN DRIGGERS	TH EXPLORATION LLC	1/8+	908	224	N/A	N/A
10*16414	F	9-11-8	MARY ELIZABETH DRIGGERS	TH EXPLORATION, LCC	1/8+	908	208	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
10*16416	F	9-11-8	CYNTHIA HUDSON	TH EXPLORATION, LCC	1/8+	908	219	N/A	N/A
10*16424	F	9-11-8	ROBERT J RIGBY	TH EXPLORATION, LLC	1/8+	908	241	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
10*16478	F	9-11-8	MARION L AND EMILY CAMPBELL	TH EXPLORATION LLC	1/8+	908	245	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
10*16515	F	9-11-8	ANNA MARIE JACKSON	TH EXPLORATION LLC	1/8+	908	251	N/A	N/A
10*16516	F	9-11-8	WILSON ANDREW JACKSON	TH EXPLORATION LLC	1/8+	908	253	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*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*16805	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*17399	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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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*17442	F	9-11-8	SHANE ALLEN AND MENDY JEAN ALLEN	TH EXPLORATION LLC	1/8+	921 194	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+	921 959	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 81	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+	921 940	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+	908 216	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 RAIU	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 GAVALUK	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*16298	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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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	N/A
10*47051.309.1	H	9-12-28	LESLIE E QUIGLEY	TH EXPLORATION LLC	1/8+	905 8	N/A	N/A	Chevron to Tug Hill: 37/457
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*16033	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*16035	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*16036	K	9-14-18	KATHARYN DAY LILLY	TH EXPLORATION LLC	1/8+	906 272	N/A	N/A	N/A
10*16037	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+	905 281	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+	905 472	N/A	N/A	N/A
10*16532	K	9-14-18	JEAN ANN MCFADDEN	TH EXPLORATION LLC	1/8+	905 459	N/A	N/A	N/A
10*16533	K	9-14-18	SHIRLEY ANN DOBBS	TH EXPLORATION LLC	1/8+	905 469	N/A	N/A	N/A
10*16534	K	9-14-18	TERRY LEE LASAVAGE	TH EXPLORATION LLC	1/8+	905 443	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*16580	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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10*16726	K	9-14-18	LESLEY 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+	913 577	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*16980	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	AUCE 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+	924 188	N/A	N/A	N/A
10*17289	K	9-14-18	HAROLD R HUNT JR AND EUZABETH 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+	923 597	N/A	N/A	N/A
10*17520	K	9-14-18	LUCY P SULLIVAN	TH EXPLORATION LLC	1/8+	923 538	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 PAVLIK	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 GRAMMER	TH EXPLORATION LLC	1/8+	907 429	N/A	N/A	N/A

doh 19610 51-

WW-6A1 Supplement

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*16680	L	9-15-3	RONALD J AND JENNIFER CHAMBERS FCCA	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*16848	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*17433	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+	921 484	N/A	N/A	N/A
10*16421	M	9-15-4	SAMUEL EDGAR LEWIS AND EUZABETH 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+	921 455	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

SI-01964M010

COPY

AFFIDAVIT

STATE OF TEXAS §
 § SS
COUNTY OF TARRANT §

On this 18th 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 18th day of October, 2016.

David D. Kalish
Affiant: David D. Kalish

JURAT

Jan Pest
MARSHALL County 03:44:20 PM
Instrument No 1416299
Date Recorded 10/19/2016
Document Type HIS
Pages Recorded 1
Book-Page 28-62
Recording Fee \$5.00
Additional \$6.00

STATE OF TEXAS §
 § SS
COUNTY OF TARRANT §

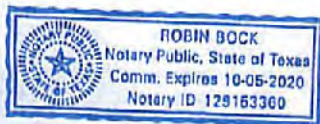
Sworn and subscribed to (or affirmed) before me on this, the 18th day of October, 2016, by David D. Kalish

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



STATE OF WEST VIRGINIA §
 §
COUNTY OF MARSHALL §

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

ASSIGNMENT AND CONVEYANCE

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

WITNESSETH:

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

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

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

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

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

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

#217
to now



August 16, 2017

WV Department of Environmental Protection
Office of Oil & Gas
601 57th 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.

Sincerely,

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

Amy L. Miller
Permitting Specialist - Appalachia

51-019641000

WW-PN
(11-18-2015)

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

Notice is hereby given:

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

Paper: Moundsville Daily Echo

Public Notice Date: July 6 & July 13, 2017

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

Applicant: Tug Hill Operating, LLC **Well Number:** TEN HIGH 1S-5HM

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

Business Conducted: Natural gas production.

Location –

State: West Virginia County: Marshall
District: Meade Quadrangle: Glen Easton 7.5'
UTM Coordinate NAD83 Northing: 4406356.83
UTM coordinate NAD83 Easting: 527307.78
Watershed: (HUC-10) Fish Creek

Coordinate Conversion:

To convert the coordinates above into longitude and latitude, visit: http://tagis.dep.wv.gov/convert/llutm_conus.php

Electronic notification:

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

Reviewing Applications:

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

Submitting Comments:

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

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

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

51-01966 MOD



(304) 845-2660
P.O. BOX 369
MOUNDSVILLE
WEST VIRGINIA
26041

AFFIDAVIT OF PUBLICATION

STATE OF WEST VIRGINIA,
COUNTY OF MARSHALL, to wit

I, Melanie S. Murdock being first duly sworn upon my oath, do depose and say:

- that I am Legal Advertising Manager of the MOUNDSVILLE DAILY ECHO, a Republican newspaper;
- that I have been duly authorized to execute this affidavit;
- that such newspaper has been published for over 119 years, is regularly published afternoons daily except Saturdays and Sundays, for at least fifty weeks during the calendar year, in the municipality of Moundsville, Marshall County, West Virginia.
- that such newspaper is a newspaper of "general circulation" as defined in Art. 3, Chap. 59 of the Code of West Virginia 1931 as amended, within Moundsville and Marshall County;
- that such newspaper averages in length four or more pages, exclusive of any cover, per issue;
- that such newspaper is circulated to the general public at a definite price or consideration;
- that such newspaper is a newspaper to which the general public resorts for passing events of a political, religious, commercial and social nature and for current happenings, announcements, miscellaneous reading matters, advertisements and other notices;
- and that the annexed notice described as follows:

Legal Advertisement

PARTY(ies)

Gas Well Permit / TEN HIGH 1S-5HM

NATURE (and agency if heard before one)

CERTIF-BILL TO

Tug Hill Operating
Amy Miller
380 Southpointe Blvd., Plaza II
Suite 200
Canonsburg, PA 15317

WAS PUBLISHED IN SAID NEWSPAPER AS FOLLOWS

Times	Dates
2	July 6, 13, 2017

BY WORDS	PUBLICATION CHARGES
502.25	\$101.05

(signed)

Melanie S. Murdock

NOTARIZATION

13th

Notary Public

Amy McElmurry

Notary Public
Amy McElmurry
Moundsville Daily Echo
P.O. Box 369
Moundsville, WV 26041
My Commission Expires August 28, 2019

LEGAL ADVERTISEMENT

Horizontal Natural Gas Well Work Permit

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

Paper: Moundsville Daily Echo
Public Notice Date: July 6 & July 13, 2017.

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

Applicant: Tug Hill Operating, LLC
Well Number: TEN HIGH 1S-5HM
Address: 380 Southpointe Blvd., Southpointe Plaza II, Suite 200, Canonsburg, PA 15317

Business Conducted: Natural gas production
Location -
State: West Virginia
County: Marshall
District: Meade
Quadrangle: Glen Easton 7.5'
UTM Coordinate NAD83 North-
ing: 4406356.83
UTM Coordinate NAD83 Easting: 527307.78

Watershed: (HUC-10) Fish Creek
Coordinate Conversion: To convert the coordinates above into longitude and latitude, visit: http://tags.dep.wv.gov/convert/latlon_convus.php

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

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

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

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

For information related to horizontal drilling visit: www.dep.wv.gov/oil-and-gas/pages/default.aspx
PUBLISH: July 6, 13, 2017.

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

Date of Notice Certification: 12/21/2017

API No. 47- 051 - 01964 MOD
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>527,326.35</u>
County:	<u>Marshall</u>		Northing:	<u>4,406,352.60</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 & 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.

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 40px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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Required Attachments:

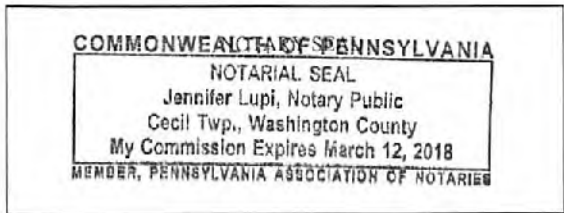
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication 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.

Certification of Notice is hereby given:

THEREFORE, I Amy L. Miller *Amy L. 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 21st day of Dec. 2017.
Jennifer Lupi Notary Public
My Commission Expires March 12, 2018

Oil and Gas Privacy Notice:

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

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

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

Date of Notice: 12/20/2017 **Date Permit Application Filed:** 12/21/2017

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: _____
 Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: None
 Address: _____

*Please attach additional forms if necessary

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

Well Location Restrictions

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

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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

Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

WW-6A
(8-13)

API NO. 47-051 - 0196480D
OPERATOR WELL NO. Ten High 1S-5HM
Well Pad Name: Ten High

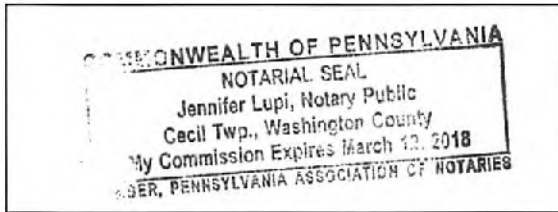
Notice is hereby given by:

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

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 deprivacyofficer@wv.gov.



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

Operator Well Nos. TEN HIGH 1S-5HM

WW-6A Notice of Application Attachment 1 of 1

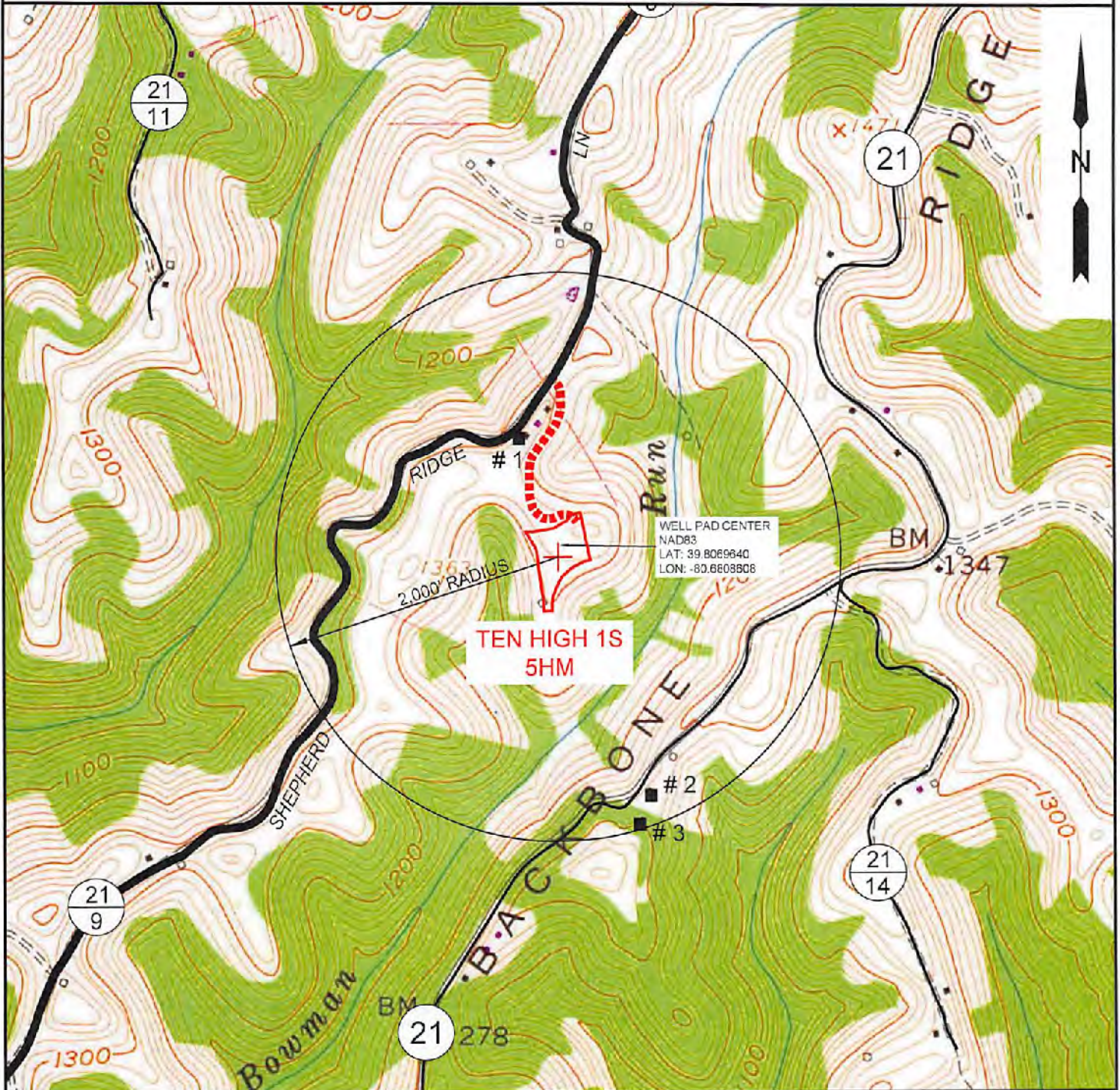
Surface Owner(s):

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

PROPOSED TEN HIGH 1S - 5HM



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

SLS
Land & Energy Development
Solutions from the ground up.
P.O. Box 160 • 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

51-01964 MOD

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com™.

OFFICIAL USE

Certified Mail Fee
 \$ _____

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

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage
 \$ _____

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

Postmark Here
 USE PA 15350
 DEC 21 2017

For Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com™.

OFFICIAL USE

Certified Mail Fee
 \$ _____

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

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage
 \$ _____

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

Postmark Here
 USE PA 15350
 DEC 21 2017

For Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com™.

OFFICIAL USE

Certified Mail Fee
 \$ _____

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

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage
 \$ _____

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

Postmark Here
 USE PA 15350
 DEC 21 2017

For Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com™.

OFFICIAL USE

Certified Mail Fee
 \$ _____

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

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage
 \$ _____

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

Postmark Here
 USE PA 15350
 DEC 21 2017

For Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

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OFFICIAL USE

Certified Mail Fee
 \$ _____

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

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage
 \$ _____

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

Postmark Here
 USE PA 15350
 DEC 21 2017

For Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

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OFFICIAL USE

Certified Mail Fee
 \$ _____

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

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage
 \$ _____

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

Postmark Here
 USE PA 15350
 DEC 21 2017

PS Form 3800, April 2015 PSN 7525-02-000-9047 See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
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OFFICIAL USE

Certified Mail Fee
 \$ _____

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

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage
 \$ _____

Murray Energy Corporation
 46226 National Road
 St. Clairsville, OH 43950

Postmark Here
 USE PA 15350
 DEC 21 2017

For Instructions

Ten High 1S-5HM, 6HM, 7HM, 8HM and 9HM

51-01964Mej

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 57th Street, SE, Charleston, WV 25304 (304-926-0450). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator:	<u>TUG HILL OPERATING, LLC</u>	Address:	<u>360 SOUTHPOINTE BLVD., SOUTHPOINTE PLAZA II, SUITE 200</u>
Telephone:	<u>(724) 749-8388</u>		<u>CANONSBURG, PA15317</u>
Email:	<u>jwhite@tug-hill.com</u>	Facsimile:	<u>(724) 398-2030</u>

Oil and Gas Privacy Notice:

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

SI-01964
MOD

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

SI-01964M03

7016 2140 0000 9582 3446

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GLEN EASTON WV 26039

OFFICIAL USE

Certified Mail Fee	\$3.30	0518 06
Extra Services & Fees (check box, add fee as appropriate)	\$2.70	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	

Postage \$1.36

Total \$7.36

Postmark Here DEC 9 2016

12/09/2016

PS Form 3800, April 2015 PSN 7506-01-000-9047 See Reverse for Instructions

7016 2140 0000 9582 3455

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GLEN EASTON WV 26039

OFFICIAL USE

Certified Mail Fee	\$3.30	0518 06
Extra Services & Fees (check box, add fee as appropriate)	\$2.70	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	

Postage \$1.36

Total \$7.36

Postmark Here DEC 9 2016

12/09/2016

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7016 2140 0000 9582 3431

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GLEN EASTON WV 26039

OFFICIAL USE

Certified Mail Fee	\$3.30	0518 06
Extra Services & Fees (check box, add fee as appropriate)	\$2.70	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	

Postage \$1.36

Total \$7.36

Postmark Here DEC 9 2016

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PS Form 3800, April 2015 PSN 7506-01-000-9047 See Reverse for Instructions

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SAINT CLAIRSVILLE OH 43950

OFFICIAL USE

Certified Mail Fee	\$3.30	0518 06
Extra Services & Fees (check box, add fee as appropriate)	\$2.70	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	

Postage \$1.36

Total \$7.36

Postmark Here DEC 9 2016

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PS Form 3800, April 2015 PSN 7506-01-000-9047 See Reverse for Instructions

7016 2140 0000 9582 3424

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GLEN EASTON WV 26039

OFFICIAL USE

Certified Mail Fee	\$3.30	0518 06
Extra Services & Fees (check box, add fee as appropriate)	\$2.70	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	

Postage \$1.36

Total \$7.36

Postmark Here DEC 9 2016

12/09/2016

PS Form 3800, April 2015 PSN 7506-01-000-9047 See Reverse for Instructions

7016 2140 0000 9582 3400

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MOUNDSVILLE WV 26041

OFFICIAL USE

Certified Mail Fee	\$3.30	0518 06
Extra Services & Fees (check box, add fee as appropriate)	\$2.70	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	

Postage \$1.36

Total \$7.36

Postmark Here DEC 9 2016

12/09/2016

PS Form 3800, April 2015 PSN 7506-01-000-9047 See Reverse for Instructions

7016 2140 0000 9582 3417

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MOUNDSVILLE WV 26041

OFFICIAL USE

Certified Mail Fee	\$3.30	0518 06
Extra Services & Fees (check box, add fee as appropriate)	\$2.70	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	

Postage \$1.36

Total \$7.36

Postmark Here DEC 9 2016

12/09/2016

PS Form 3800, April 2015 PSN 7506-01-000-9047 See Reverse for Instructions

Certified Receipts for
WW-6A3
Ten High IS-SHM

**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:** 08/15/2017

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 Loria 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 & 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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

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

SI-01964
MOD

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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OFFICIAL USE

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

Return Receipt (hardcopy) \$
 Return Receipt (electronic) \$
 Certified Mail Restricted Delivery \$
 Adult Signature Required \$
 Adult Signature Restricted Delivery \$

Postage
 \$

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

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Certified Mail Fee
 \$

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

Return Receipt (hardcopy) \$
 Return Receipt (electronic) \$
 Certified Mail Restricted Delivery \$
 Adult Signature Required \$
 Adult Signature Restricted Delivery \$

Postage
 \$

Total \$ Est. of Lawrence & Shirley Mae Conkle
 \$ C/O Roy Conkle
 \$ 75 Arlington Avenue
 \$ Moundsville, WV 26041
 \$
 \$
 \$
 \$

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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OFFICIAL USE

Certified Mail Fee
 \$

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

Return Receipt (hardcopy) \$
 Return Receipt (electronic) \$
 Certified Mail Restricted Delivery \$
 Adult Signature Required \$
 Adult Signature Restricted Delivery \$

Postage
 \$

Total \$ Murray Energy Corporation
 \$ Attn: Mr. Alex P. O'Neill
 \$ 46226 National Road
 \$ St. Clairsville, OH 43950
 \$
 \$
 \$
 \$

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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OFFICIAL USE

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

Return Receipt (hardcopy) \$
 Return Receipt (electronic) \$
 Certified Mail Restricted Delivery \$
 Adult Signature Required \$
 Adult Signature Restricted Delivery \$

Postage
 \$

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

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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OFFICIAL USE

Certified Mail Fee
 \$

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

Return Receipt (hardcopy) \$
 Return Receipt (electronic) \$
 Certified Mail Restricted Delivery \$
 Adult Signature Required \$
 Adult Signature Restricted Delivery \$

Postage
 \$

Total \$ Thomas R. and Kimberly Whitfield
 \$ 1838 Sallys Backbone Road
 \$ Glen Easton, WV 26039
 \$
 \$
 \$
 \$

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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OFFICIAL USE

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

Return Receipt (hardcopy) \$
 Return Receipt (electronic) \$
 Certified Mail Restricted Delivery \$
 Adult Signature Required \$
 Adult Signature Restricted Delivery \$

Postage
 \$

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

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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OFFICIAL USE

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

Return Receipt (hardcopy) \$
 Return Receipt (electronic) \$
 Certified Mail Restricted Delivery \$
 Adult Signature Required \$
 Adult Signature Restricted Delivery \$

Postage
 \$

Total \$ Roy A. Conkle, Sr. and Lorie A. Conkle
 \$ 75 Arlington Avenue
 \$ Moundsville, WV 26041
 \$
 \$
 \$
 \$

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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For delivery information, visit our website at www.usps.com™.

OFFICIAL USE

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

Return Receipt (hardcopy) \$
 Return Receipt (electronic) \$
 Certified Mail Restricted Delivery \$
 Adult Signature Required \$
 Adult Signature Restricted Delivery \$

Postage
 \$

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

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

51-01964MOD



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 57th Street, SE
Charleston, WV 25304

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

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



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