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west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Monday, October 24, 2022  
WELL WORK PERMIT  
Horizontal 6A / New Drill

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

Re: Permit approval for ELMER N-15HU  
47-103-03536-00-00

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

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

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

James A. Martin  
Chief

Operator's Well Number: ELMER N-15HU  
Farm Name: ELNORA TUTTLE HRS  
U.S. WELL NUMBER: 47-103-03536-00-00  
Horizontal 6A New Drill  
Date Issued: 10/24/2022



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west virginia department of environmental protection

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

Randall M. Albert, Chairman  
dep.wv.gov

October 21, 2022

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

RE: Application for Deep Well Permit – API #47-103-03536

COMPANY: Tug Hill Operating, LLC

FARM: Elnora Tuttle Elmer N-15HU Revised Borehole

COUNTY: Wetzel DISTRICT: Proctor QUAD: Wileyville

The deep well review of the application for the above company is Approved to drill to Trenton for Point Pleasant completion. Pooling Docket 308-312

The applicant has complied with the provision of Chapter 22C-9, of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

1. Comments to Notice of Deviation filed? Yes, but withdrawn.
2. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners? Yes
3. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells: \*\*yes
4. Provided a plat showing that the productive interval of the well meets the requirements of the Rules of the Commission W. Va. C.S.R. § 39-1-4.2.

Sincerely,

A handwritten signature in blue ink that reads 'Susan Rose'.

Susan Rose  
Administrator

\*\*Elmer N-18HU 47-103-03467; Elmer N-17HU 47-103-03505; Elmer N-16HU 47-103-03504; Elmer N-14HU 47-103-03502; Burch Ridge S-6HU 47-051-02193; Burch Ridge S-7HU 47-051-02194; McMasters S-16HU 47-051-02337; McMasters S-17HU 47-051-02338; McMasters S-18HU 47-051-02339; McMasters S-19HU 47-051-02340; Hillrock S-12HU 47-051-02272; Hillrock S-13HU 47-051-02273; Hillrock S-14HU 47-051-02262; Hillrock S-15HU 47-051-02263; Simms U-5H 47-051-0731

10/28/2022

# PERMIT CONDITIONS

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

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## CONDITIONS

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



WW-6B  
(04/15)

API NO. 47- 103 -  
OPERATOR WELL NO. Elmer N-15HU  
Well Pad Name: Elmer

18) CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	30"	NEW	BW	BW	120'	120' ✓	259ft^3(CTS)
Fresh Water/Coal	20"	NEW	J55	106.5#	1,125'	1,125' ✓	1,802ft^3(CTS)
Intermediate 1	13 3/8"	NEW	J55	54.5#	2,950'	2,950' ✓	2,079ft^3(CTS)
Intermediate 2	9 5/8"	NEW	HPP110	47#	10,611'	10,611'	3,470ft^3(CTS)
Production	5 1/2"	NEW	P110	23#	29,148'	29,148' ✓	6,858ft^3(CTS)
Tubing	2 7/8"	NEW	P110	6.5#		11,291'	
Liners							

Kenneth Greynolds Digitally signed by Kenneth Greynolds  
DN: cn = Kenneth Greynolds, email = KGreynolds@wv.gov, c = US, o = WVDEP, ou = Oil and Gas  
Date: 2022.10.17 14:31:08 -0400

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

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PACKERS

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

WW-6B  
(10/14)

API NO. 47- 103 -  
OPERATOR WELL NO. Elmer N-15HU  
Well Pad Name: Elmer

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

Drill through the Point Pleasant and TD Pilot Hole 150' into the Trenton. Log vertical section and run a solid cement plug back to proposed KOP(10,789'). Drill curve and lateral per proposed well plan, run and cement production casing. Perform DBL from 60 deg to surface, make cleanout run, and stimulate.

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

Well to be completed with approximately 42,300,000 lb. proppant and 760,000 bbl of water. Max rate = 80bpm; max psi = 9,000#.

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21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 26.11 acres

22) Area to be disturbed for well pad only, less access road (acres): 7.63 acres

23) Describe centralizer placement for each casing string:

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

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

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

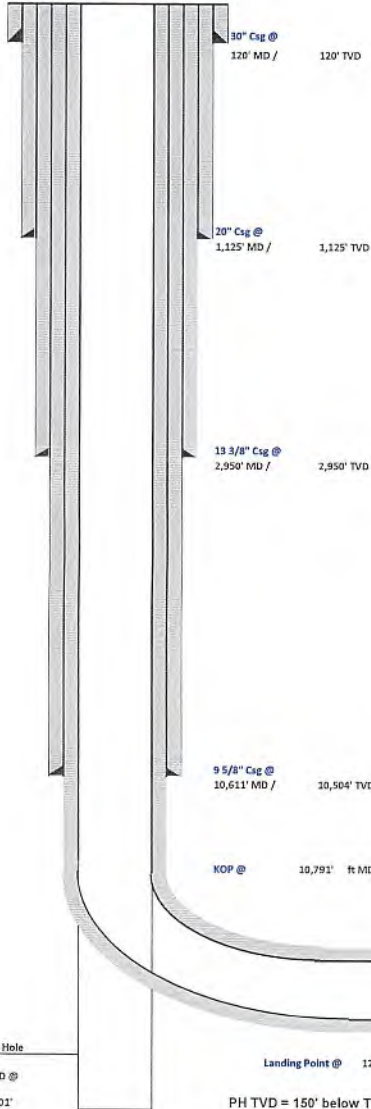
25) Proposed borehole conditioning procedures:

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

\*Note: Attach additional sheets as needed.



WELL NAME: Elmer N-15HU RD  
 STATE: WV COUNTY: Wetzel  
 DISTRICT: Proctor  
 DF Elev: 1,277' GL Elev: 1,277'  
 TD: 29,148'  
 TH Latitude: 39.699877  
 TH Longitude: -80.737624  
 BH Latitude: 39.733791  
 BH Longitude: -80.771272



FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	1,009'
Sewickley Coal	909'
Pittsburgh Coal	1,003'
Big Lime	2,383'
Berea	2,825'
Tully	6,737'
Marcellus	6,818'
Onondaga	6,868'
Salina	7,542'
Lockport	8,593'
Utica	11,366'
Point Pleasant	11,632'
Landing Depth	11,682'
Trenton	11,751'
Pilot Hole TD	11,901'

CASING SUMMARY							
Type	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cement
Conductor	36	30	120'	120'	8W	BW	Surface
Surface	26	20	1,125'	1,125'	106.5	J55	Surface
Intermediate 1	17 1/2	13 3/8	2,950'	2,950'	54.5	J55	Surface
Intermediate 2	12 1/4	9 5/8	10,611'	10,504'	47	HPP110	Surface
Production	8 1/2	5 1/2	29,148'	11,388'	23	HCP110	Surface

CEMENT SUMMARY				DRILLING DETAILS	
Type	Sacks	Class	Density (ppg)	Fluid Type	Centralizer Notes
Conductor	338	A	15.6	Air	None
Surface	1,943	A	15.6	Air	3 Centralizers at equal distance
Intermediate 1	2,253	A	15.6	Air	1 Centralizer every other joint
Intermediate 2	3,250	A	14.5	Air	1 Centralizer every other joint
Production	7,075	A	16.5	Air/SOBM	1 every other joint in lateral; 1 per joint in curve; 1 every other joint to surface

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Lateral TD @ 29,148' ft MD  
 11,388' ft TVD

Landing Point @ 12,262' MD / 11,682' TVD  
 PH TVD = 150' below Trenton Top

Pilot Hole  
 PH TD @ 11,901'



## Tug Hill Operating, LLC Casing and Cement Program

### Elmer N-15HU RD

### Casing

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	20"	J55	26"	1,125'	CTS
Intermediate 1	13 3/8"	J55	17 1/2"	2,950'	CTS
Intermediate 2	9 5/8"	HPP110	12 1/4"	10,611'	CTS
Production	5 1/2"	HCP110	8 1/2"	29,148'	CTS

### Cement

Conductor: Premium NE-1 + 2% bwoc CaC12 + 46.5% Fresh Water – Conductor Cement mixed at 15.6 ppg, Y=1.2

Surface: Premium NE-1 + 2% bwoc CaC12 + 46.5% Fresh Water – Surface Cement mixed at 15.6 ppg, Y=1.2

Intermediate 1: Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 15.6 ppg, Y=1.2

Intermediate 2: Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 14.5 ppg, Y=1.35

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

Production: 50:50 Poz: Premium NE-1 + .1% bwoc ASA-301 + 60lb/sk ASCA-1 + .35% bwoc BA-10A + .25% bwoc MPA-170, 44 lb sack + .5% bwoc R-3 + .75 gals/100sk FP-13L – Production Cement mixed at 16.5 ppg, Y = 1.03

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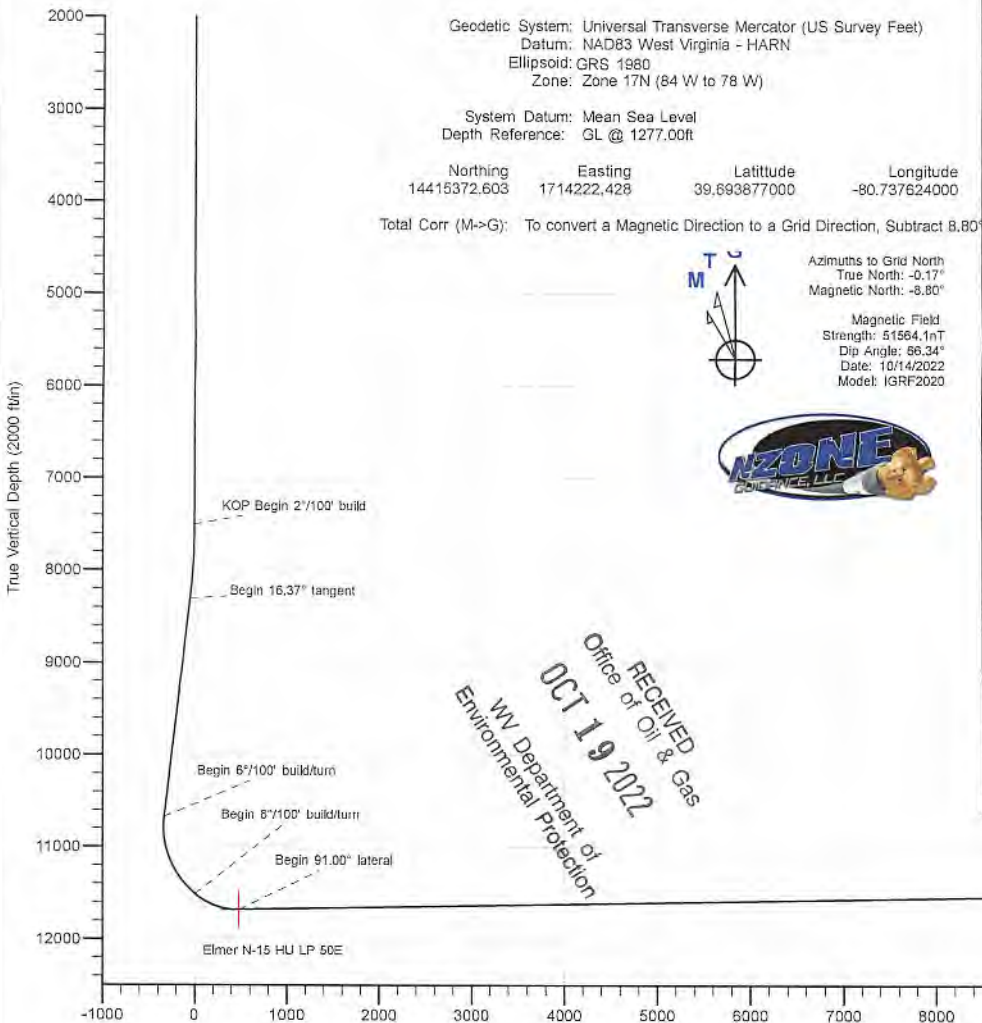
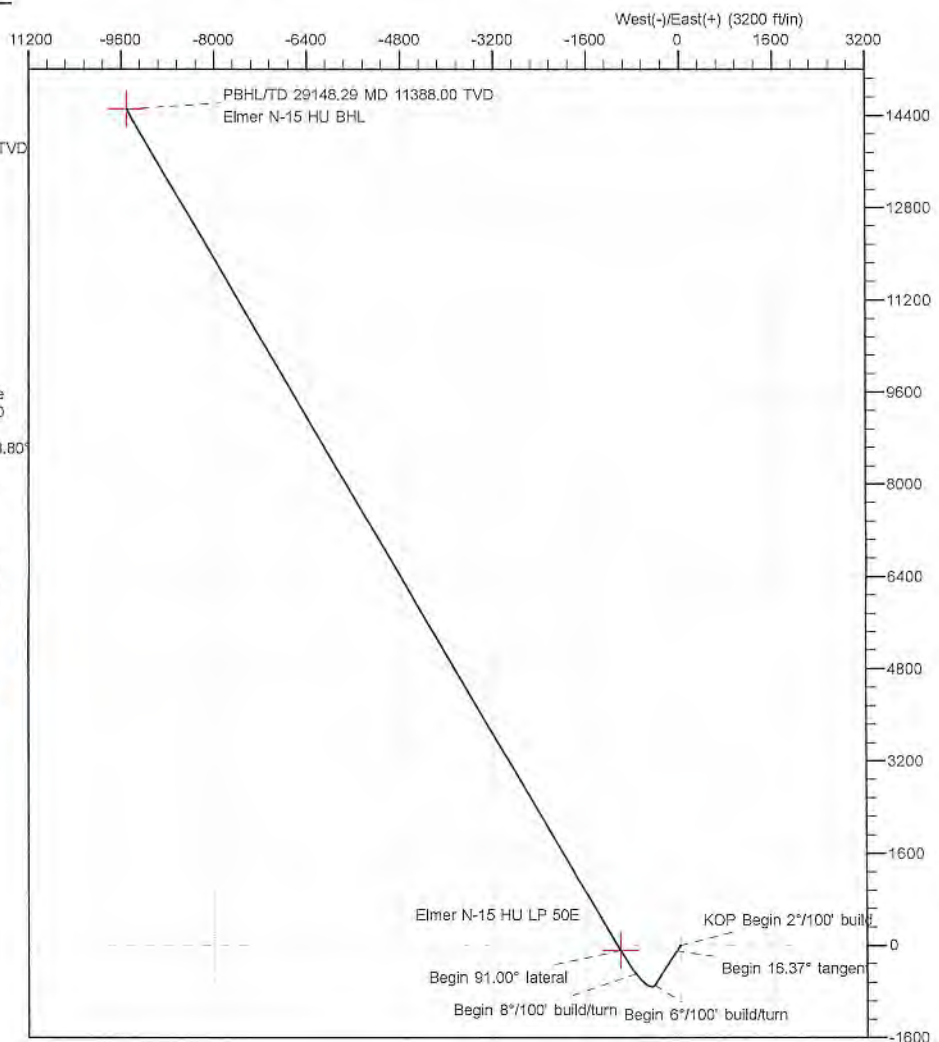
Well: Elmer N-15 HU RD (slot Z)  
 Site: Elmer  
 Project: Wetzel County, West Virginia (UTM17 NAD83)  
 Design: rev1

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Elmer N-15 HU BHL	11388.00	14507.72	-9502.2	114429880.298	1704720.242	39.733791000	-80.771272000
- plan hits target center							
Elmer N-15 HU LP 50E	11682.00	-92.33	-1022.89	114415280.278	1713199.537	39.693631604	-80.741261242
- plan misses target center by 0.01ft at 12262.01ft MD (11682.00 TVD, -92.32 N, -1022.89 E)							

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
2	7502.00	0.00	0.000	7502.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 2'/100' build
3	8320.69	16.37	212.630	8309.59	-97.85	-82.65	2.00	212.63	-47.53	Begin 16.37° tangent
4	10791.30	16.37	212.630	10680.00	-684.39	-438.19	0.00	0.00	-332.43	Begin 6'/100' build/turn
5	11742.60	50.00	322.450	11512.08	-492.28	-759.59	6.00	120.85	4.38	Begin 8'/100' build/turn
6	12262.00	91.00	329.853	11682.00	-92.33	-1022.89	8.00	11.20	483.21	Begin 91.00° lateral
7	29148.29	91.00	329.853	11388.00	14507.72	-9502.21	0.00	0.00	17342.60	PBHL/TD 29148.29 MD 11388.00 TVD

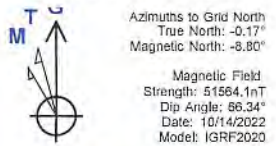


Geodetic System: Universal Transverse Mercator (US Survey Feet)  
 Datum: NAD83 West Virginia - HARN  
 Ellipsoid: GRS 1980  
 Zone: Zone 17N (84 W to 78 W)

System Datum: Mean Sea Level  
 Depth Reference: GL @ 1277.00ft

Northing: 14415372.603    Easting: 1714222.428    Latitude: 39.693877000    Longitude: -80.737624000

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.80°



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Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Elmer N-15 HU RD (slot Z)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL @ 1277.00ft
<b>Project:</b>	Wetzel County, West Virginia (UTM17 NAD83)	<b>MD Reference:</b>	GL @ 1277.00ft
<b>Site:</b>	Elmer	<b>North Reference:</b>	Grid
<b>Well:</b>	Elmer N-15 HU RD (slot Z)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev1		

<b>Project</b>	Wetzel County, West Virginia (UTM17 NAD83)		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD83 West Virginia - HARN		
<b>Map Zone:</b>	Zone 17N (84 W to 78 W)		

<b>Site</b>	Elmer				
<b>Site Position:</b>		<b>Northing:</b>	14,415,313.835 usft	<b>Latitude:</b>	39.693715720
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,714,207.744 usft	<b>Longitude:</b>	-80.737676810
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "		

<b>Well</b>	Elmer N-15 HU RD (slot Z)					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,415,372.604 usft	<b>Latitude:</b>	39.693877000
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	1,714,222.428 usft	<b>Longitude:</b>	-80.737624000
<b>Position Uncertainty</b>	0.00 ft		<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	1,277.00 ft
<b>Grid Convergence:</b>						

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	10/14/2022	-8.63	66.34	51,564.11837113

<b>Design</b>	rev1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	326.776

<b>Plan Survey Tool Program</b>	<b>Date</b>			
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	29,148.28 rev1 (Original Hole)		

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<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,502.00	0.00	0.000	7,502.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,320.69	16.37	212.630	8,309.59	-97.85	-62.65	2.00	2.00	0.00	212.63	
10,791.30	16.37	212.630	10,680.00	-684.39	-438.19	0.00	0.00	0.00	0.00	
11,742.60	50.00	322.450	11,512.08	-492.28	-759.59	6.00	3.53	11.54	120.85	
12,262.00	91.00	329.853	11,682.00	-92.33	-1,022.89	8.00	7.89	1.43	11.20	
29,148.29	91.00	329.853	11,388.00	14,507.72	-9,502.21	0.00	0.00	0.00	0.00	Elmer N-15 HU BHL



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Elmer N-15 HU RD (slot Z)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1277.00ft
Project:	Wetzel County, West Virginia (UTM17 NAD83)	MD Reference:	GL @ 1277.00ft
Site:	Elmer	North Reference:	Grid
Well:	Elmer N-15 HU RD (slot Z)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
100.00	0.00	0.000	100.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
200.00	0.00	0.000	200.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
300.00	0.00	0.000	300.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
400.00	0.00	0.000	400.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
500.00	0.00	0.000	500.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
600.00	0.00	0.000	600.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
700.00	0.00	0.000	700.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
800.00	0.00	0.000	800.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
900.00	0.00	0.000	900.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
1,000.00	0.00	0.000	1,000.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
1,100.00	0.00	0.000	1,100.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
1,200.00	0.00	0.000	1,200.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
1,300.00	0.00	0.000	1,300.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
1,400.00	0.00	0.000	1,400.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
1,500.00	0.00	0.000	1,500.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
1,600.00	0.00	0.000	1,600.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
1,700.00	0.00	0.000	1,700.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
1,800.00	0.00	0.000	1,800.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
1,900.00	0.00	0.000	1,900.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
2,000.00	0.00	0.000	2,000.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
2,100.00	0.00	0.000	2,100.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
2,200.00	0.00	0.000	2,200.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
2,300.00	0.00	0.000	2,300.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
2,400.00	0.00	0.000	2,400.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
2,500.00	0.00	0.000	2,500.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
2,600.00	0.00	0.000	2,600.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
2,700.00	0.00	0.000	2,700.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
2,800.00	0.00	0.000	2,800.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
2,900.00	0.00	0.000	2,900.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
3,000.00	0.00	0.000	3,000.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
3,100.00	0.00	0.000	3,100.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
3,200.00	0.00	0.000	3,200.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
3,300.00	0.00	0.000	3,300.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
3,400.00	0.00	0.000	3,400.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
3,500.00	0.00	0.000	3,500.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
3,600.00	0.00	0.000	3,600.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
3,700.00	0.00	0.000	3,700.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
3,800.00	0.00	0.000	3,800.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
3,900.00	0.00	0.000	3,900.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
4,000.00	0.00	0.000	4,000.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
4,100.00	0.00	0.000	4,100.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
4,200.00	0.00	0.000	4,200.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
4,300.00	0.00	0.000	4,300.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
4,400.00	0.00	0.000	4,400.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
4,500.00	0.00	0.000	4,500.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
4,600.00	0.00	0.000	4,600.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
4,700.00	0.00	0.000	4,700.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
4,800.00	0.00	0.000	4,800.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
4,900.00	0.00	0.000	4,900.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
5,000.00	0.00	0.000	5,000.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
5,100.00	0.00	0.000	5,100.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
5,200.00	0.00	0.000	5,200.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
5,300.00	0.00	0.000	5,300.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
5,400.00	0.00	0.000	5,400.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000

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Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Elmer N-15 HU RD (slot Z)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL @ 1277.00ft
<b>Project:</b>	Wetzel County, West Virginia (UTM17 NAD83)	<b>MD Reference:</b>	GL @ 1277.00ft
<b>Site:</b>	Elmer	<b>North Reference:</b>	Grid
<b>Well:</b>	Elmer N-15 HU RD (slot Z)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,500.00	0.00	0.000	5,500.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
5,600.00	0.00	0.000	5,600.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
5,700.00	0.00	0.000	5,700.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
5,800.00	0.00	0.000	5,800.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
5,900.00	0.00	0.000	5,900.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
6,000.00	0.00	0.000	6,000.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
6,100.00	0.00	0.000	6,100.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
6,200.00	0.00	0.000	6,200.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
6,300.00	0.00	0.000	6,300.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
6,400.00	0.00	0.000	6,400.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
6,500.00	0.00	0.000	6,500.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
6,600.00	0.00	0.000	6,600.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
6,700.00	0.00	0.000	6,700.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
6,800.00	0.00	0.000	6,800.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
6,900.00	0.00	0.000	6,900.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
7,000.00	0.00	0.000	7,000.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
7,100.00	0.00	0.000	7,100.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
7,200.00	0.00	0.000	7,200.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
7,300.00	0.00	0.000	7,300.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
7,400.00	0.00	0.000	7,400.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
7,502.00	0.00	0.000	7,502.00	0.00	0.00	14,415,372.604	1,714,222.428	39.693877000	-80.737624000
<b>KOP Begin 2°/100' build</b>									
7,600.00	1.96	212.630	7,599.98	-1.41	-0.90	14,415,371.192	1,714,221.524	39.693873130	-80.737627228
7,700.00	3.96	212.630	7,699.84	-5.76	-3.69	14,415,366.844	1,714,218.740	39.693861210	-80.737637171
7,800.00	5.96	212.630	7,799.46	-13.04	-8.35	14,415,359.562	1,714,214.078	39.693841252	-80.737653819
7,900.00	7.96	212.630	7,898.72	-23.25	-14.88	14,415,349.358	1,714,207.544	39.693813279	-80.737671152
8,000.00	9.96	212.630	7,997.50	-36.36	-23.28	14,415,336.242	1,714,199.147	39.693777327	-80.737707140
8,100.00	11.96	212.630	8,095.67	-52.37	-33.53	14,415,320.231	1,714,188.895	39.693733439	-80.737743749
8,200.00	13.96	212.630	8,193.11	-71.26	-45.62	14,415,301.345	1,714,176.803	39.693681668	-80.737786932
8,300.00	15.96	212.630	8,289.72	-93.00	-59.54	14,415,279.606	1,714,162.884	39.693622077	-80.737836638
8,320.69	16.37	212.630	8,309.59	-97.85	-62.65	14,415,274.756	1,714,159.779	39.693608781	-80.737847728
<b>Begin 16.37° tangent</b>									
8,400.00	16.37	212.630	8,385.69	-116.68	-74.71	14,415,255.926	1,714,147.723	39.693557165	-80.737890782
8,500.00	16.37	212.630	8,481.63	-140.42	-89.91	14,415,232.185	1,714,132.522	39.693492087	-80.737945065
8,600.00	16.37	212.630	8,577.57	-164.16	-105.11	14,415,208.444	1,714,117.322	39.693427010	-80.737999347
8,700.00	16.37	212.630	8,673.52	-187.90	-120.31	14,415,184.703	1,714,102.121	39.693361932	-80.738053630
8,800.00	16.37	212.630	8,769.46	-211.64	-135.51	14,415,160.962	1,714,086.921	39.693296854	-80.738107912
8,900.00	16.37	212.630	8,865.41	-235.38	-150.71	14,415,137.221	1,714,071.721	39.693231776	-80.738162194
9,000.00	16.37	212.630	8,961.35	-259.12	-165.91	14,415,113.481	1,714,056.520	39.693166698	-80.738216476
9,100.00	16.37	212.630	9,057.30	-282.86	-181.11	14,415,089.740	1,714,041.320	39.693101620	-80.738270758
9,200.00	16.37	212.630	9,153.24	-306.61	-196.31	14,415,065.999	1,714,026.119	39.693036543	-80.738325040
9,300.00	16.37	212.630	9,249.18	-330.35	-211.51	14,415,042.258	1,714,010.919	39.692971465	-80.738379322
9,400.00	16.37	212.630	9,345.13	-354.09	-226.71	14,415,018.517	1,713,995.718	39.692906387	-80.738433603
9,500.00	16.37	212.630	9,441.07	-377.83	-241.91	14,414,994.777	1,713,980.518	39.692841309	-80.738487885
9,600.00	16.37	212.630	9,537.02	-401.57	-257.11	14,414,971.036	1,713,965.318	39.692776231	-80.738542166
9,700.00	16.37	212.630	9,632.96	-425.31	-272.31	14,414,947.295	1,713,950.117	39.692711153	-80.738596447
9,800.00	16.37	212.630	9,728.91	-449.05	-287.51	14,414,923.554	1,713,934.917	39.692646075	-80.738650729
9,900.00	16.37	212.630	9,824.85	-472.79	-302.71	14,414,899.813	1,713,919.716	39.692580997	-80.738705010
10,000.00	16.37	212.630	9,920.80	-496.53	-317.91	14,414,876.072	1,713,904.516	39.692515919	-80.738759291
10,100.00	16.37	212.630	10,016.74	-520.27	-333.11	14,414,852.332	1,713,889.315	39.692450840	-80.738813572
10,200.00	16.37	212.630	10,112.68	-544.01	-348.31	14,414,828.591	1,713,874.115	39.692385762	-80.738867853
10,300.00	16.37	212.630	10,208.63	-567.75	-363.51	14,414,804.850	1,713,858.915	39.692320684	-80.738922133
10,400.00	16.37	212.630	10,304.57	-591.50	-378.71	14,414,781.109	1,713,843.714	39.692255606	-80.738976414
10,500.00	16.37	212.630	10,400.52	-615.24	-393.91	14,414,757.368	1,713,828.514	39.692190527	-80.739030694

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OCT 19 2022



Planning Report - Geographic

WV Department of  
 Environmental Protection

Database: DB\_Feb2822  
 Company: Tug Hill Operating LLC  
 Project: Wetzell County, West Virginia (UTM17 NAD83)  
 Site: Elmer  
 Well: Elmer N-15 HU RD (slot Z)  
 Wellbore: Original Hole  
 Design: rev1

Local Co-ordinate Reference: Well Elmer N-15 HU RD (slot Z)  
 TVD Reference: GL @ 1277.00ft  
 MD Reference: GL @ 1277.00ft  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,600.00	16.37	212.630	10,496.46	-638.98	-409.12	14,414,733.627	1,713,813.313	39.692125449	-80.739084975
10,700.00	16.37	212.630	10,592.41	-662.72	-424.32	14,414,709.887	1,713,798.113	39.692060371	-80.739139255
10,791.30	16.37	212.630	10,680.00	-684.39	-438.19	14,414,688.212	1,713,784.235	39.692000956	-80.739188811
<b>Begin 6°/100' build/turn</b>									
10,800.00	16.11	214.246	10,688.36	-686.42	-439.53	14,414,686.181	1,713,782.894	39.691995388	-80.739193599
10,850.00	14.87	224.491	10,736.55	-696.74	-447.94	14,414,675.866	1,713,774.492	39.691967130	-80.739223574
10,900.00	14.15	236.138	10,784.96	-704.72	-457.51	14,414,667.882	1,713,764.919	39.691945279	-80.739257689
10,950.00	14.04	248.470	10,833.47	-710.36	-468.23	14,414,662.250	1,713,754.200	39.691929896	-80.739295851
11,000.00	14.54	260.473	10,881.93	-713.62	-480.06	14,414,658.985	1,713,742.365	39.691921024	-80.739337954
11,050.00	15.61	271.280	10,930.22	-714.51	-492.98	14,414,658.096	1,713,729.447	39.691918885	-80.739383885
11,100.00	17.13	280.481	10,978.20	-713.02	-506.95	14,414,659.586	1,713,715.481	39.691922888	-80.739433516
11,150.00	18.99	288.077	11,025.74	-709.16	-521.92	14,414,663.450	1,713,700.505	39.691933620	-80.739486712
11,200.00	21.11	294.282	11,072.72	-702.93	-537.87	14,414,669.678	1,713,684.561	39.691950852	-80.739543327
11,250.00	23.41	299.359	11,118.99	-694.35	-554.74	14,414,678.253	1,713,667.692	39.691974536	-80.739603206
11,300.00	25.85	303.551	11,164.44	-683.45	-572.49	14,414,689.152	1,713,649.944	39.692004608	-80.739666185
11,350.00	28.40	307.053	11,208.94	-670.26	-591.06	14,414,702.344	1,713,631.365	39.692040985	-80.739732091
11,400.00	31.01	310.016	11,252.37	-654.81	-610.42	14,414,717.793	1,713,612.008	39.692083568	-80.739800743
11,450.00	33.69	312.557	11,294.61	-637.15	-630.50	14,414,735.457	1,713,591.925	39.692132240	-80.739871954
11,500.00	36.41	314.762	11,335.54	-617.32	-651.26	14,414,755.288	1,713,571.170	39.692186867	-80.739945528
11,550.00	39.16	316.698	11,375.05	-595.37	-672.63	14,414,777.231	1,713,549.802	39.692247300	-80.740021264
11,600.00	41.95	318.418	11,413.04	-571.38	-694.55	14,414,801.227	1,713,527.878	39.692313373	-80.740098953
11,650.00	44.75	319.960	11,449.39	-545.40	-716.97	14,414,827.208	1,713,505.458	39.692384905	-80.740178384
11,700.00	47.58	321.356	11,484.02	-517.50	-739.82	14,414,855.105	1,713,482.604	39.692461700	-80.740259338
11,742.60	50.00	322.450	11,512.08	-492.28	-759.59	14,414,880.325	1,713,462.839	39.692531118	-80.740329341
<b>Begin 8°/100' build/turn</b>									
11,750.00	50.58	322.599	11,516.81	-487.76	-763.06	14,414,884.845	1,713,459.374	39.692543559	-80.740341613
11,800.00	54.51	323.544	11,547.21	-456.03	-786.89	14,414,916.572	1,713,435.539	39.692630882	-80.740426018
11,850.00	58.45	324.401	11,574.82	-422.32	-811.40	14,414,950.280	1,713,411.033	39.692723650	-80.740512787
11,900.00	62.39	325.189	11,599.50	-386.80	-836.45	14,414,985.805	1,713,385.975	39.692821411	-80.740601495
11,950.00	66.33	325.922	11,621.13	-349.63	-861.94	14,415,022.973	1,713,360.489	39.692923688	-80.740691714
12,000.00	70.28	326.611	11,639.61	-311.00	-887.73	14,415,061.604	1,713,334.698	39.693029984	-80.740783002
12,050.00	74.23	327.268	11,654.85	-271.10	-913.70	14,415,101.508	1,713,308.727	39.693139781	-80.740874914
12,100.00	78.18	327.899	11,666.76	-230.11	-939.73	14,415,142.493	1,713,282.704	39.693252543	-80.740967003
12,150.00	82.14	328.513	11,675.31	-188.25	-965.68	14,415,184.357	1,713,256.755	39.693367722	-80.741058820
12,200.00	86.09	329.114	11,680.43	-145.71	-991.42	14,415,226.898	1,713,231.006	39.693484756	-80.741149918
12,250.00	90.05	329.710	11,682.11	-102.70	-1,016.85	14,415,269.907	1,713,205.583	39.693603075	-80.741239853
12,262.00	91.00	329.853	11,682.00	-92.33	-1,022.89	14,415,280.275	1,713,199.544	39.693631595	-80.741261213
<b>Begin 91.00° lateral</b>									
12,300.00	91.00	329.853	11,681.34	-59.47	-1,041.97	14,415,313.131	1,713,180.462	39.693721960	-80.741328711
12,400.00	91.00	329.853	11,679.60	26.99	-1,092.18	14,415,399.592	1,713,130.248	39.693959826	-80.741506333
12,500.00	91.00	329.853	11,677.86	113.45	-1,142.40	14,415,486.053	1,713,080.034	39.694197671	-80.741683955
12,600.00	91.00	329.853	11,676.12	199.91	-1,192.61	14,415,572.514	1,713,029.820	39.694435516	-80.741861578
12,700.00	91.00	329.853	11,674.38	286.37	-1,242.82	14,415,658.974	1,712,979.606	39.694673361	-80.742039203
12,800.00	91.00	329.853	11,672.64	372.83	-1,293.04	14,415,745.435	1,712,929.392	39.694911206	-80.742216829
12,900.00	91.00	329.853	11,670.90	459.29	-1,343.25	14,415,831.896	1,712,879.177	39.695149050	-80.742394456
13,000.00	91.00	329.853	11,669.16	545.75	-1,393.47	14,415,918.357	1,712,828.963	39.695386894	-80.742572085
13,100.00	91.00	329.853	11,667.41	632.22	-1,443.68	14,416,004.818	1,712,778.749	39.695624738	-80.742749714
13,200.00	91.00	329.853	11,665.67	718.68	-1,493.90	14,416,091.278	1,712,728.535	39.695862582	-80.742927345
13,300.00	91.00	329.853	11,663.93	805.14	-1,544.11	14,416,177.739	1,712,678.321	39.696100425	-80.743104977
13,400.00	91.00	329.853	11,662.19	891.60	-1,594.32	14,416,264.200	1,712,628.107	39.696338268	-80.743282610
13,500.00	91.00	329.853	11,660.45	978.06	-1,644.54	14,416,350.661	1,712,577.893	39.696576111	-80.743460245
13,600.00	91.00	329.853	11,658.71	1,064.52	-1,694.75	14,416,437.122	1,712,527.679	39.696813953	-80.743637880
13,700.00	91.00	329.853	11,656.97	1,150.98	-1,744.97	14,416,523.582	1,712,477.465	39.697051795	-80.743815517
13,800.00	91.00	329.853	11,655.23	1,237.44	-1,795.18	14,416,610.043	1,712,427.250	39.697289637	-80.743993155



Planning Report - Geographic

WV Department of Environmental Protection

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Elmer N-15 HU RD (slot Z)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1277.00ft
Project:	Wetzel County, West Virginia (UTM17 NAD83)	MD Reference:	GL @ 1277.00ft
Site:	Elmer	North Reference:	Grid
Well:	Elmer N-15 HU RD (slot Z)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
13,900.00	91.00	329.853	11,653.49	1,323.90	-1,845.40	14,416,696.504	1,712,377.036	39.697527479	-80.744170795	
14,000.00	91.00	329.853	11,651.74	1,410.36	-1,895.61	14,416,782.965	1,712,326.822	39.697765320	-80.744348435	
14,100.00	91.00	329.853	11,650.00	1,496.82	-1,945.82	14,416,869.426	1,712,278.608	39.698003161	-80.744526077	
14,200.00	91.00	329.853	11,648.26	1,583.29	-1,996.04	14,416,955.886	1,712,226.394	39.698241002	-80.744703720	
14,300.00	91.00	329.853	11,646.52	1,669.75	-2,046.25	14,417,042.347	1,712,176.180	39.698478842	-80.744881364	
14,400.00	91.00	329.853	11,644.78	1,756.21	-2,096.47	14,417,128.808	1,712,125.966	39.698716682	-80.745059009	
14,500.00	91.00	329.853	11,643.04	1,842.67	-2,146.68	14,417,215.269	1,712,075.752	39.698954522	-80.745236656	
14,600.00	91.00	329.853	11,641.30	1,929.13	-2,196.89	14,417,301.730	1,712,025.537	39.699192362	-80.745414304	
14,700.00	91.00	329.853	11,639.56	2,015.59	-2,247.11	14,417,388.190	1,711,975.323	39.699430201	-80.745591953	
14,800.00	91.00	329.853	11,637.82	2,102.05	-2,297.32	14,417,474.651	1,711,925.109	39.699668040	-80.745769603	
14,900.00	91.00	329.853	11,636.08	2,188.51	-2,347.54	14,417,561.112	1,711,874.895	39.699905879	-80.745947255	
15,000.00	91.00	329.853	11,634.33	2,274.97	-2,397.75	14,417,647.573	1,711,824.681	39.700143718	-80.746124907	
15,100.00	91.00	329.853	11,632.59	2,361.43	-2,447.97	14,417,734.034	1,711,774.467	39.700381556	-80.746302561	
15,200.00	91.00	329.853	11,630.85	2,447.90	-2,498.18	14,417,820.494	1,711,724.253	39.700619394	-80.746480217	
15,300.00	91.00	329.853	11,629.11	2,534.36	-2,548.39	14,417,906.955	1,711,674.039	39.700857232	-80.746657873	
15,400.00	91.00	329.853	11,627.37	2,620.82	-2,598.61	14,417,993.416	1,711,623.825	39.701095060	-80.746835530	
15,500.00	91.00	329.853	11,625.63	2,707.28	-2,648.82	14,418,079.877	1,711,573.610	39.701332906	-80.747013189	
15,600.00	91.00	329.853	11,623.89	2,793.74	-2,699.04	14,418,166.338	1,711,523.396	39.701570743	-80.747190849	
15,700.00	91.00	329.853	11,622.15	2,880.20	-2,749.25	14,418,252.798	1,711,473.182	39.701808580	-80.747368510	
15,800.00	91.00	329.853	11,620.41	2,966.66	-2,799.47	14,418,339.259	1,711,422.968	39.702046416	-80.747546173	
15,900.00	91.00	329.853	11,618.66	3,053.12	-2,849.68	14,418,425.720	1,711,372.754	39.702284252	-80.747723837	
16,000.00	91.00	329.853	11,616.92	3,139.58	-2,899.89	14,418,512.181	1,711,322.540	39.702522088	-80.747901501	
16,100.00	91.00	329.853	11,615.18	3,226.04	-2,950.11	14,418,598.642	1,711,272.326	39.702759923	-80.748079168	
16,200.00	91.00	329.853	11,613.44	3,312.51	-3,000.32	14,418,685.102	1,711,222.112	39.702997758	-80.748256835	
16,300.00	91.00	329.853	11,611.70	3,398.97	-3,050.54	14,418,771.563	1,711,171.897	39.703235593	-80.748434503	
16,400.00	91.00	329.853	11,609.96	3,485.43	-3,100.75	14,418,858.024	1,711,121.683	39.703473428	-80.748612173	
16,500.00	91.00	329.853	11,608.22	3,571.89	-3,150.96	14,418,944.485	1,711,071.469	39.703711262	-80.748789844	
16,600.00	91.00	329.853	11,606.48	3,658.35	-3,201.18	14,419,030.946	1,711,021.255	39.703949096	-80.748967516	
16,700.00	91.00	329.853	11,604.74	3,744.81	-3,251.39	14,419,117.406	1,710,971.041	39.704186930	-80.749145190	
16,800.00	91.00	329.853	11,602.99	3,831.27	-3,301.61	14,419,203.867	1,710,920.827	39.704424764	-80.749322864	
16,900.00	91.00	329.853	11,601.25	3,917.73	-3,351.82	14,419,290.328	1,710,870.613	39.704662597	-80.749500540	
17,000.00	91.00	329.853	11,599.51	4,004.19	-3,402.04	14,419,376.789	1,710,820.399	39.704900430	-80.749678217	
17,100.00	91.00	329.853	11,597.77	4,090.65	-3,452.25	14,419,463.250	1,710,770.184	39.705138263	-80.749855895	
17,200.00	91.00	329.853	11,596.03	4,177.12	-3,502.46	14,419,549.710	1,710,719.970	39.705376095	-80.750033575	
17,300.00	91.00	329.853	11,594.29	4,263.58	-3,552.68	14,419,636.171	1,710,669.756	39.705613927	-80.750211256	
17,400.00	91.00	329.853	11,592.55	4,350.04	-3,602.89	14,419,722.632	1,710,619.542	39.705851759	-80.750388937	
17,500.00	91.00	329.853	11,590.81	4,436.50	-3,653.11	14,419,809.093	1,710,569.328	39.706089591	-80.750566621	
17,600.00	91.00	329.853	11,589.07	4,522.96	-3,703.32	14,419,895.554	1,710,519.114	39.706327422	-80.750744305	
17,700.00	91.00	329.853	11,587.32	4,609.42	-3,753.54	14,419,982.014	1,710,468.900	39.706565253	-80.750921990	
17,800.00	91.00	329.853	11,585.58	4,695.88	-3,803.75	14,420,068.475	1,710,418.686	39.706803084	-80.751099677	
17,900.00	91.00	329.853	11,583.84	4,782.34	-3,853.96	14,420,154.936	1,710,368.472	39.707040914	-80.751277365	
18,000.00	91.00	329.853	11,582.10	4,868.80	-3,904.18	14,420,241.397	1,710,318.257	39.707278745	-80.751455054	
18,100.00	91.00	329.853	11,580.36	4,955.26	-3,954.39	14,420,327.858	1,710,268.043	39.707516574	-80.751632745	
18,200.00	91.00	329.853	11,578.62	5,041.73	-4,004.61	14,420,414.318	1,710,217.829	39.707754404	-80.751810437	
18,300.00	91.00	329.853	11,576.88	5,128.19	-4,054.82	14,420,500.779	1,710,167.615	39.707992233	-80.751988129	
18,400.00	91.00	329.853	11,575.14	5,214.65	-4,105.04	14,420,587.240	1,710,117.401	39.708230063	-80.752165824	
18,500.00	91.00	329.853	11,573.40	5,301.11	-4,155.25	14,420,673.701	1,710,067.187	39.708467891	-80.752343519	
18,600.00	91.00	329.853	11,571.65	5,387.57	-4,205.46	14,420,760.162	1,710,016.973	39.708705720	-80.752521215	
18,700.00	91.00	329.853	11,569.91	5,474.03	-4,255.68	14,420,846.622	1,709,966.759	39.708943548	-80.752698911	
18,800.00	91.00	329.853	11,568.17	5,560.49	-4,305.89	14,420,933.083	1,709,916.544	39.709181376	-80.752876612	
18,900.00	91.00	329.853	11,566.43	5,646.95	-4,356.11	14,421,019.544	1,709,866.330	39.709419204	-80.753054312	
19,000.00	91.00	329.853	11,564.69	5,733.41	-4,406.32	14,421,106.005	1,709,816.116	39.709657031	-80.753232014	
19,100.00	91.00	329.853	11,562.95	5,819.87	-4,456.53	14,421,192.466	1,709,765.902	39.709894858	-80.753409716	
19,200.00	91.00	329.853	11,561.21	5,906.33	-4,506.75	14,421,278.926	1,709,715.688	39.710132685	-80.753587420	
19,300.00	91.00	329.853	11,559.47	5,992.80	-4,556.96	14,421,365.387	1,709,665.474	39.710370512	-80.753765125	



Planning Report - Geographic

WV Department of Environmental Protection

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Elmer N-15 HU RD (slot Z)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1277.00ft
Project:	Wetzel County, West Virginia (UTM17 NAD83)	MD Reference:	GL @ 1277.00ft
Site:	Elmer	North Reference:	Grid
Well:	Elmer N-15 HU RD (slot Z)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
19,400.00	91.00	329.853	11,557.73	6,079.26	-4,607.18	14,421,451.848	1,709,615.260	39.710608338	-80.753942831	
19,500.00	91.00	329.853	11,555.99	6,165.72	-4,657.39	14,421,538.309	1,709,565.046	39.710846164	-80.754120539	
19,600.00	91.00	329.853	11,554.24	6,252.18	-4,707.61	14,421,624.770	1,709,514.832	39.711083990	-80.754298247	
19,700.00	91.00	329.853	11,552.50	6,338.64	-4,757.82	14,421,711.230	1,709,464.617	39.711321815	-80.754475957	
19,800.00	91.00	329.853	11,550.76	6,425.10	-4,808.03	14,421,797.691	1,709,414.403	39.711559641	-80.754653669	
19,900.00	91.00	329.853	11,549.02	6,511.56	-4,858.25	14,421,884.152	1,709,364.189	39.711797466	-80.754831381	
20,000.00	91.00	329.853	11,547.28	6,598.02	-4,908.46	14,421,970.613	1,709,313.975	39.712035290	-80.755009094	
20,100.00	91.00	329.853	11,545.54	6,684.48	-4,958.68	14,422,057.074	1,709,263.761	39.712273115	-80.755186809	
20,200.00	91.00	329.853	11,543.80	6,770.94	-5,008.89	14,422,143.534	1,709,213.547	39.712510939	-80.755364525	
20,300.00	91.00	329.853	11,542.06	6,857.41	-5,059.11	14,422,229.995	1,709,163.333	39.712748762	-80.755542242	
20,400.00	91.00	329.853	11,540.32	6,943.87	-5,109.32	14,422,316.456	1,709,113.119	39.712986586	-80.755719961	
20,500.00	91.00	329.853	11,538.57	7,030.33	-5,159.53	14,422,402.917	1,709,062.904	39.713224409	-80.755897681	
20,600.00	91.00	329.853	11,536.83	7,116.79	-5,209.75	14,422,489.378	1,709,012.690	39.713462232	-80.756075401	
20,700.00	91.00	329.853	11,535.09	7,203.25	-5,259.96	14,422,575.838	1,708,962.476	39.713700055	-80.756253123	
20,800.00	91.00	329.853	11,533.35	7,289.71	-5,310.18	14,422,662.299	1,708,912.262	39.713937877	-80.756430847	
20,900.00	91.00	329.853	11,531.61	7,376.17	-5,360.39	14,422,748.760	1,708,862.048	39.714175699	-80.756608571	
21,000.00	91.00	329.853	11,529.87	7,462.63	-5,410.60	14,422,835.221	1,708,811.834	39.714413521	-80.756786297	
21,100.00	91.00	329.853	11,528.13	7,549.09	-5,460.82	14,422,921.682	1,708,761.620	39.714651343	-80.756964024	
21,200.00	91.00	329.853	11,526.39	7,635.55	-5,511.03	14,423,008.142	1,708,711.406	39.714889164	-80.757141752	
21,300.00	91.00	329.853	11,524.65	7,722.02	-5,561.25	14,423,094.603	1,708,661.191	39.715126985	-80.757319482	
21,400.00	91.00	329.853	11,522.90	7,808.48	-5,611.46	14,423,181.064	1,708,610.977	39.715364806	-80.757497212	
21,500.00	91.00	329.853	11,521.16	7,894.94	-5,661.68	14,423,267.525	1,708,560.763	39.715602626	-80.757674944	
21,600.00	91.00	329.853	11,519.42	7,981.40	-5,711.89	14,423,353.986	1,708,510.549	39.715840447	-80.757852677	
21,700.00	91.00	329.853	11,517.68	8,067.86	-5,762.10	14,423,440.446	1,708,460.335	39.716078266	-80.758030411	
21,800.00	91.00	329.853	11,515.94	8,154.32	-5,812.32	14,423,526.907	1,708,410.121	39.716316086	-80.758208147	
21,900.00	91.00	329.853	11,514.20	8,240.78	-5,862.53	14,423,613.368	1,708,359.907	39.716553905	-80.758385884	
22,000.00	91.00	329.853	11,512.46	8,327.24	-5,912.75	14,423,699.829	1,708,309.693	39.716791725	-80.758563621	
22,100.00	91.00	329.853	11,510.72	8,413.70	-5,962.96	14,423,786.290	1,708,259.479	39.717029543	-80.758741361	
22,200.00	91.00	329.853	11,508.98	8,500.16	-6,013.18	14,423,872.750	1,708,209.264	39.717267362	-80.758919101	
22,300.00	91.00	329.853	11,507.23	8,586.63	-6,063.39	14,423,959.211	1,708,159.050	39.717505180	-80.759096843	
22,400.00	91.00	329.853	11,505.49	8,673.09	-6,113.60	14,424,045.672	1,708,108.836	39.717742998	-80.759274585	
22,500.00	91.00	329.853	11,503.75	8,759.55	-6,163.82	14,424,132.133	1,708,058.622	39.717980816	-80.759452329	
22,600.00	91.00	329.853	11,502.01	8,846.01	-6,214.03	14,424,218.594	1,708,008.408	39.718218633	-80.759630075	
22,700.00	91.00	329.853	11,500.27	8,932.47	-6,264.25	14,424,305.054	1,707,958.194	39.718456450	-80.759807821	
22,800.00	91.00	329.853	11,498.53	9,018.93	-6,314.46	14,424,391.515	1,707,907.980	39.718694267	-80.759985569	
22,900.00	91.00	329.853	11,496.79	9,105.39	-6,364.68	14,424,477.976	1,707,857.766	39.718932084	-80.760163318	
23,000.00	91.00	329.853	11,495.05	9,191.85	-6,414.89	14,424,564.437	1,707,807.551	39.719169900	-80.760341068	
23,100.00	91.00	329.853	11,493.31	9,278.31	-6,465.10	14,424,650.898	1,707,757.337	39.719407716	-80.760518819	
23,200.00	91.00	329.853	11,491.57	9,364.77	-6,515.32	14,424,737.358	1,707,707.123	39.719645532	-80.760696572	
23,300.00	91.00	329.853	11,489.82	9,451.24	-6,565.53	14,424,823.819	1,707,656.909	39.719883347	-80.760874325	
23,400.00	91.00	329.853	11,488.08	9,537.70	-6,615.75	14,424,910.280	1,707,606.695	39.720121162	-80.761052080	
23,500.00	91.00	329.853	11,486.34	9,624.16	-6,665.96	14,424,996.741	1,707,556.481	39.720358977	-80.761229837	
23,600.00	91.00	329.853	11,484.60	9,710.62	-6,716.17	14,425,083.202	1,707,506.267	39.720596792	-80.761407594	
23,700.00	91.00	329.853	11,482.86	9,797.08	-6,766.39	14,425,169.662	1,707,456.053	39.720834606	-80.761585353	
23,800.00	91.00	329.853	11,481.12	9,883.54	-6,816.60	14,425,256.123	1,707,405.839	39.721072420	-80.761763112	
23,900.00	91.00	329.853	11,479.38	9,970.00	-6,866.82	14,425,342.584	1,707,355.624	39.721310234	-80.761940873	
24,000.00	91.00	329.853	11,477.64	10,056.46	-6,917.03	14,425,429.045	1,707,305.410	39.721548048	-80.762118636	
24,100.00	91.00	329.853	11,475.90	10,142.92	-6,967.25	14,425,515.506	1,707,255.196	39.721785861	-80.762296399	
24,200.00	91.00	329.853	11,474.15	10,229.38	-7,017.46	14,425,601.966	1,707,204.982	39.722023674	-80.762474164	
24,300.00	91.00	329.853	11,472.41	10,315.84	-7,067.67	14,425,688.427	1,707,154.768	39.722261487	-80.762651930	
24,400.00	91.00	329.853	11,470.67	10,402.31	-7,117.89	14,425,774.888	1,707,104.554	39.722499299	-80.762829697	
24,500.00	91.00	329.853	11,468.93	10,488.77	-7,168.10	14,425,861.349	1,707,054.340	39.722737111	-80.763007465	
24,600.00	91.00	329.853	11,467.19	10,575.23	-7,218.32	14,425,947.810	1,707,004.126	39.722974923	-80.763185235	
24,700.00	91.00	329.853	11,465.45	10,661.69	-7,268.53	14,426,034.270	1,706,953.911	39.723212734	-80.763363006	
24,800.00	91.00	329.853	11,463.71	10,748.15	-7,318.75	14,426,120.731	1,706,903.697	39.723450546	-80.763540778	



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Elmer N-15 HU RD (slot Z)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1277.00ft
Project:	Wetzel County, West Virginia (UTM17 NAD83)	MD Reference:	GL @ 1277.00ft
Site:	Elmer	North Reference:	Grid
Well:	Elmer N-15 HU RD (slot Z)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
24,900.00	91.00	329.853	11,461.97	10,834.61	-7,368.96	14,426,207.192	1,706,853.483	39.723688357	-80.763718551	
25,000.00	91.00	329.853	11,460.23	10,921.07	-7,419.17	14,426,293.653	1,706,803.269	39.723928168	-80.763896326	
25,100.00	91.00	329.853	11,458.48	11,007.53	-7,469.39	14,426,380.114	1,706,753.055	39.724163978	-80.764074101	
25,200.00	91.00	329.853	11,456.74	11,093.99	-7,519.60	14,426,466.574	1,706,702.841	39.724401788	-80.764251878	
25,300.00	91.00	329.853	11,455.00	11,180.45	-7,569.82	14,426,553.035	1,706,652.627	39.724639598	-80.764429656	
25,400.00	91.00	329.853	11,453.26	11,266.92	-7,620.03	14,426,639.496	1,706,602.413	39.724877408	-80.764607436	
25,500.00	91.00	329.853	11,451.52	11,353.38	-7,670.24	14,426,725.957	1,706,552.199	39.725115216	-80.764785216	
25,600.00	91.00	329.853	11,449.78	11,439.84	-7,720.46	14,426,812.418	1,706,501.984	39.725353025	-80.764962998	
25,700.00	91.00	329.853	11,448.04	11,526.30	-7,770.67	14,426,898.878	1,706,451.770	39.725590834	-80.765140781	
25,800.00	91.00	329.853	11,446.30	11,612.76	-7,820.89	14,426,985.339	1,706,401.556	39.725828642	-80.765318565	
25,900.00	91.00	329.853	11,444.56	11,699.22	-7,871.10	14,427,071.800	1,706,351.342	39.726066451	-80.765496351	
26,000.00	91.00	329.853	11,442.81	11,785.68	-7,921.32	14,427,158.261	1,706,301.128	39.726304258	-80.765674137	
26,100.00	91.00	329.853	11,441.07	11,872.14	-7,971.53	14,427,244.722	1,706,250.914	39.726542066	-80.765851925	
26,200.00	91.00	329.853	11,439.33	11,958.60	-8,021.74	14,427,331.182	1,706,200.700	39.726779874	-80.766029714	
26,300.00	91.00	329.853	11,437.59	12,045.06	-8,071.96	14,427,417.643	1,706,150.486	39.727017681	-80.766207505	
26,400.00	91.00	329.853	11,435.85	12,131.53	-8,122.17	14,427,504.104	1,706,100.271	39.727255487	-80.766385296	
26,500.00	91.00	329.853	11,434.11	12,217.99	-8,172.39	14,427,590.565	1,706,050.057	39.727493294	-80.766563089	
26,600.00	91.00	329.853	11,432.37	12,304.45	-8,222.60	14,427,677.026	1,705,999.843	39.727731100	-80.766740883	
26,700.00	91.00	329.853	11,430.63	12,390.91	-8,272.82	14,427,763.486	1,705,949.629	39.727968906	-80.766918678	
26,800.00	91.00	329.853	11,428.89	12,477.37	-8,323.03	14,427,849.947	1,705,899.415	39.728206712	-80.767096475	
26,900.00	91.00	329.853	11,427.14	12,563.83	-8,373.24	14,427,936.408	1,705,849.201	39.728444517	-80.767274272	
27,000.00	91.00	329.853	11,425.40	12,650.29	-8,423.46	14,428,022.869	1,705,798.987	39.728682323	-80.767452071	
27,100.00	91.00	329.853	11,423.66	12,736.75	-8,473.67	14,428,109.330	1,705,748.773	39.728920128	-80.767629871	
27,200.00	91.00	329.853	11,421.92	12,823.21	-8,523.89	14,428,195.790	1,705,698.558	39.729157932	-80.767807672	
27,300.00	91.00	329.853	11,420.18	12,909.67	-8,574.10	14,428,282.251	1,705,648.344	39.729395736	-80.767985475	
27,400.00	91.00	329.853	11,418.44	12,996.14	-8,624.32	14,428,368.712	1,705,598.130	39.729633540	-80.768163279	
27,500.00	91.00	329.853	11,416.70	13,082.60	-8,674.53	14,428,455.173	1,705,547.916	39.729871344	-80.768341084	
27,600.00	91.00	329.853	11,414.96	13,169.06	-8,724.74	14,428,541.634	1,705,497.702	39.730109148	-80.768518890	
27,700.00	91.00	329.853	11,413.22	13,255.52	-8,774.96	14,428,628.094	1,705,447.488	39.730346951	-80.768696697	
27,800.00	91.00	329.853	11,411.48	13,341.98	-8,825.17	14,428,714.555	1,705,397.274	39.730584754	-80.768874506	
27,900.00	91.00	329.853	11,409.73	13,428.44	-8,875.39	14,428,801.016	1,705,347.060	39.730822557	-80.769052316	
28,000.00	91.00	329.853	11,407.99	13,514.90	-8,925.60	14,428,887.477	1,705,296.846	39.731060359	-80.769230127	
28,100.00	91.00	329.853	11,406.25	13,601.36	-8,975.81	14,428,973.938	1,705,246.631	39.731298161	-80.769407939	
28,200.00	91.00	329.853	11,404.51	13,687.82	-9,026.03	14,429,060.398	1,705,196.417	39.731535963	-80.769585752	
28,300.00	91.00	329.853	11,402.77	13,774.28	-9,076.24	14,429,146.859	1,705,146.203	39.731773764	-80.769763567	
28,400.00	91.00	329.853	11,401.03	13,860.74	-9,126.46	14,429,233.320	1,705,095.989	39.732011566	-80.769941383	
28,500.00	91.00	329.853	11,399.29	13,947.21	-9,176.67	14,429,319.781	1,705,045.775	39.732249387	-80.770119200	
28,600.00	91.00	329.853	11,397.55	14,033.67	-9,226.89	14,429,406.242	1,704,995.561	39.732487187	-80.770297019	
28,700.00	91.00	329.853	11,395.81	14,120.13	-9,277.10	14,429,492.702	1,704,945.347	39.732724988	-80.770474838	
28,800.00	91.00	329.853	11,394.06	14,206.59	-9,327.31	14,429,579.163	1,704,895.133	39.732962788	-80.770652659	
28,900.00	91.00	329.853	11,392.32	14,293.05	-9,377.53	14,429,665.624	1,704,844.918	39.733200588	-80.770830481	
29,000.00	91.00	329.853	11,390.58	14,379.51	-9,427.74	14,429,752.085	1,704,794.704	39.733438387	-80.771008304	
29,100.00	91.00	329.853	11,388.84	14,465.97	-9,477.96	14,429,838.546	1,704,744.490	39.733676187	-80.771186129	
29,148.29	91.00	329.853	11,388.00	14,507.72	-9,502.21	14,429,880.297	1,704,720.242	39.733791000	-80.771272000	

PBHL/TD 29148.29 MD 11388.00 TVD

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Environmental Protection





Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Elmer N-15 HU RD (slot Z)
<b>Company:</b>	Tug Hill Operating LLC	<b>TVD Reference:</b>	GL @ 1277.00ft
<b>Project:</b>	Wetzel County, West Virginia (UTM17 NAD83)	<b>MD Reference:</b>	GL @ 1277.00ft
<b>Site:</b>	Elmer	<b>North Reference:</b>	Grid
<b>Well:</b>	Elmer N-15 HU RD (slot Z)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Elmer N-15 HU BHL - plan hits target center - Point	0.00	0.000	11,388.00	14,507.72	-9,502.21	14,429,880.297	1,704,720.242	39.733791000	-80.771272000
Elmer N-15 HU LP 50E - plan misses target center by 0.01ft at 12262.01ft MD (11682.00 TVD, -92.32 N, -1022.89 E) - Point	0.00	0.000	11,682.00	-92.33	-1,022.89	14,415,280.278	1,713,199.536	39.693631604	-80.741261241

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)		
7,502.00	7,502.00	0.00	0.00	KOP Begin 2°/100' build	
8,320.69	8,309.59	-97.85	-62.65	Begin 16.37° tangent	
10,791.30	10,680.00	-684.39	-438.19	Begin 6°/100' build/turn	
11,742.60	11,512.08	-492.28	-759.59	Begin 8°/100' build/turn	
12,262.00	11,682.00	-92.33	-1,022.89	Begin 91.00° lateral	
29,148.29	11,388.00	14,507.72	-9,502.21	PBHL/TD 29148.29 MD 11388.00 TVD	

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WW-9  
(4/16)

API Number 47 - 103 - \_\_\_\_\_  
Operator's Well No. Elmer N-15HU

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

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FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Tug Hill Operating, LLC OP Code 494510851  
Watershed (HUC 10) French Creek - Ohio River Quadrangle Wileyville 7.5'

WV Department of Environmental Protection

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 / WV0109165) and Westmoreland Sanitary Landfill, LLC (SAN1405 / PA DEP EC#1386426)

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

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

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

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

Subscribed and sworn before me this 21 day of APRIL, 20 22

My commission expires 2/16/24  
Commonwealth of Pennsylvania - Notary Seal  
David Gabriel Delallo, Notary Public  
Washington County  
My commission expires February 16, 2024  
Commission number 1267492  
Member, Pennsylvania Association of Notaries

10/28/2022

Form WW-9

Operator's Well No. Elmer N-15HU

Tug Hill Operating, LLC

Proposed Revegetation Treatment: Acres Disturbed 26.11 Prevegetation pH 6.0

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20 or equivalent

Fertilizer amount 1/3 ton lbs/acre

Mulch 2.5 Tons/acre

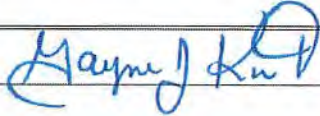
Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Annual Ryegrass	40	Fox Tail / Grassy	40
		Perennial Rye	30
		Crown Vetch	20

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: 

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

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WV Department of  
Environmental Protection

Title: Oil and Gas Inspector

Date: 1/19/2022

Field Reviewed? (  ) Yes (  ) No

WW-9

**PROPOSED ELMER PAD**

SUPPLEMENT PG 1



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.

INSTALL CULVERTS AS SHOWN ON RECLAMATION PLAN OR AS FIELD CONDITIONS REQUIRE.

ENTRANCES ONTO PUBLIC ROADS SHALL BE CONSTRUCTED OR MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATIONS. ADDITIONAL PERMITS MAY BE REQUIRED.

TEMPORARILY SEED AND MULCH ALL SLOPES UPON CONSTRUCTION OF LOCATION.

ALL CUT AND FILL SLOPES ARE 2H : 1V SLOPE.

ALL TREES 6-INCHES AND ABOVE ARE TO BE CUT AND STACKED. BRUSH SLASHINGS ARE TO UTILIZED DOWN SLOPE OF SITE AND STRUCTURES TO ACT AS A CONTROL BARRIER IF AVAILABLE.

DRAWING NOT TO SCALE

Ephemeral Stream

ACCESS ROAD

ELMER PAD

TS

305'

130'

134'

349'

CLEARING LIMITS

12-8-16  
CHARLES + BETTY  
HUGGINS  
DB 322/ 120  
39.13 Ac.

Ephemeral Stream



Pg. 1 of 2

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- LEGEND**
- Note:  
 (C) - Denotes existing culvert with appropriate sediment outlet control (Rip Rap splash pad).
- Silt Fence and or Sediment and Erosion Control Measure.
  - Surface Boundary
  - LOD
  - Fenceline

Ephemeral Stream



**Jackson Surveying Inc.**  
 2113 E. Park St. #112  
 Clarksburg, WV 26301  
 Phone: 804-823-6861

<b>TOPO SECTION:</b>		<b>OPERATOR:</b>	
WILEYVILLE 7.5'		TUG HILL OPERATING, LLC	
COUNTY	DISTRICT	330 SOUTHPOINTE BLVD	
WETZEL	PROCTOR	SUITE 200	
DRAWN BY	OPERATOR NO.	DATE	SCALE
J.D.C.	494510851	11-30-2021	NONE

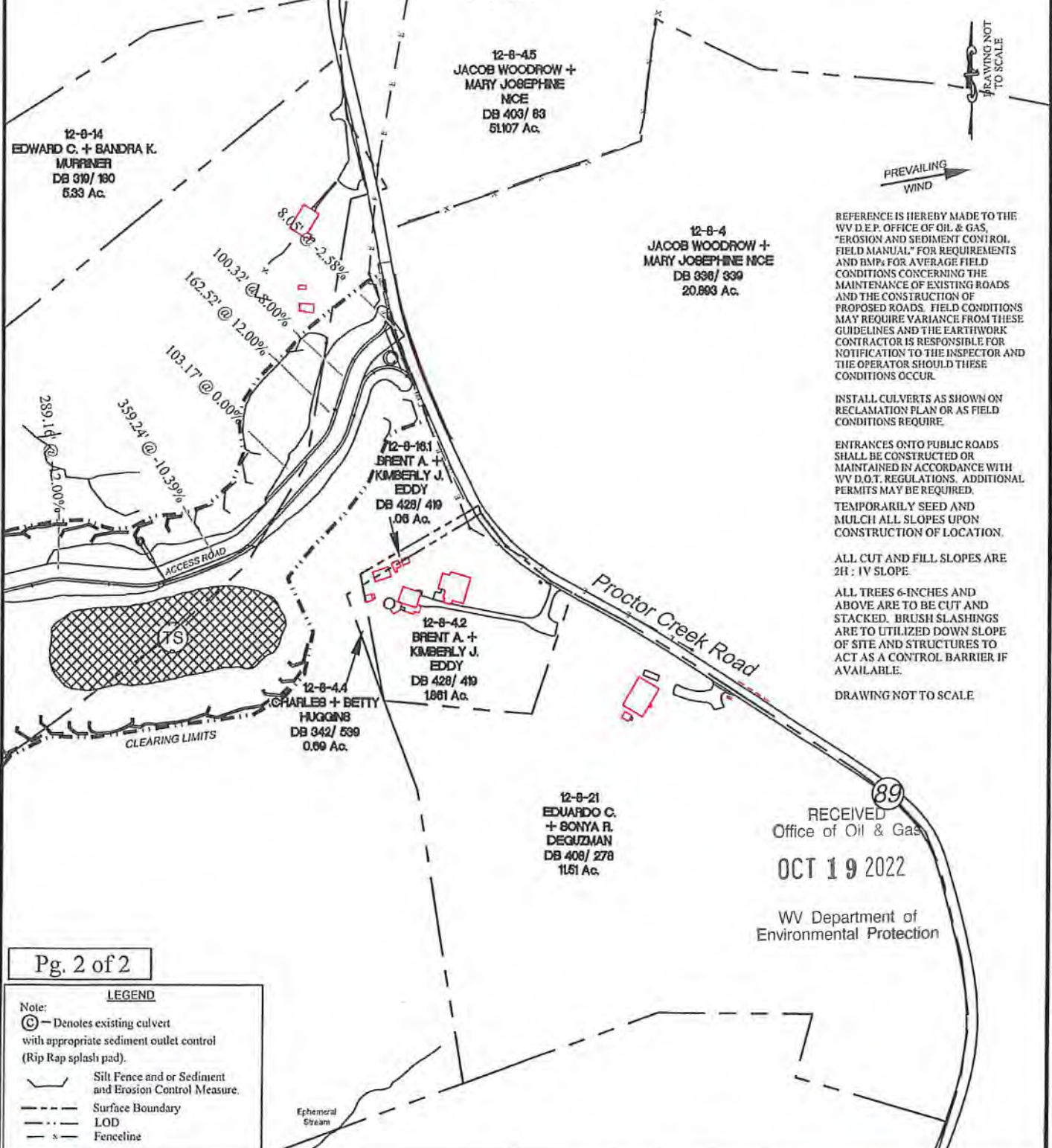


10/28/2022

WW-9

**PROPOSED ELMER PAD**

SUPPLEMENT PG 1



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DRAWING NOT TO SCALE

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Pg. 2 of 2

**LEGEND**

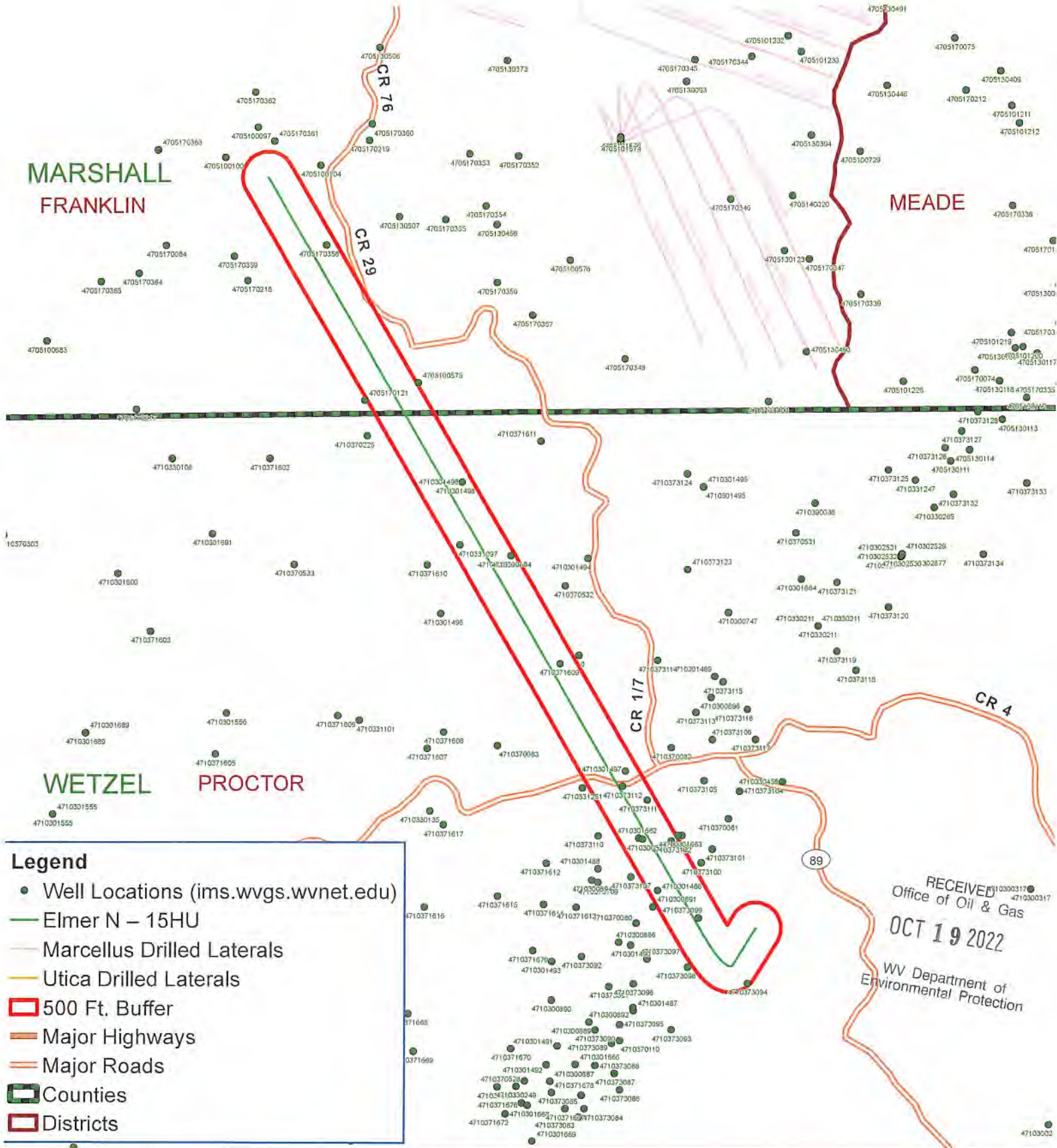
- Note:  
 © - Denotes existing culvert with appropriate sediment outlet control (Rip Rap splash pad).  
 --- Silt Fence and/or Sediment and Erosion Control Measure.  
 - - - Surface Boundary  
 - - - LOD  
 - - - Fenceline



**Jackson Surveying Inc.**  
 2413 E. Park Dr. #112  
 Clarksburg, WV 26301  
 Phone: 304-823-5361

TOPO SECTION:		OPERATOR:	
WILEYVILLE 7.5'		PREPARED FOR:	
COUNTY	DISTRICT	TUG HILL OPERATING, LLC	
WETZEL	PROCTOR	380 SOUTHPOINTE BLVD	
DRAWN BY	OPERATOR NO.	SUITE 200	
J.D.C.	494510851	CANONSBURG, PA 15317	
		DATE	SCALE
		11-30-2021	NONE





- Legend**
- Well Locations (ims.wvgs.wvnet.edu)
  - Elmer N – 15HU
  - Marcellus Drilled Laterals
  - Utica Drilled Laterals
  - 500 Ft. Buffer
  - Major Highways
  - Major Roads
  - ▭ Counties
  - ▭ Districts



# Elmer N – 15HU Proctor District Wetzel County, WV



Map Prepared by:  
**EPS**  
 10/28/2022  
 LAND SERVICES

Map Created: October 15, 2021

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

## Area of Review

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

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

#### Data Sources Reviewed:

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

Contacted Adam Picard 724-485-9331, [apicard@dpslandservices.com](mailto:apicard@dpslandservices.com), DPS GIS (10/15/2021) to have him make maps of the wellbores with his information. DPS utilizes WVGES maps for their mapping seems it is the best publicly available. See attached map he provided.

#### Request maps for:

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

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

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

**Wells within 500' Buffer**

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

API Number	Operator Name	Total Depth	Perforated Fms	Producing zones not perforated	Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation	Comments
4710373094	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4710373099	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4710301486	Perkins Oil and Gas, Inc.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4710301662	Perkins Oil and Gas, Inc.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.

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API Number	Operator Name	Total Depth	Perforated Fms	Producing zones not perforated	Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation	Comments
4710373102	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4710300895	Perkins Oil and Gas, Inc.	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4710301497	Perkins Oil and Gas, Inc.	2984' TVD	Gordon	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation.	
4710373111	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4710373112	Hope Natural Gas Company	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.

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API Number	Operator Name	Total Depth	Perforated Fms	Producing zones not perforated	Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation	Comments
4710371609	Hope Natural Gas Company	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4710300184	Manufacturers Light & Heat Co.	2107' TVD	Maxton	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Well is plugged.	Well was plugged 9/12/1938.
4710301498	Perkins Oil and Gas, Inc.	unknown	Gordon	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	
4710331097	Hope Natural Gas Company	unknown	Gordon	unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Well is plugged.	Well was plugged 10/7/1959.
4705170358	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing in the planned Point Pleasant well.	State records are incomplete.

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WV Geological & Economic Survey:

**Well: County = 103 Permit = 73094**

Report Time: Tuesday, October 19, 2021 1:56:42 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710373094	Wetzel	73094	Proctor	Wileyville	Littleton	39.690995	-80.736175	522449.7	4393494.4

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4710373094	-/-		unknown	Prpty Map Rachel M Veater	1					unknown			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL
4710373094	-/-	-/-						unclassified	unclassified	not available	unknown	unknown									

WV Geological & Economic Survey:

**Well: County = 103 Permit = 73099**

Report Time: Tuesday, October 19, 2021 1:57:02 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710373099	Wetzel	73099	Proctor	Wileyville	Littleton	39.694479	-80.741554	522158.9	4393880.2

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4710373099	-/-		unknown	Prpty Map Nancy J Garner	10					unknown			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL
4710373099	-/-	-/-						unclassified	unclassified	not available	unknown	unknown									

WV Geological & Economic Survey:

**Well: County = 103 Permit = 01486**

Report Time: Tuesday, October 19, 2021 1:57:18 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710301486	Wetzel	1486	Proctor	Wileyville	Littleton	39.695941	-80.744374	521916.6	4394041.8

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4710301486	-/-		Original Loc	Completed Garner Hrs	1					Perkins Oil and Gas, Inc.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL
4710301486	-/-	-/-						unclassified	unclassified	not available	unknown	unknown									

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WV Geological & Economic Survey:

**Well: County = 103 Permit = 01662**

Report Time: Tuesday, October 19, 2021 1:57:30 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710301662	Wetzel	1662	Proctor	Wileyville	Littleton	39.696696	-80.745689	521803	4394347.2

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4710301662	-/-		Original Loc	Completed	AI & Henry Garner	12				Perkins Oil and Gas, Inc.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AF
4710301662	-/-	-/-		1210	Topo Estimation			unclassified	unclassified	not available	unknown	unknown								

WV Geological & Economic Survey:

**Well: County = 103 Permit = 73102**

Report Time: Tuesday, October 19, 2021 1:58:39 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710373102	Wetzel	73102	Proctor	Wileyville	Littleton	39.698542	-80.74343	521996.7	4394330.7

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4710373102	-/-		unknown	Prpty Map	Nancy J Garner	8				----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL
4710373102	-/-	-/-						unclassified	unclassified	not available	unknown	unknown									

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WV Geological & Economic Survey

Well: County = 103 Permit = 00895

Report Time: Tuesday, October 19, 2021 1:58:50 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710300895	Wetzel	895	unknown	unknown	unknown				

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4710300895	--	Original Loc	Completed	Albert & Henry Garner	5					Perkins Oil and Gas, Inc.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AF
4710300895	--	--			Unnamed			unclassified	unclassified	not available	unknown	unknown			0		0	0	0	0

There is no Pay data for this well

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4710300895	Perkins Oil and Gas, Inc.	1996	186	0	0	0	0	0	0	0	0	0	0	0	186
4710300895	Perkins Oil and Gas, Inc.	1997	978	178	259	0	0	251	50	0	0	0	59	181	0
4710300895	Perkins Oil and Gas, Inc.	1998	1,436	0	0	0	0	27	205	112	220	222	220	204	226
4710300895	Perkins Oil and Gas, Inc.	1999	2,382	319	188	280	200	187	47	123	215	219	186	220	198
4710300895	Perkins Oil and Gas, Inc.	2001	2,200	189	160	199	178	194	153	203	204	182	169	226	143
4710300895	Perkins Oil and Gas, Inc.	2002	1,819	155	119	201	159	143	158	184	162	132	159	84	163
4710300895	Perkins Oil and Gas, Inc.	2003	1,651	122	109	163	162	159	155	175	166	177	159	2	102
4710300895	Perkins Oil and Gas, Inc.	2004	1,827	149	142	169	170	142	154	171	131	150	154	156	139
4710300895	Perkins Oil and Gas, Inc.	2005	1,589	141	118	107	137	140	139	83	147	143	135	159	140
4710300895	Perkins Oil and Gas, Inc.	2006	1,518	123	90	141	113	136	113	141	143	135	138	125	120
4710300895	Perkins Oil and Gas, Inc.	2007	1,535	128	98	122	126	137	133	117	140	136	143	132	123
4710300895	Perkins Oil and Gas, Inc.	2008	1,441	124	111	113	87	95	135	140	140	105	139	129	123
4710300895	Perkins Oil and Gas, Inc.	2009	1,366	107	107	117	107	127	129	128	136	4	133	146	125
4710300895	Perkins Oil and Gas, Inc.	2010	6	1	1	1	0	1	0	0	1	0	0	0	1
4710300895	Perkins Oil and Gas, Inc.	2011	6	1	1	1	0	0	1	0	0	1	0	0	1
4710300895	Perkins Oil and Gas, Inc.	2012	5	1	0	0	1	0	0	1	0	0	0	1	1
4710300895	Perkins Oil and Gas, Inc.	2013	7	1	1	1	0	1	0	1	0	0	0	1	1
4710300895	Perkins Oil and Gas, Inc.	2014	2	0	1	0	1	0	0	1	0	0	0	0	0
4710300895	Perkins Oil and Gas, Inc.	2015	4	0	0	0	1	0	0	0	0	1	0	1	1
4710300895	Perkins Oil and Gas, Inc.	2016	2	0	0	0	1	0	0	0	1	0	0	0	0
4710300895	Perkins Oil and Gas, Inc.	2017	2	0	0	0	0	2	0	0	0	0	0	0	0
4710300895	Perkins Oil and Gas, Inc.	2018	2	0	0	0	0	0	0	1	0	0	1	0	0
4710300895	Perkins Oil and Gas, Inc.	2019	12	0	2	0	0	0	0	0	0	1	0	0	9
4710300895	Perkins Oil and Gas, Inc.	2020	1,295	98	92	113	108	111	114	119	122	112	112	95	99

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WV Geological & Economic Survey;

Well: County = 103 Permit = 01497

Report Time: Tuesday, October 19, 2021 1:59:23 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710301497	Wetzel	1497	Proctor	Wileyville	Littleton	39.703626	-80.746443	521736.9	4394894.2

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4710301497	9/7/1900	Original Loc	Completed	Henry Garner		87		681		Hope Natural Gas Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_AFT	O_BEFO	O_AFT
4710301497	9/7/1900	-/-	1286 Spirit Level	Lynn Camp	Gordon	Gordon	Development Well	Development Well	Gas Cable Tool	Nat/Open H	2984		2984		6249	0	0	0

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEFO	G_AFT	O_BEFO	O_AFT	WATER_QNTY
4710301497	9/7/1900	Pay	Gas	Vertical		Gordon	0	Gordon	0	0			

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4710301497	Perkins Oil and Gas, Inc.	1990	0	0	0	0	0	0	0	0	0	0	0	0	0
4710301497	Perkins Oil and Gas, Inc.	1991													
4710301497	Perkins Oil and Gas, Inc.	1996	186	0	0	0	0	0	0	0	0	0	0	0	186
4710301497	Perkins Oil and Gas, Inc.	1997	978	178	259	0	0	251	50	0	0	0	59	181	0
4710301497	Perkins Oil and Gas, Inc.	1998	1,436	0	0	0	0	27	205	112	220	222	220	204	226
4710301497	Perkins Oil and Gas, Inc.	1999	2,382	319	188	280	200	187	47	123	215	219	186	220	198
4710301497	Perkins Oil and Gas, Inc.	2001	2,200	189	160	199	178	194	153	203	204	182	169	226	143
4710301497	Perkins Oil and Gas, Inc.	2002	1,819	155	119	201	159	143	153	184	162	132	159	84	163
4710301497	Perkins Oil and Gas, Inc.	2003	1,651	122	109	163	162	159	155	175	166	177	159	2	102
4710301497	Perkins Oil and Gas, Inc.	2004	1,827	149	142	169	170	142	154	171	131	150	154	156	139
4710301497	Perkins Oil and Gas, Inc.	2005	1,589	141	118	107	137	140	139	83	147	143	135	159	140
4710301497	Perkins Oil and Gas, Inc.	2006	1,538	123	90	141	113	136	133	141	143	135	138	125	120
4710301497	Perkins Oil and Gas, Inc.	2007	1,535	126	98	122	126	137	133	117	140	136	143	132	123
4710301497	Perkins Oil and Gas, Inc.	2008	1,441	124	111	113	87	95	135	140	140	105	139	129	123
4710301497	Perkins Oil and Gas, Inc.	2009	1,366	107	107	117	107	127	129	128	136	4	133	146	125
4710301497	Perkins Oil and Gas, Inc.	2010	1,485	143	127	169	61	77	77	66	64	44	269	275	113
4710301497	Perkins Oil and Gas, Inc.	2011	1,453	59	76	209	131	40	14	9	7	17	306	291	294
4710301497	Perkins Oil and Gas, Inc.	2012	3,060	230	105	1	149	292	252	337	317	326	375	346	330
4710301497	Perkins Oil and Gas, Inc.	2013	3,248	233	0	0	247	363	289	366	366	330	397	343	314
4710301497	Perkins Oil and Gas, Inc.	2014	35	35	0	0	0	0	0	0	0	0	0	0	0
4710301497	Perkins Oil and Gas, Inc.	2015	1,215	0	0	41	277	0	0	0	0	282	310	0	305
4710301497	Perkins Oil and Gas, Inc.	2016	4,863	311	298	306	288	286	318	297	310	486	338	707	916
4710301497	Perkins Oil and Gas, Inc.	2017	9,690	960	674	598	800	800	708	808	794	810	704	1,164	870
4710301497	Perkins Oil and Gas, Inc.	2018	3,515	247	220	398	191	225	287	285	260	291	242	404	465
4710301497	Perkins Oil and Gas, Inc.	2019	2,587	295	0	0	0	415	347	340	325	344	337	184	0
4710301497	Perkins Oil and Gas, Inc.	2020	1,295	98	92	113	108	111	114	119	122	112	112	95	99

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WV Geological & Economic Survey:

**Well: County = 103 Permit = 73111**

Report Time: Tuesday, October 19, 2021 1:59:52 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710373111	Wetzel	73111	Proctor	Wileyville	Littleton	39.700719	-80.745119	521851.2	4394571.9

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4710373111	-/-	unknown	Prpty Map	Henry Garner	20					----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL	
4710373111	-/-	-/-						unclassified	unclassified	not available	unknown	unknown										

WV Geological & Economic Survey:

**Well: County = 103 Permit = 73112**

Report Time: Tuesday, October 19, 2021 2:00:09 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710373112	Wetzel	73112	Proctor	Wileyville	Littleton	39.701445	-80.746809	521706.1	4394652

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4710373112	-/-	unknown	Prpty Map	Henry Garner	258					Hope Natural Gas Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL	
4710373112	-/-	-/-						unclassified	unclassified	not available	unknown	unknown										

WV Geological & Economic Survey:

**Well: County = 103 Permit = 71609**

Report Time: Tuesday, October 19, 2021 2:00:21 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710371609	Wetzel	71609	Proctor	New Martinsville	New Martinsville	39.707976	-80.751128	521333.9	4395375.9

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4710371609	-/-	unknown	Prpty Map	T J Cooper	299					Hope Natural Gas Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL	
4710371609	-/-	-/-						unclassified	unclassified	not available	unknown	unknown										

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WV Geological & Economic Survey:

Well: County = 103 Permit = 00184

Report Time: Tuesday, October 19, 2021 2:00:34 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX	DISTRICT	QUAD_75	QUAD_15	LAT_DD	LOX_DD	UTME	UTMN
4710300184	Wetzel	184	Proctor		New Martinsville	New Martinsville	39.713681	-80.754508	521042.4	4396008.2

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_ES
4710300184	8/29/1938	Original Loc	Completed	Barbara Ebert	1				Op = Miller & Lewis	Oper in Min. owner fld. no code assgn(Orphan well proj)			
4710300184	3/17/1954	Worked Over	Completed	J Ebert		4262				Manufacturers Light & Heat Co.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF
4710300184	8/29/1938	7/20/1938	1230	Ground Level	Cameron-Garner	Maxton	Maxton	Development Well	Unsuccessful	Dry	unknown	Nat/Open H	2107		2107		0	0	0
4710300184	3/17/1954	9/3/1953	1230	Ground Level	Cameron-Garner	Maxton	Maxton	Miscellaneous Well	Unsuccessful	Storage	unknown	Nat/Open H			0		0	0	0

There is no Pay data for this well

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4710300184	Original Loc	Sewickley coal	Well Record	965	Reasonable	4	Reasonable	1230	Ground Level
4710300184	Original Loc	Pittsburgh coal	Well Record	1074	Reasonable	5	Reasonable	1230	Ground Level
4710300184	Original Loc	Conemaugh Group	Well Record	1080	Reasonable	0	Qstnble Pick	1230	Ground Level
4710300184	Original Loc	Morgantown Ss/Murphy	Past WVGES Staff Geologist	1130	Reasonable	15	Reasonable	1230	Ground Level
4710300184	Original Loc	1st Cow Rn/Moundsvle	Well Record	1415	Reasonable	50	Reasonable	1230	Ground Level
4710300184	Original Loc	Lo Frprt Ss/Frprt Ss	Past WVGES Staff Geologist	1610	Reasonable	30	Reasonable	1230	Ground Level
4710300184	Original Loc	1st Salt Sand	Well Record	1880	Reasonable	30	Reasonable	1230	Ground Level
4710300184	Original Loc	3rd Salt Sand	Past WVGES Staff Geologist	2020	Reasonable	20	Reasonable	1230	Ground Level
4710300184	Original Loc	Maxton	Past WVGES Staff Geologist	2065	Reasonable	19	Qstnble Pick	1230	Ground Level

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

Plugging Information:

API	PLG_DT	DEPTH_PBT
4710300184	9/12/1938	0

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WV Geological & Economic Survey:

Well: County = 103 Permit = 01498

Report Time: Tuesday, October 19, 2021 2:00:46 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710301498	Wetzel	1498	Proctor	New Martinsville	New Martinsville	39.717596	-80.757888	520751.5	4396441.9

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4710301498	12/2/1902	Original Loc	Completed	J M Parsons			281	1908		Hope Natural Gas Company			
4710301498	4/21/1911	Drilled Deeper	Completed	J M Parsons			281	1908		Hope Natural Gas Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_AFT	O_B
4710301498	12/2/1902	--	1290	Spirit Level	Cameron-Garner		Gordon	Development Well	Development Well	Gas	Cable Tool	unknown			0		9891	0	
4710301498	4/21/1911	--	1290	Spirit Level	Cameron-Garner		Gordon	Development Well	Development Well	Gas	unknown	unknown			0		0	0	

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEFO	G_AFT	O_BEFO	O_AFT	WATER_QNTY
4710301498	12/2/1902	Pay	Gas	Vertical	2870	Gordon	2895	Gordon	9891	0			

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4710301498	Perkins Oil and Gas, Inc.	1990	0	0	0	0	0	0	0	0	0	0	0	0	0
4710301498	Perkins Oil and Gas, Inc.	1991													
4710301498	Perkins Oil and Gas, Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0
4710301498	Perkins Oil and Gas, Inc.	2002	1,819	155	119	201	159	143	158	184	162	132	159	84	163
4710301498	Perkins Oil and Gas, Inc.	2003	1,651	122	109	163	162	159	155	175	166	177	159	2	102
4710301498	Perkins Oil and Gas, Inc.	2004	1,827	149	142	169	170	142	154	171	131	150	154	156	139
4710301498	Perkins Oil and Gas, Inc.	2005	1,589	141	118	107	137	140	139	83	147	143	135	159	140
4710301498	Perkins Oil and Gas, Inc.	2006	1,538	123	90	141	113	136	133	141	143	135	138	125	120
4710301498	Perkins Oil and Gas, Inc.	2007	1,535	128	98	122	126	137	133	117	140	136	143	132	123
4710301498	Perkins Oil and Gas, Inc.	2008	1,441	124	111	113	87	95	135	140	140	105	139	129	123
4710301498	Perkins Oil and Gas, Inc.	2009	1,366	107	107	117	107	127	129	128	136	4	133	146	125
4710301498	Perkins Oil and Gas, Inc.	2010	3,248	237	269	258	253	318	303	323	318	183	328	260	198
4710301498	Perkins Oil and Gas, Inc.	2011	3,017	123	188	34	10	105	419	445	416	394	337	279	267
4710301498	Perkins Oil and Gas, Inc.	2012	3,316	279	238	284	233	270	266	312	348	309	333	226	218
4710301498	Perkins Oil and Gas, Inc.	2013	3,087	215	117	209	211	284	294	309	323	332	310	258	225
4710301498	Perkins Oil and Gas, Inc.	2014	3,786	211	240	246	296	325	374	406	352	371	344	275	346
4710301498	Perkins Oil and Gas, Inc.	2015	3,201	206	133	189	166	246	242	342	511	265	293	299	309
4710301498	Perkins Oil and Gas, Inc.	2016	2,130	150	244	256	136	0	0	0	0	0	576	477	290
4710301498	Perkins Oil and Gas, Inc.	2017	4,108	656	204	222	0	266	454	466	432	426	364	618	0
4710301498	Perkins Oil and Gas, Inc.	2018	342	90	34	154	38	26	0	0	0	0	0	0	0
4710301498	Perkins Oil and Gas, Inc.	2019	2,740	441	554	327	336	233	174	211	103	139	108	74	40
4710301498	Perkins Oil and Gas, Inc.	2020	1,295	98	92	113	108	111	114	119	122	112	112	95	99

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WV Geological & Economic Survey:

**Well: County = 103 Permit = 31097**

Report Time: Tuesday, October 19, 2021 2:01:22 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4710331097	Wetzel	31097	Proctor	New Martinsville	New Martinsville	39.714261	-80.758075	520736.5	4396071.7

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4710331097	5/15/1902	Original Loc	Completed	Joseph P Cooper	47			1909	Op=A M Snider	Hope Natural Gas Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL
4710331097	5/15/1902	-/-	1090 Ground Level	Unnamed		Gordon	Development Well	unclassified	Gas	unknown	unknown			0		5291	0	0	0	0

There is no Pay data for this well

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV DATUM
4710331097	Original Loc	Gordon	Well Record	2681	Reasonable	19	Reasonable	1090 Ground Level

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

Plugging Information:

API	PLG_DT	DEPTH_PBT
4710331097	10/7/1959	0

WV Geological & Economic Survey:

**Well: County = 51 Permit = 70358**

Report Time: Tuesday, October 19, 2021 2:02:33 PM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170358	Marshall	70358	Franklin	New Martinsville	New Martinsville	39.730194	-80.767268	519943.9	4397838

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170358	-/-	unknown	Prpty Map	Timothy Yohe	5	1292				unknown			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT	NGL
4705170358	-/-	-/-					unclassified	unclassified	not available	unknown	unknown									

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**TUG HILL**  
**OPERATING**

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

**Well Name: Elmer N-15HU**

**Pad Name: Elmer**

**County: Marshall**

**UTM (meters), NAD83, Zone 17**

**Northing: 4393818.91**

**Easting: 522497.19**

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**KEY CONTACT FOR WELL SITE SAFETY PLAN  
DEVELOPMENT AND MAINTENANCE**

**Jerry V. DeRosa, Director EH&S Affairs**

**(724) 338-2029 (office)**

**(412) 736-5767 (cellular)**

**24-HOUR EMERGENCY PHONE NUMBER**

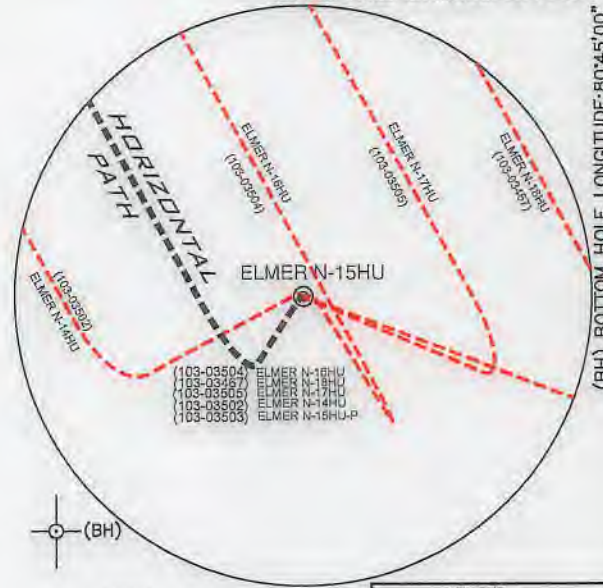
**(800) 921-9745**

*Kenneth L. Reynolds* 7-28-22

10/28/2022

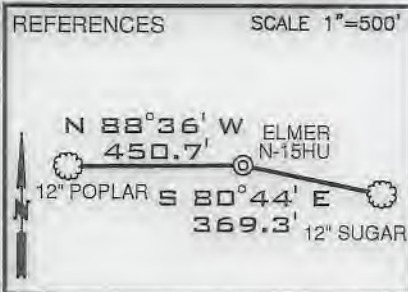
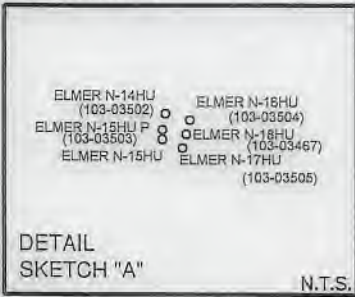
**ELMER LEASE  
WELL N-15HU  
513.0901 ± ACRES**

TOP HOLE LATITUDE: 39°42'30"  
BOTTOM HOLE LATITUDE: 39°45'00"



INSET "A"  
NOTE: L.P.1 and LTP are same point.

(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS



Deep Wells Within 2400' of Proposed Well's Surface Location and/or 500' of Well Lateral

API	OPERATOR
47-051-02338	Tug Hill Operating, LLC
47-103-03467	Tug Hill Operating, LLC
47-103-03502	Tug Hill Operating, LLC
47-103-03504	Tug Hill Operating, LLC
47-103-03505	Tug Hill Operating, LLC

Note: N-15HU is S15°00'W 15.29' from N-15HU (plugged).

LEGEND

- LEASE TRACTS
- SURFACE TRACTS
- WELL LATERAL
- POINT PLEASANT LEGS
- UNIT BOUNDARY
- LEASE # (SEE 6A1 FORM)
- 400' BORE PATH OFFSET
- 500' WELL BORE OFFSET
- (FTP) PROPOSED FIRST TAKE POINT
- (LTP) PROPOSED LAST TAKE POINT
- FORCED POOL TRACT

**SURFACE HOLE**  
UTM. NAD83, ZONE 17  
IN METERS  
N) 4,393,814.39  
E) 522,496.06

**LANDING POINT 1**  
UTM. NAD83, ZONE 17  
IN METERS  
N) 4,393,786.21  
E) 522,184.25

**BOTTOM HOLE**  
UTM. NAD83, ZONE 17  
IN METERS  
N) 4,398,236.31  
E) 519,599.77

LINE	BEARING	DISTANCE
L1	N 42°09' E	1,867.27'
L2	N 67°02' E	1,425.00'
L3	S 33°35' W	813.04'

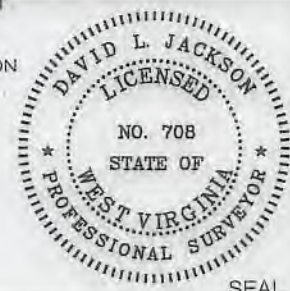
CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH
C1	S 61°47' W	61.77'	60.49'	64.83'
C2	N 71°13' W	85.80'	134.78'	86.47'
C3	N 51°59' W	94.97'	421.39'	95.17'
C4	N 40°45' W	194.09'	1093.45'	194.35'
C5	N 32°24' W	478.01'	3552.31'	478.37'

FILE NUMBER \_\_\_\_\_  
DRAWING NUMBER ELMER\_N-15HU\_REV1  
SCALE 1" = 2000'  
MINIMUM DEGREE OF ACCURACY 1/200  
PROVEN SOURCE OF ELEVATION SUBMETER MAPPING  
GRADE GPS

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

P.S. 708

*David L Jackson*



JACKSON SURVEYING INC.  
P.O. Box 1480  
Clarksburg, WV 26302  
304-623-5851

WVDEP  
OFFICE OF OIL & GAS  
601 57TH STREET, SE  
CHARLESTON, WV 25304

DATE: JULY 28, 2022  
REVISED DATE: OCTOBER 15, 2022  
OPERATORS WELL NO. ELMER N-15HU  
API WELL NO. \_\_\_\_\_

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
(IF "GAS") PRODUCTION X STORAGE \_\_\_ DEEP X SHALLOW \_\_\_  
LOCATION ELEVATION 1276.50' WATERSHED (HUC 10) PROCTOR CREEK OF FRENCH CREEK - OHIO RIVER (HUC-10)  
DISTRICT PROCTOR COUNTY WETZEL  
QUADRANGLE WILEYVILLE 7.5' LEASE NUMBER \_\_\_\_\_ SEE WW-6A1 FORM

SURFACE OWNER ELNORA TUTTLE HRS ACREAGE 39.19  
OIL & GAS ROYALTY OWNER HENRY & NANCY GARNER - SEE WW-6A1 LEASE ACREAGE 39.19  
PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION \_\_\_  
PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE (SPECIFY) \_\_\_\_\_  
TARGET FORMATION POINT PLEASANT ESTIMATED DEPTH TVD: 11,901' TMD: 29,148'  
WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN, CT CORP  
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 ADDRESS 5098 WASHINGTON STREET WEST, SUITE 407 CHARLESTON, WV 25313-1561

10/28/2022

COUNTY NAME PERMIT

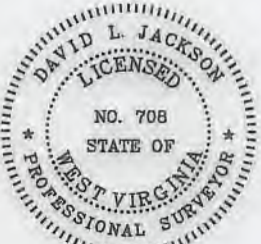
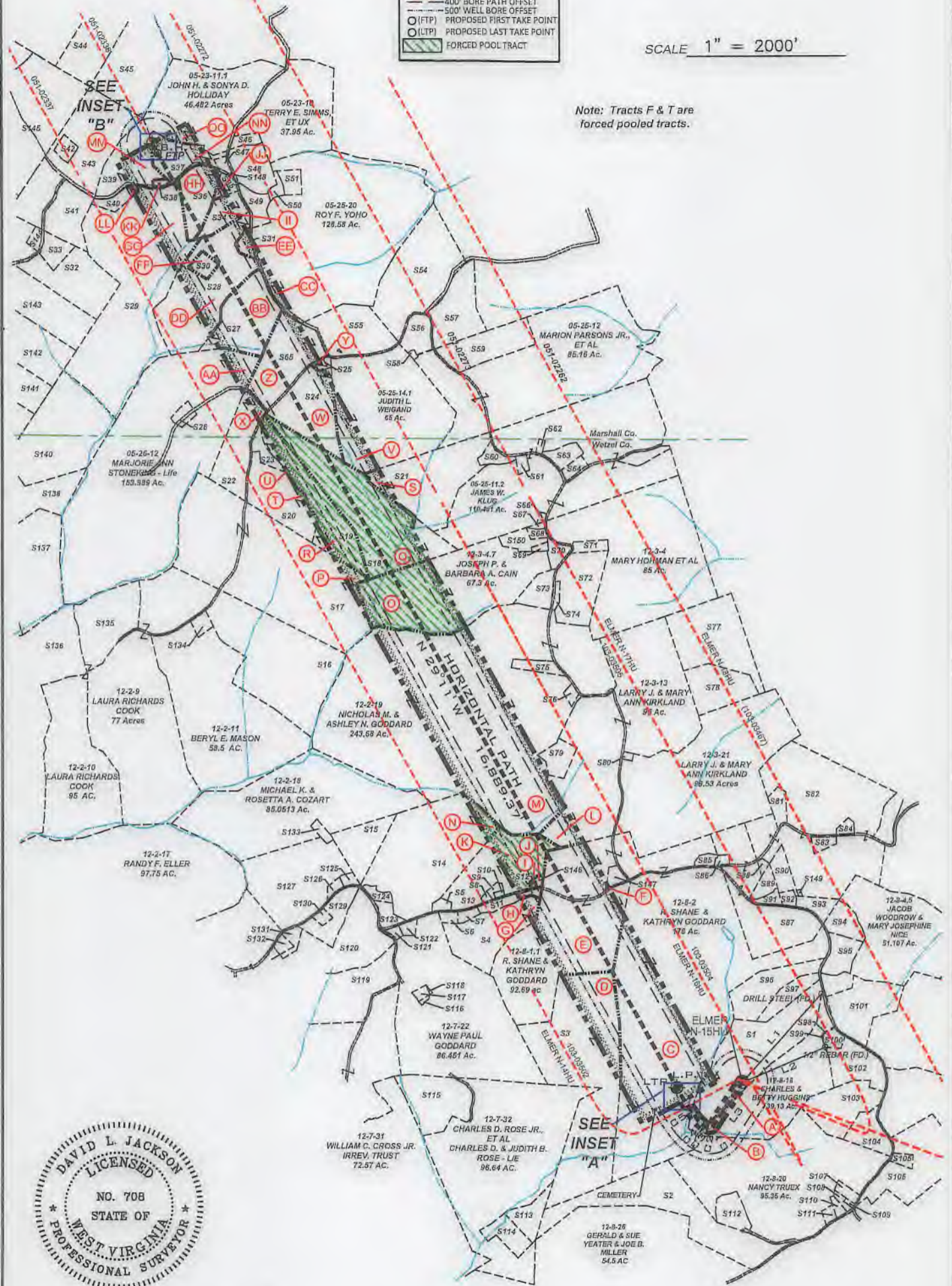
# ELMER LEASE WELL N-15HU 513.0901± ACRES

**LEGEND**

- LEASED TRACTS
- - - SURFACE TRACTS
- - - WELL LATERAL
- - - POINT PLEASANT LEGS
- - - UNIT BOUNDARY
- (A) LEASE # (SEE 6A1 FORM)
- 400' BORE PATH OFFSET
- - - 500' WELL BORE OFFSET
- (FTP) PROPOSED FIRST TAKE POINT
- (LTP) PROPOSED LAST TAKE POINT
- ▨ FORCED POOL TRACT

SCALE 1" = 2000'

Note: Tracts F & T are forced pooled tracts.



P.S. 708 *David L Jackson*

10/28/2022

	OPERATOR'S	WELL PLAT
	WELL #: <u>ELMER N-15HU</u>	PAGE 2 OF 4
	DISTRICT: <u>Proctor</u>	DATE: <u>07/28/2022</u>
	COUNTY: <u>Wetzel</u>	REVISED DATE: <u>10/15/2022</u>
	STATE: <u>WV</u>	
API #: <u>47-103-03536</u>		

form: wv6

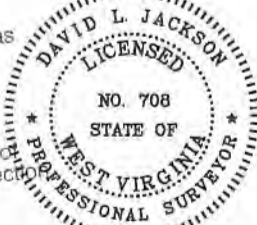
**ELMER LEASE  
WELL N-15HU  
513.0901 ± ACRES**

Tags	Number	Tax Map -Parcel	Surface Owner	Acres
A	S1	12-8-15	ELNORA TUTTLE HRS	39.19
	S2	12-8-20.5	JOE MILLER, GERALD & SUE YEATER	44.85
D	S3	12-8-1	R. SHANE & KATHRYN GODDARD	77
G	S4	12-7-13.1	WAYNE PAUL GODDARD	18
	S5	12-2-22.2	DAVID A. & MANDY L. TRUEX	1.186
	S6	12-7-11	JOSEPH R. VILLERS	1.5
	S7	12-7-12	JOSEPH R. VILLERS	1.6
	S8	12-2-23.4	SHARON HOWELL ET AL: GLORIA A. NICE - L/E	0.422
	S9	12-2-23.3	KENNETH W. GODDARD	0.766
	S10	12-2-23.1	KENNETH W. GODDARD	0.36
H	S11	12-3-26.1	JOSEPH MARK KLUG	3.242
I	S12	12-3-27	CATHY A. PURPURA	0.227
K	S13	12-3-23	DAVID A. NICE	21.7
N	S14	12-3-22.1	DAVID A. NICE	54.66
	S15	12-2-21	MICHAEL KENNETH & ROSETTA ANNETTE COZART	11.4
	S16	12-2-12	BERYL E. MASON	59.9
P	S17	12-2-13	JAY S. BOOTH; DANIEL T. BOOTH & DIANE BETH OVERDORFF	100
Q	S18	12-3-14	DAVID L. CUNNINGHAM	56.23
R	S19	12-2-14.2	JOHN G. JR & GERALDINE M. ROGERS	22.007
T	S20	12-2-14.1	SAMMY J. GREATHOUSE JR. : SAMMY J. GREATHOUSE SR. - L/E	18.67
S	S21	05-25-11.4	EDWARD W. KLUG, ETUX	32.787
X	S22	05-25-15	ROBERT S. KELLER, ETAL	15.073
U	S23	12-2-14.3	QUEENNA BENNETT	3.093
W	S24	05-25-16.1	DAVID L. CUNNINGHAM	6.34
Y	S25	05-25-16.2	RODNEY J. LOY	1.087
	S26	05-26-12.1	ALVIN F. JR. & KRISTA R. STONEKING	2.011
BB	S27	05-25-17	CRAIG & ASHLEY FERRELL	22.79
DD	S28	05-25-18	JOSEPH JOHNSON, ETUX - LIFE	37.746
GG	S29	05-26-11	MARK A. YOHO	89.25
FF	S30	05-25-18.1	PAMELA JOAN FERRELL, ET VIR	2.491
EE	S31	05-25-19	JOSEPH JOHNSON ET UX - LIFE	1.973
	S32	05-26-8	RICHARD J. OTTE	18.27
	S33	05-26-20	RICHARD J. OTTE	4.2
II	S34	05-23-11.5	ZACHARY R. STEVEN	7
JJ	S35	05-23-11.8	ROY F. YOHO	2.25
HH	S36	05-23-11.3	COLIN R. YOHO	11.29
NN	S37	05-23-11.4	EVELYN L HUDSON	10.879
KK	S38	05-23-13.1	JAMES R. & PAMELA J. FERRELL	0.7625
MM	S39	05-23-13	LINDA D. GREATHOUSE	14.24
LL	S40	05-23-12	MARK A. YOHO	3.05
	S41	05-23-9.1	JOHN W. VAN ORDEN, ETUX	23.376
	S42	05-23-9.4	JACKSON R. DAVIS, JR.	2.087
	S43	05-23-9.2	LINDA D. GREATHOUSE	25.58
	S44	05-23-8	CARL DAVID & SUZANNE L. GUSEMAN	29.5
	S45	05-23-9.3	LINDA D. GREATHOUSE	17.5
	S46	05-23-11.6	T.H. EXPLORATION II, LLC	0.094
	S47	05-23-11.2	EVELYN HUDSON	1.154
	S48	05-23-11	ROY F. YOHO	7
	S49	05-25-20.3	JAMES A. & JO C. ESTEP	4.49
	S50	05-25-20.2	JAMES M. ZAMBOTTI	1.347
	S51	05-25-20.1	JAMES M. ZAMBOTTI	2.746
	S54	05-25-1	MICHAEL L. MASON	35.43
	S55	05-25-14	ROY F. YOHO	23
	S56	05-25-13.2	DAVID A. KLUG	5.89
	S57	05-25-13	WILLIAM M. FERDA, JR., ETAL	16.014
	S58	05-25-13.4	PARSONS CEMETERY	0.382
	S59	05-25-12.1	KENT & BETTY MASON	15
	S60	05-25-11.1	EDWARD W. & DIANNA KLUG	2.343
	S61	12-3-44	JAMES A. & JO C. ESTEP	1.1
	S62	12-3-47	WETZEL CO. EMERGENCY AMBULANCE	0.5
	S63	12-3-49	LOGAN & AMY TAYLOR	3.814
	S64	12-3-43	ADAM W. FERRELL & BRITTANY M. LOY	1.97
Z	S65	05-25-16	CRAIG R. & ASHLEY FERRELL	23.5
	S66	12-3-1	JAMES W. KLUG	0.375
	S67	12-3-4.5	HAZEL M. BLAIR	0.451
	S68	12-3-4.6	STEVEN P. WAYMAN	1.009

\* FORCED POOLED TRACTS ARE HIGHLIGHTED

Tags	Number	Tax Map -Parcel	Surface Owner	Acres
	S69	12-3-4.8	ERIN HUBBS	0.621
	S70	12-3-4.3	JOSEPH P. & BARBARA A. CAIN	3.619
	S71	12-3-2	ROBERT LEE & DIANA G. SMITH	2.48
	S72	12-3-3.1	DIANA & ROBERT L. SMITH	15.78
	S73	12-3-4.2	DEREK L. BAKER	5.21
	S74	12-3-3	ANITA LARELL SLOUGH	1.12
	S75	12-3-12	RODNEY DEAN JACKSON	3.625
	S76	12-3-48	RONALD W. & JULIE A. NICE	1
	S77	12-3-14	ROBERT W. BAXTER, FREDERICK J. BAXTER & ANN C. LINGER	27
	S78	12-3-14.1	MATTHEW D. HALL	13
	S79	12-3-13.1	ZACHARY J. KIRKLAND	5
	S80	12-3-21.1	LARRY J. & MARY ANN KIRKLAND	0.47
	S81	12-3-29	FRIEND V. ESTEP - RAYMOND F. ESTEP - L/E	2.9
	S82	12-3-30.4	FRIEND V. ESTEP, MICHAEL & JOAN ESTEP & DOUGLAS & JOAN ESTEP (RAYMOND ESTEP - L/E)	81.82
	S83	12-3-30.2	APRIL ROSE & DONALD ALLEN POSTLETHWAIT	1.67
	S84	12-3-30	MARY ROSE YOHO - L/E APRIL ROSE POSTLETHWAIT	0.48
	S85	12-3-28	ANTIOCH CHURCH	1
	S86	12-3-45	ANTIOCH CHURCH	0.774
	S87	12-8-3	R. SHANE & KATHRYN GODDARD	31.13
	S88	12-3-30.3	TIMOTHY L. SUMMERS	0.61
	S89	12-3-32	TIMOTHY L. SUMMERS	2.32
	S90	12-3-39	FRIEND V. ESTEP, MICHAEL & JOAN ESTEP & DOUGLAS & JOAN ESTEP (RAYMOND ESTEP - L/E)	4.69
	S91	12-3-32.1	TIMOTHY L. & LE ANN SUMMERS	1.78
	S92	12-3-39.1	WILLIAM NICE	1.31
	S93	12-3-31	DOUGLAS & SUZANNA ESTEP	3.25
	S94	12-8-4.3	BRADY G. & SHARON L. HOWELL	5.59
	S95	12-8-4.1	MARY JOSEPHINE & JACOB WOODROW NICE	6.171
	S96	12-8-13	EDWARD C. & SANDRA K MURRINER	15
	S97	12-8-14	EDWARD C. & SANDRA K MURRINER	5.33
	S98	12-8-16.1	BRENT A. & KIMBERLY J. EDDY	0.06
	S99	12-8-4.4	CHARLES & BETTY HUGGINS	0.69
	S100	12-8-4.2	BRENT A. & KIMBERLY J. EDDY	1.861
	S101	12-8-4	JACOB WOODROW & MARY JOSEPHINE NICE	20.893
	S102	12-8-21	EDUARDO C. & SONYA R. DEGUZMAN	11.51
	S103	12-8-21.1	LINDA M. STOUT	15.26
	S104	12-8-22.1	BARRY C. KIRKLAND	7.401
	S105	12-8-32.6	CHARLES W. THOMAS JR.	1.309
	S106	12-8-32	CHARLES M. THOMAS, DAVID TODD & CINDY L. BATES	27.287
	S107	12-8-20.1	PAUL J. BLAKE	1.5
	S108	12-8-20.9	JOSHUA M. & COURTNEY R. NEFF	0.4
	S109	12-8-20.3	PAUL J. BLAKE	0.25
	S110	12-8-20.8	JOSHUA M. & COURTNEY R. NEFF	0.99
	S111	12-8-20.6	JOHN G. & DEBRA D. THROCKMORTON	1.046
	S112	12-8-20.7	RON JR. & SHANA CAMPBELL	5.44
	S113	12-8-18	CHARLES D. ROSE JR., ETAL: CHARLES & JUDITH ROSE - L/E	6.4
	S114	12-7-33	CHARLES D. ROSE JR., ETAL: CHARLES & JUDITH ROSE - L/E	5.75
	S115	12-7-32.1	CHARLES D. ROSE JR., ETAL: CHARLES & JUDITH ROSE - L/E	18
	S116	12-7-22.3	TIMOTHY ROGER FERGUSON	0.239
	S117	12-7-22.2	TIMOTHY ROGER FERGUSON	0.908
	S118	12-7-22.4	WAYNE PAUL GODDARD	0.084
	S119	12-7-9	MICHAEL J. & ALENA R. FAYAD	22.526
	S120	12-7-9.1	JAMES T. EDDY	17.47
	S121	12-7-22.1	NANCY C. MURPHY - L.E. KARI KIM CLARK	0.82
	S122	12-7-10	WAYNE PAUL GODDARD	1.5
	S123	12-2-22	MARY JOSEPHINE NICE	2.95
	S124	12-2-22.3	DAVID L. & KIMBERLY L. NICE	1.65
	S125	12-2-20.2	MICHAEL K. COZART	1.025
	S126	12-2-20.1	SHIRLEY L. & KENNETH L. HAUGHT	1
	S127	12-2-20	MICHAEL K. & ROSETTA A. COZART	34.063
	S128	12-8-1.2	JOSH GODDARD	1.81
	S129	12-7-8.1	BRIAN & CHRISTINE L. NICE	7.628
	S130	12-7-8	MARK E. ELLER	1.012
	S131	12-7-7.5	MARK E. ELLER	1.94
	S132	12-7-7.1	MARK E. ELLER	1.41
	S133	12-2-25	MICHAEL K. & ROSETTA A. COZART	1.269
	S134	12-2-11.1	BERYL E. MASON	1.7
	S135	12-2-9	LAURA RICHARDS COOK	77
	S136	12-2-10	LAURA RICHARDS COOK	95
	S137	12-2-5	CLIFFORD W. & ALBERTA B. JOHNSON	75.96
	S138	12-2-6	CLIFFORD W. & ALBERTA B. JOHNSON	36
	S139	12-3-46	CATHY A. PURPURA	0.514
	S140	05-26-13	MARJORIE ANN STONEKING - LIFE	40
	S141	05-26-14	THERESA H. WALTON, AS TRUSTEE OF THE ROBERT D. & BONNIE L. O LIVER TRUST	27.56
	S142	05-26-10	THERESA H. WALTON, AS TRUSTEE OF THE ROBERT D. & BONNIE L. O LIVER TRUST	24.94
	S143	05-26-9	THERESA H. WALTON, AS TRUSTEE OF THE ROBERT D. & BONNIE L. O LIVER TRUST	21.75
	S144	05-26-21	RICHARD JOSEPH OTTE	1.25
	S145	05-23-14	DOMINION ENERGY TRANSMISSION, INC.	59.5
J	S146	12-3-46	CATHY A. PURPURA	3.242
F	S147	12-8-1.2	JOSH GODDARD	1.81
	S148	05-23-11.8	ROY F. YOHO	2.25
	S149	p/o 12-3-33 & 12-3-30.4	DOUGLAS & SUZANNE ESTEP	0.145
	S150	p/o 12-3-4.7 & 12-3-4.3	JOSHUA D. LEMASTERS & ERIN LEMASTERS	10/28/2022

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*David L Jackson*



**TUG HILL  
OPERATING**

OPERATOR'S  
WELL #: ELMER N-15HU  
DISTRICT: Proctor  
COUNTY: Wetzel  
STATE: WV  
API #: 47-103-03536

WELL PLAT  
PAGE 3 OF 4  
DATE: 07/28/2022  
REVISED DATE:  
10/15/2022

form wv6

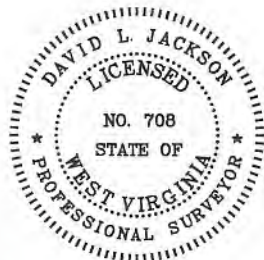
**ELMER LEASE  
WELL N-15HU  
513.0901 ± ACRES**

Lease ID	TMP	Tag	Grantor, Lessor, Etc.	Deed Book/Page	
10*31435	12-8-15	A	HENRY AND NANCY GARNER	55	394
10*31435	12-8-16	B	HENRY AND NANCY GARNER	55	394
10*31435	12-8-2	C	HENRY AND NANCY GARNER	55	394
10*31435	12-8-1	D	HENRY AND NANCY GARNER	55	394
10*31435	12-8-1.1	E	HENRY AND NANCY GARNER	55	394
10*31435	12-8-1.2	F	HENRY AND NANCY GARNER	55	394
10*31435	12-7-13.1	G	HENRY AND NANCY GARNER	55	394
10*31435	12-3-26.1	H	HENRY AND NANCY GARNER	55	394
10*31435	12-3-27	I	HENRY AND NANCY GARNER	55	394
10*31435	12-3-46	J	HENRY AND NANCY GARNER	55	394
10*21035	12-2-23	K	THOMAS E GARNER AND BILLIE J GARNER, ET AL	200A	385
10*21643	12-2-23	K	LARRY D GARNER	200A	393
10*31435	12-2-23	K	HENRY AND NANCY GARNER	55	394
10*22229	12-3-13	L	MURIEL A MILLER, ET AL	204A	150
10*21681	12-2-19	M	DOROTHY J HAAS, ET AL	214A	358
**FORCE POOL**	12-2-22.1	N	THOMAS E GARNER, ET AL	166A	436
10*39463	12-3-4.7	O	J P COOPER ET AL	56	245
10*40304	12-2-13	P	DANIEL T BOOTH, ET AL	292A	309
10*18205	12-2-14	Q	MELISSA PAINTER AND SHAUN PAINTER, ET AL	927 205A	639 891
10*18205	12-2-14.2	R	MELISSA PAINTER AND SHAUN PAINTER, ET AL	927 205A	639 891
10*22494	5-25-11.4	S	EDWARD W KLUG & DIANNA KLUG JTWROS	920	109
10*27897	12-2-14.1	T	CAROL VASS, ET AL	1063 232A	605 346
10*39461	12-2-14.3	U	JAMES M PARSONS	73	195
10*19727	5-25-14.1	V	S RICHARD MELLON, ET AL	944	465
10*18205	5-25-16.1	W	MELISSA PAINTER AND SHAUN PAINTER, ET AL	927 205A	639 891
10*18205	5-25-15	X	MELISSA PAINTER AND SHAUN PAINTER, ET AL	927 205A	639 891
10*18205	5-25-16.2	Y	MELISSA PAINTER AND SHAUN PAINTER, ET AL	927 205A	639 891
10*18205	5-25-16	Z	MELISSA PAINTER AND SHAUN PAINTER, ET AL	927 205A	639 891
10*31441	5-26-12	AA	JASON AND S M PARSONS	59	3
10*14786	5-25-17	BB	TWILA O WHIPKEY, ET AL	799	61
10*14786	5-25-20	CC	TWILA O WHIPKEY, ET AL	799	61
10*14786	5-25-18	DD	TWILA O WHIPKEY, ET AL	799	61
10*14786	5-25-19	EE	TWILA O WHIPKEY, ET AL	799	61
10*14786	5-25-18.1	FF	TWILA O WHIPKEY, ET AL	799	61
10*14786	5-26-11	GG	TWILA O WHIPKEY, ET AL	799	61
10*14786	5-23-11.3	HH	TWILA O WHIPKEY, ET AL	799	61
10*14786	5-23-11.5	II	TWILA O WHIPKEY, ET AL	799	61
10*14786	5-23-11.8	JJ	TWILA O WHIPKEY, ET AL	799	61
10*14786	5-23-13.1	KK	TWILA O WHIPKEY, ET AL	799	61
10*14969	5-23-12	LL	REBECCA S WORD, ET AL	872	219
10*14786	5-23-13	MM	TWILA O WHIPKEY, ET AL	799	61
10*14786	5-23-11.4	NN	TWILA O WHIPKEY, ET AL	799	61
10*14786	5-23-11.1	OO	TWILA O WHIPKEY, ET AL	799	61

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*David L Jackson*

10/28/2022



**TUG HILL  
OPERATING**

OPERATOR'S  
WELL #: ELMER N-15HU  
DISTRICT: Proctor  
COUNTY: Wetzel  
STATE: WV  
API #: 47-103-03536

WELL PLAT  
PAGE 4 OF 4  
DATE: 07/28/2022  
REVISED DATE:  
10/15/2022

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

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

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

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

\*See attached pages

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

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

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

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

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

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**OCT 19 2022**  
WV Department of  
Environmental Protection



Lease ID	TMP	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Wellbore?
10*31435	12-8-15	A	HENRY AND NANCY GARNER	J A PHILLIPS	1/8+	55 394	J A Phillips to South Penn Oil Company: 56/284	South Penn Oil Company to South Penn Natural Gas Company: 33A/455	South Penn Natural Gas Company to Dallis Snyder & Sam Beren dba Snyder & Beren: 39A/33	Dallis Snyder & Muriel C Snyder, Sam Beren & Sarah Beren, dba Snyder and Beren to John H Robinson & George F Eagon: 39A/38	John H Robinson, Blanche Eagon, Est of George F Eagon, decd, Mildred M Lartigue, Carl L Eagon, Elva Robinson, Est of John H Robinson, decd, & Mary Ellen Davis to Elva Robinson & Mary Ellen Davis: 43A/440	Elva Robinson & Mary Ellen Davis to Andrew L Henry, Charles E Reed & Harry R Cronin: 44A/92	Katherine A & Harry R Cronin Jr to Charles E & Kathryn C Reed: 51A/241	Kathryn C Reed to Carl Perkins: 55A/54	Carl & Dorothy Louise Perkins to Perkins Oil and Gas Inc: 84A/9	Perkins Oil & Gas Inc to TH Exploration LLC: 251A/463	yes
10*31435	12-8-16	B	HENRY AND NANCY GARNER	J A PHILLIPS	1/8+	55 394	J A Phillips to South Penn Oil Company: 56/284	South Penn Oil Company to South Penn Natural Gas Company: 33A/455	South Penn Natural Gas Company to Dallis Snyder & Sam Beren dba Snyder & Beren: 39A/33	Dallis Snyder & Muriel C Snyder, Sam Beren & Sarah Beren, dba Snyder and Beren to John H Robinson & George F Eagon: 39A/38	John H Robinson, Blanche Eagon, Est of George F Eagon, decd, Mildred M Lartigue, Carl L Eagon, Elva Robinson, Est of John H Robinson, decd, & Mary Ellen Davis to Elva Robinson & Mary Ellen Davis: 43A/440	Elva Robinson & Mary Ellen Davis to Andrew L Henry, Charles E Reed & Harry R Cronin: 44A/92	Katherine A & Harry R Cronin Jr to Charles E & Kathryn C Reed: 51A/241	Kathryn C Reed to Carl Perkins: 55A/54	Carl & Dorothy Louise Perkins to Perkins Oil and Gas Inc: 84A/9	Perkins Oil & Gas Inc to TH Exploration LLC: 251A/463	yes
10*31435	12-8-2	C	HENRY AND NANCY GARNER	J A PHILLIPS	1/8+	55 394	J A Phillips to South Penn Oil Company: 56/284	South Penn Oil Company to South Penn Natural Gas Company: 33A/455	South Penn Natural Gas Company to Dallis Snyder & Sam Beren dba Snyder & Beren: 39A/33	Dallis Snyder & Muriel C Snyder, Sam Beren & Sarah Beren, dba Snyder and Beren to John H Robinson & George F Eagon: 39A/38	John H Robinson, Blanche Eagon, Est of George F Eagon, decd, Mildred M Lartigue, Carl L Eagon, Elva Robinson, Est of John H Robinson, decd, & Mary Ellen Davis to Elva Robinson & Mary Ellen Davis: 43A/440	Elva Robinson & Mary Ellen Davis to Andrew L Henry, Charles E Reed & Harry R Cronin: 44A/92	Katherine A & Harry R Cronin Jr to Charles E & Kathryn C Reed: 51A/241	Kathryn C Reed to Carl Perkins: 55A/54	Carl & Dorothy Louise Perkins to Perkins Oil and Gas Inc: 84A/9	Perkins Oil & Gas Inc to TH Exploration LLC: 251A/463	yes
10*31435	12-8-1	D	HENRY AND NANCY GARNER	J A PHILLIPS	1/8+	55 394	J A Phillips to South Penn Oil Company: 56/284	South Penn Oil Company to South Penn Natural Gas Company: 33A/455	South Penn Natural Gas Company to Dallis Snyder & Sam Beren dba Snyder & Beren: 39A/33	Dallis Snyder & Muriel C Snyder, Sam Beren & Sarah Beren, dba Snyder and Beren to John H Robinson & George F Eagon: 39A/38	John H Robinson, Blanche Eagon, Est of George F Eagon, decd, Mildred M Lartigue, Carl L Eagon, Elva Robinson, Est of John H Robinson, decd, & Mary Ellen Davis to Elva Robinson & Mary Ellen Davis: 43A/440	Elva Robinson & Mary Ellen Davis to Andrew L Henry, Charles E Reed & Harry R Cronin: 44A/92	Katherine A & Harry R Cronin Jr to Charles E & Kathryn C Reed: 51A/241	Kathryn C Reed to Carl Perkins: 55A/54	Carl & Dorothy Louise Perkins to Perkins Oil and Gas Inc: 84A/9	Perkins Oil & Gas Inc to TH Exploration LLC: 251A/463	yes

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**FORCE POOL**	12-2-23	K	THOMAS E GARNER AND BILLIE J GARNER	STONE ENERGY CORPORATION	1/8+	168A 800	Stone Energy Corp to EQT Production Company: 183A/305	**FORCE POOL**									yes
**FORCE POOL**	12-2-23	K	LARRY D GARNER	STONE ENERGY CORPORATION	1/8+	168A 782	Stone Energy Corp to EQT Production Company: 183A/305	**FORCE POOL**									yes
10*31435	12-2-23	K	HENRY AND NANCY GARNER	J A PHILLIPS	1/8+	55 394	J A Phillips to South Penn Oil Company: 56/284	South Penn Oil Company to South Penn Natural Gas Company: 33A/455	South Penn Natural Gas Company to Dallis Snyder & Sam Beren dba Snyder & Beren: 39A/33	Dallis Snyder & Muriel C Snyder, Sam Beren & Sarah Beren, dba Snyder and Beren to John H Robinson & George F Eagon: 39A/38	John H Robinson, Blanche Eagon, Est of George F Eagon, decd, Mildred M Lartigue, Carl L Eagon, Elva Robinson, Est of John H Robinson, decd, & Mary Ellen Davis to Elva Robinson & Mary Ellen Davis: 43A/440	Elva Robinson & Mary Ellen Davis to Andrew L Henry, Charles E Reed & Harry R Cronin: 44A/92	Katherine A & Harry R Cronin Jr to Charles E & Kathryn C Reed: 51A/241	Kathryn C Reed to Carl Perkins: 55A/54	Carl & Dorothy Louise Perkins to Perkins Oil and Gas Inc: 84A/9	Perkins Oil & Gas Inc to TH Exploration LLC: 251A/463	yes
10*21681	12-2-19	M	DOROTHY J HAAS	TH EXPLORATION LLC	1/8+	214A 358	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22229	12-2-19	M	MURIEL A MILLER	TH EXPLORATION LLC	1/8+	204A 150	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22230	12-2-19	M	JOHN P SNYDER	TH EXPLORATION LLC	1/8+	204A 146	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22692	12-2-19	M	HERBERT L MILLER AND BRENDA S MILLER	TH EXPLORATION LLC	1/8+	209A 295	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23007	12-2-19	M	JOHN M PARSONS & ANTOINETTE L COSTANTINO	TH EXPLORATION LLC	1/8+	209A 287	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23029	12-2-19	M	HAMMETT LAND & MINERALS LLC SAMUEL C HAMMETT MANAGING MEMBER	TH EXPLORATION LLC	1/8+	209A 285	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23512	12-2-19	M	VIVIAN A PARSONS	TH EXPLORATION LLC	1/8+	212A 59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23697	12-2-19	M	RICHARD ALLEN FONNER AND LINDA M FONNER	TH EXPLORATION LLC	1/8+	212A 521	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23719	12-2-19	M	BRENDA S FONNER	TH EXPLORATION LLC	1/8+	213A 410	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23797	12-2-19	M	FREDERICK R FONNER AND PENELOPE G FONNER	TH EXPLORATION LLC	1/8+	213A 703	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23824	12-2-19	M	JAMES H PARSONS JR	TH EXPLORATION LLC	1/8+	215A 262	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*24004	12-2-19	M	JOHN E FONNER AND MICHELE D FONNER	TH EXPLORATION LLC	1/8+	215A 437	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*24148	12-2-19	M	ROY C PARSONS	TH EXPLORATION LLC	1/8+	212A 517	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*24175	12-2-19	M	THOMAS L FONNER	TH EXPLORATION LLC	1/8+	214A 71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*24775	12-2-19	M	2011 WILLIAM F ROWLAND & CONNIE J ROWLAND IRREVOCABLE TRUST DATED OCTOBER 28, 2011	TH EXPLORATION LLC	1/8+	220A 289	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*25009	12-2-19	M	FRANCES E ALLOWAY	TH EXPLORATION LLC	1/8+	220A 887	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*26923	12-2-19	M	CHRISTOPHER TILLMAN AND KELLY L TILLMAN	TH EXPLORATION LLC	1/8+	225A 771	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*26986	12-2-19	M	ROBERT FRANKLIN II FONNER AND KARYN FONNER	TH EXPLORATION LLC	1/8+	226A 407	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes

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10*27309	12-2-19	M	JOHN IHNATOLYA AND CHARLOTTE IHNATOLYA	TH EXPLORATION LLC	1/8+	229A 590	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27548	12-2-19	M	BECKY LANE LLC	TH EXPLORATION LLC	1/8+	232A 716	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27549	12-2-19	M	BETTY JANE RICHARDSON FONNER	TH EXPLORATION LLC	1/8+	232A 720	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27963	12-2-19	M	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	232A 339	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*28038	12-2-19	M	CHRISTINE C CONNOR AND WILLIAM KYLE CONNOR	TH EXPLORATION LLC	1/8+	234A 623	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*31435	12-2-19	M	HENRY AND NANCY GARNER	J A PHILLIPS	1/8+	55 394	J A Phillips to South Penn Oil Company: 56/284	South Penn Oil Company to South Penn Natural Gas Company: 33A/455	South Penn Natural Gas Company to Dallis Snyder & Sam Beren dba Snyder & Beren: 39A/33	Dallis Snyder & Muriel C Snyder, Sam Beren & Sarah Beren, dba Snyder and Beren to John H Robinson & George F Eagon: 39A/38	John H Robinson, Blanche Eagon, Est of George F Eagon, decd, Mildred M Lartigue, Carl L Eagon, Elva Robinson, Est of John H Robinson, decd, & Mary Ellen Davis to Elva Robinson & Mary Ellen Davis: 43A/440	Elva Robinson & Mary Ellen Davis to Andrew L Henry, Charles E Reed & Harry R Cronin: 44A/92	Katherine A & Harry R Cronin Jr to Charles E & Kathryn C Reed: 51A/241	Kathryn C Reed to Carl Perkins: 55A/54	Carl & Dorothy Louise Perkins to Perkins Oil and Gas Inc: 84A/9	Perkins Oil & Gas Inc to TH Exploration LLC: 251A/463	yes	
10*39464	12-2-19	M	ROBERT AND SARAH J COFFIELD	J A PHILLIPS	1/8+	55 216	J A Phillips to South Penn Oil Company: 55/235	South Penn Oil Company to Hope Natural Gas Supply Corp: 9A/227	Hope Natural Gas Supply Corp: 233/387	Consolidated Gas Supply Corp to Consolidated Gas Transmission Corp: 66A/69	Consolidated Gas Transmission Corp to CNG Development Company: 67A/452	Development Company merged with and into CNG Producing Company Eff. 1/1/1991	CNG Producing Company changed name into Dominion Exploration & Producing Inc. - 5/10/2000	Merger - Dominion Exploration & Production Inc merged with and into Consol Gas Company: CB 13/108	Merger - Consol Gas Company merged with and into CNX Gas Company LLC: MB 96/307	CNX Gas Company LLC to TH Exploration LLC: 270A/479	yes	
10*39465	12-2-19	M	ROBERT AND SARAH J COFFIELD	J A PHILLIPS	1/8+	55 212	J A Phillips to South Penn Oil Company: 55/235	South Penn Oil Company to Hope Natural Gas Supply Corp: 9A/227	Hope Natural Gas Supply Corp: 233/387	Consolidated Gas Supply Corp to Consolidated Gas Transmission Corp: 66A/69	Consolidated Gas Transmission Corp to CNG Development Company: 67A/452	Development Company merged with and into CNG Producing Company Eff. 1/1/1991	CNG Producing Company changed name into Dominion Exploration & Producing Inc. - 5/10/2000	Merger - Dominion Exploration & Production Inc merged with and into Consol Gas Company: CB 13/108	Merger - Consol Gas Company merged with and into CNX Gas Company LLC: MB 96/307	CNX Gas Company LLC to TH Exploration LLC: 270A/479	yes	
10*39463	12-3-4.7	O	J P COOPER ET AL	SOUTH PENN OIL COMPANY	1/8+	56 245	N/A	South Penn Oil Company to Hope Natural Gas Supply Corp: 9A/227	Hope Natural Gas Supply Corp: 233/387	Consolidated Gas Supply Corp to Consolidated Gas Transmission Corp: 66A/69	Consolidated Gas Transmission Corp to CNG Development Company: 67A/452	Development Company merged with and into CNG Producing Company Eff. 1/1/1991	CNG Producing Company changed name into Dominion Exploration & Producing Inc. - 5/10/2000	Merger - Dominion Exploration & Production Inc merged with and into Consol Gas Company: CB 13/108	Merger - Consol Gas Company merged with and into CNX Gas Company LLC: MB 96/307	CNX Gas Company LLC to TH Exploration LLC: 270A/479	yes	
10*18205	12-2-14	Q	MELISSA PAINTER AND SHAUN PAINTER	TH EXPLORATION LLC	1/8+	927 639	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18216	12-2-14	Q	BRUCE EDWARD BAILEY JR AND DARA BAILEY	TH EXPLORATION LLC	1/8+	929 99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19484	12-2-14	Q	FREDRIC & BETTY RICHTER	TH EXPLORATION LLC	1/8+	941 166	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19485	12-2-14	Q	ELIZABETH A HARTLE	TH EXPLORATION LLC	1/8+	941 233	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19643	12-2-14	Q	PATRICIA LOUISE CROW AND HOY GLENN CROW	TH EXPLORATION LLC	1/8+	944 101	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23349	12-2-14	Q	LYNN ELLEN BARCUS AND PAUL E BARCUS JR	TH EXPLORATION LLC	1/8+	205A 877	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23403	12-2-14	Q	JAN LEA OODONNELL AND KELLY OODONNELL	TH EXPLORATION LLC	1/8+	988 439	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23426	12-2-14	Q	STEVEN L & CAROL J NEWMAN	TH EXPLORATION LLC	1/8+	211A 335	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23702	12-2-14	Q	BRAD EYNON	TH EXPLORATION LLC	1/8+	988 436	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23836	12-2-14	Q	JON NEWMAN & SUSAN NEWMAN	TH EXPLORATION LLC	1/8+	211A 338	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27186	12-2-14	Q	LAURA J MAY AND ROGER A MAY	TH EXPLORATION LLC	1/8+	212A 32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
						988 433	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
						1015 152	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
						214A 315	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
						1057 339	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
						230A 662	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes

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10*27298	12-2-14	Q	ROBERT M MCCARDLE & NANCY R MCCARDLE	TH EXPLORATION LLC	1/8+	230A	664	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27435	12-2-14	Q	ROHN J BOWERS MARTIN	TH EXPLORATION LLC	1/8+	1058	568	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27439	12-2-14	Q	GERALD H COOPER	TH EXPLORATION LLC	1/8+	230A	660	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27444	12-2-14	Q	GREGORY T COOPER AND SUSAN COOPER	TH EXPLORATION LLC	1/8+	1058	572	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27521	12-2-14	Q	GASPARE A INGRASSELINO	TH EXPLORATION LLC	1/8+	234A	472	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27569	12-2-14	Q	ROBERT LOHR	TH EXPLORATION LLC	1/8+	1060	484	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27897	12-2-14	Q	CAROL VASS	TH EXPLORATION LLC	1/8+	1063	605	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27898	12-2-14	Q	PAUL G FOX AND CYNTHIA G FOX	TH EXPLORATION LLC	1/8+	232A	346	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27959	12-2-14	Q	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1064	145	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*39461	12-2-14	Q	JAMES M PARSONS	SOUTH PENN OIL COMPANY	1/8+	73	195	N/A	N/A	South Penn oil Company to Hope Natural Gas Company: 9A/227	Hope Natural Gas Company to Consolidated Gas Supply Corp: 233/387	Consolidated Gas Supply Corp to Consolidated Gas Transmission Corp: 66A/69	Consolidated Gas Transmission Corp to CNG Development Company: 67A/453	name Change - CNG Producing Company changed name into Dominion Exploration & Producing Inc. - 5/10/2000	Merger - Dominion Exploration & Production Inc merger with and into Consol Gas Company: CB 13/108	Merger - Consol Gas Company merged with and into CNX Gas Company LLC: MB 96/307	CNX Gas Company LLC to TH Exploration LLC: 270A/479	yes
10*18205	5-25-16.1	W	MELISSA PAINTER AND SHAUN PAINTER	TH EXPLORATION LLC	1/8+	927	639	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18216	5-25-16.1	W	BRUCE EDWARD BAILEY JR AND DARA BAILEY	TH EXPLORATION LLC	1/8+	929	99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19484	5-25-16.1	W	FREDRIC & BETTY RICHTER	TH EXPLORATION LLC	1/8+	941	235	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19485	5-25-16.1	W	ELIZABETH A HARTLE	TH EXPLORATION LLC	1/8+	941	233	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19643	5-25-16.1	W	PATRICIA LOUISE CROW AND HOY GLENN CROW	TH EXPLORATION LLC	1/8+	944	101	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23349	5-25-16.1	W	LYNN ELLEN BARCUS AND PAUL E BARCUS JR	TH EXPLORATION LLC	1/8+	205A	877	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23403	5-25-16.1	W	JAN LEA OODONNELL AND KELLY OODONNELL	TH EXPLORATION LLC	1/8+	988	439	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23426	5-25-16.1	W	STEVEN L & CAROL J NEWMAN	TH EXPLORATION LLC	1/8+	211A	335	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23702	5-25-16.1	W	BRAD EYNON	TH EXPLORATION LLC	1/8+	211A	338	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23836	5-25-16.1	W	JON NEWMAN & SUSAN NEWMAN	TH EXPLORATION LLC	1/8+	212A	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27186	5-25-16.1	W	LAURA J MAY AND ROGER A MAY	TH EXPLORATION LLC	1/8+	988	433	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27298	5-25-16.1	W	ROBERT M MCCARDLE & NANCY R MCCARDLE	TH EXPLORATION LLC	1/8+	1015	152	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27435	5-25-16.1	W	ROHN J BOWERS MARTIN	TH EXPLORATION LLC	1/8+	214A	315	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27439	5-25-16.1	W	GERALD H COOPER	TH EXPLORATION LLC	1/8+	1057	339	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27444	5-25-16.1	W	GREGORY T COOPER AND SUSAN COOPER	TH EXPLORATION LLC	1/8+	230A	662	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27521	5-25-16.1	W	GASPARE A INGRASSELINO	TH EXPLORATION LLC	1/8+	230A	664	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27569	5-25-16.1	W	ROBERT LOHR	TH EXPLORATION LLC	1/8+	1057	337	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27897	5-25-16.1	W	CAROL VASS	TH EXPLORATION LLC	1/8+	1058	568	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27898	5-25-16.1	W	PAUL G FOX AND CYNTHIA G FOX	TH EXPLORATION LLC	1/8+	230A	656	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27959	5-25-16.1	W	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	230A	660	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27963	5-25-16.1	W	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1058	570	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes

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10*18205	5-25-16	Z	MELISSA PAINTER AND SHAUN PAINTER	TH EXPLORATION LLC	1/8+	927	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18216	5-25-16	Z	BRUCE EDWARD BAILEY JR AND DARA BAILEY	TH EXPLORATION LLC	1/8+	929	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19484	5-25-16	Z	FREDRIC & BETTY RICHTER	TH EXPLORATION LLC	1/8+	941	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19485	5-25-16	Z	ELIZABETH A HARTLE	TH EXPLORATION LLC	1/8+	941	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19643	5-25-16	Z	PATRICIA LOUISE CROW AND HOY GLENN CROW	TH EXPLORATION LLC	1/8+	944	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23349	5-25-16	Z	LYNN ELLEN BARCUS AND PAUL E BARCUS JR	TH EXPLORATION LLC	1/8+	988	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23403	5-25-16	Z	JAN LEA ODONNELL AND KELLY ODONNELL	TH EXPLORATION LLC	1/8+	988	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23426	5-25-16	Z	STEVEN L & CAROL J NEWMAN	TH EXPLORATION LLC	1/8+	988	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23702	5-25-16	Z	BRAD EYNON	TH EXPLORATION LLC	1/8+	1015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23836	5-25-16	Z	JON NEWMAN & SUSAN NEWMAN	TH EXPLORATION LLC	1/8+	1015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27186	5-25-16	Z	LAURA J MAY AND ROGER A MAY	TH EXPLORATION LLC	1/8+	1057	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27298	5-25-16	Z	ROBERT M MCCARDLE & NANCY R MCCARDLE	TH EXPLORATION LLC	1/8+	1057	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27435	5-25-16	Z	ROHN J BOWERS MARTIN	TH EXPLORATION LLC	1/8+	1058	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27439	5-25-16	Z	GERALD H COOPER	TH EXPLORATION LLC	1/8+	1058	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27444	5-25-16	Z	GREGORY T COOPER AND SUSAN COOPER	TH EXPLORATION LLC	1/8+	1058	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27521	5-25-16	Z	GASPARE A INGRASSELINO	TH EXPLORATION LLC	1/8+	1063	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27569	5-25-16	Z	ROBERT LOHR	TH EXPLORATION LLC	1/8+	1060	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27897	5-25-16	Z	CAROL VASS	TH EXPLORATION LLC	1/8+	1063	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27898	5-25-16	Z	PAUL G FOX AND CYNTHIA G FOX	TH EXPLORATION LLC	1/8+	1064	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27959	5-25-16	Z	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1063	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27963	5-25-16	Z	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1063	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*14786	5-25-17	BB	TWILA O WHIPKEY	GASTAR EXPLORATION USA INC	1/8+	799	N/A	N/A	N/A	N/A	N/A	N/A	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*14797	5-25-17	BB	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8+	800	N/A	N/A	N/A	N/A	N/A	N/A	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*14822	5-25-17	BB	ONWARD E BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	N/A	N/A	N/A	N/A	N/A	N/A	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 35/144	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes

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10*14823	5-25-17	BB	SARAH L BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876 459	N/A		N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/144	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*17195	5-25-17	BB	PATRICIA HARTMAN	GASTAR EXPLORATION USA INC	1/8+	695 317	N/A		N/A		Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17196	5-25-17	BB	DELBERT R. MONTGOMERY	GASTAR EXPLORATION USA INC	1/8+	695 311	N/A		N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17197	5-25-17	BB	GLORIA J. SIMMONS HAROLD SIMMONS	GASTAR EXPLORATION USA INC	1/8+	695 313	N/A		N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17199	5-25-17	BB	PAMELA L DRAZIC AND JEFFREY DRAZIC	GASTAR EXPLORATION USA INC	1/8+	695 315	N/A		N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17200	5-25-17	BB	STEPHANIE L BATES	GASTAR EXPLORATION USA INC	1/8+	697 156	N/A		N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17201	5-25-17	BB	DENISE A GALE	GASTAR EXPLORATION USA INC	1/8+	697 395	N/A		N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17202	5-25-17	BB	JANE GALE	GASTAR EXPLORATION USA INC	1/8+	697 385	N/A		N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes

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10*17203	5-25-17	BB	BARRY RAY MOORE	GASTAR EXPLORATION USA INC	1/8+	697 387						Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger-SWV Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17204	5-25-17	BB	CLARENCE RICHARD ZESIGER & MARY ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697 391						Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger-SWV Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17206	5-25-17	BB	M VIRGINIA & EDWARD C MARSH	GASTAR EXPLORATION USA INC	1/8+	697 399						Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger-SWV Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17207	5-25-17	BB	DEBORAH K. KLIMASZEWSKI FRANK KLIMASZEWSKI, SR.	GASTAR EXPLORATION USA INC	1/8+	697 389						Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger-SWV Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17210	5-25-17	BB	MARILYN NOEL	GASTAR EXPLORATION USA INC	1/8+	697 393						Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger-SWV Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17211	5-25-17	BB	GARY WAYNE ZESIGER & VITORINA ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697 397						Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger-SWV Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17212	5-25-17	BB	DARRELL NEWLAND LYDIA NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697 158						Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger-SWV Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes

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10*17213	5-25-17	BB	CAROL DEEN GARDNER	GASTAR EXPLORATION USA INC	1/8+	697 154	N/A				Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes	
10*18275	5-25-17	BB	BETTY JEAN NEELY	TH EXPLORATION LLC	1/8+	929 60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*18366	5-25-17	BB	MICHAEL WILSON AIF	TH EXPLORATION LLC	1/8+	931 311	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*18369	5-25-17	BB	CRAIG ALAN YOHO AND DONNA M YOHO	TH EXPLORATION LLC	1/8+	931 303	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*18370	5-25-17	BB	SAMUEL D YOHO	TH EXPLORATION LLC	1/8+	931 300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*18379	5-25-17	BB	DAVID N DEVICK TRUSTEE OF THE TONI JO MASON LIVING TRUST	TH EXPLORATION LLC	1/8+	932 439	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*19540	5-25-17	BB	ERICA M MASON	TH EXPLORATION LLC	1/8+	942 53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*19652	5-25-17	BB	JACK R HAMMERS	TH EXPLORATION LLC	1/8+	944 108	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*19903	5-25-17	BB	PAUL F HAMMERS	TH EXPLORATION LLC	1/8+	948 236	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*22008	5-25-17	BB	COLIN R YOHO AND NORMA L YOHO	TH EXPLORATION LLC	1/8+	953 304	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*22025	5-25-17	BB	MARK EUGENE YOHO & MARY YOHO	TH EXPLORATION LLC	1/8+	960 544	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*22129	5-25-17	BB	JANICE N HAUDENSCHILT	TH EXPLORATION LLC	1/8+	961 459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*22441	5-25-17	BB	APRIL ROSE POSTLETHWAIT	TH EXPLORATION LLC	1/8+	963 646	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*22510	5-25-17	BB	DONNA V YOHO	TH EXPLORATION LLC	1/8+	964 432	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*23372	5-25-17	BB	DEWEY A MILICIA	TH EXPLORATION LLC	1/8+	1008 320	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*23373	5-25-17	BB	DANA MILICIA HUMPHREYS	TH EXPLORATION LLC	1/8+	988 429	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*23446	5-25-17	BB	NICOLETTA MILICIA BLOODWORTH	TH EXPLORATION LLC	1/8+	1008 316	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*25627	5-25-17	BB	CHESTNUT HOLDINGS INC	TH EXPLORATION LLC	1/8+	1034 548	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		
10*27078	5-25-17	BB	CECILIA D NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697 381	N/A	N/A			Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc chanded its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes
10*27085	5-25-17	BB	DAPHNE HUFFMAN AND CHARLES HUFFMAN	GASTAR EXPLORATION USA INC	1/8+	697 383	N/A	N/A			Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc chanded its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes
10*27086	5-25-17	BB	DONALD R NEWLAND AND SUZANNE NEWLAND	GASTAR EXPLORATION USA INC	1/8+	698 639	N/A	N/A			Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc chanded its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes
10*27714	5-25-17	BB	PIKEWOOD ENERGY CORPORATION AN OHIO CORPORATION	TH EXPLORATION LLC	1/8+	1060 572	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes		

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10*14786	5-25-18	DD	TWILA O WHIPKEY	GASTAR EXPLORATION USA INC	1/8+	799	61	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes			
10*14797	5-25-18	DD	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8+	800	598	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes			
10*14822	5-25-18	DD	ONWARD E BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	463	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/144	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes			
10*14823	5-25-18	DD	SARAH L BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	459	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/144	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes			
10*17195	5-25-18	DD	PATRICIA HARTMAN	GASTAR EXPLORATION USA INC	1/8+	695	317	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes	
10*17196	5-25-18	DD	DELBERT R. MONTGOMERY	GASTAR EXPLORATION USA INC	1/8+	695	311	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17197	5-25-18	DD	GLORIA J. SIMMONS HAROLD SIMMONS	GASTAR EXPLORATION USA INC	1/8+	695	313	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17199	5-25-18	DD	PAMELA L DRAZIC AND JEFFREY DRAZIC	GASTAR EXPLORATION USA INC	1/8+	695	315	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17200	5-25-18	DD	STEPHANIE L BATES	GASTAR EXPLORATION USA INC	1/8+	697	156	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes

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10*17201	5-25-18	DD	DENISE A GALE	GASTAR EXPLORATION USA INC	1/8+	697 395	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17202	5-25-18	DD	JANE GALE	GASTAR EXPLORATION USA INC	1/8+	697 385	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17203	5-25-18	DD	BARRY RAY MOORE	GASTAR EXPLORATION USA INC	1/8+	697 387	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17204	5-25-18	DD	CLARENCE RICHARD ZESIGER & MARY ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697 391	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17206	5-25-18	DD	M VIRGINIA & EDWARD C MARSH	GASTAR EXPLORATION USA INC	1/8+	697 399	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17207	5-25-18	DD	DEBORAH K. KLIMASZEWSKI FRANK KLIMASZEWSKI, SR.	GASTAR EXPLORATION USA INC	1/8+	697 389	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17210	5-25-18	DD	MARILYN NOEL	GASTAR EXPLORATION USA INC	1/8+	697 393	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes

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10*17211	5-25-18	DD	GARY WAYNE ZESIGER & VITORINA ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697 397	N/A				Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes	
10*17212	5-25-18	DD	DARRELL NEWLAND LYDIA NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697 158	N/A				Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes	
10*17213	5-25-18	DD	CAROL DEEN GARDNER	GASTAR EXPLORATION USA INC	1/8+	697 154	N/A				Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes	
10*18275	5-25-18	DD	BETTY JEAN NEELY	TH EXPLORATION LLC	1/8+	929 60	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*18366	5-25-18	DD	MARY LOU WILSON AND STANLEY D WILSON	TH EXPLORATION LLC	1/8+	931 311	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*18369	5-25-18	DD	CRAIG ALAN YOHO AND DONNA M YOHO	TH EXPLORATION LLC	1/8+	931 303	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*18370	5-25-18	DD	SAMUEL D YOHO	TH EXPLORATION LLC	1/8+	931 300	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*18379	5-25-18	DD	DAVID N DEVICK TRUSTEE OF THE TONI JO MASON LIVING TRUST	TH EXPLORATION LLC	1/8+	932 439	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*19540	5-25-18	DD	ERICA M MASON	TH EXPLORATION LLC	1/8+	942 53	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*19652	5-25-18	DD	JACK R HAMMERS	TH EXPLORATION LLC	1/8+	944 108	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*19903	5-25-18	DD	PAUL F HAMMERS	TH EXPLORATION LLC	1/8+	948 236	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*22008	5-25-18	DD	COLIN R YOHO AND NORMA L YOHO	TH EXPLORATION LLC	1/8+	953 304	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*22025	5-25-18	DD	MARK EUGENE YOHO & MARY YOHO	TH EXPLORATION LLC	1/8+	960 544	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*22129	5-25-18	DD	JANICE N HAUDENSCHILT	TH EXPLORATION LLC	1/8+	961 459	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*22441	5-25-18	DD	APRIL ROSE POSTLETHWAIT	TH EXPLORATION LLC	1/8+	963 646	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*22510	5-25-18	DD	DONNA V YOHO	TH EXPLORATION LLC	1/8+	964 432	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*23372	5-25-18	DD	DEWEY A MILICIA	TH EXPLORATION LLC	1/8+	1008 320	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*23373	5-25-18	DD	DANA MILICIA HUMPHREYS	TH EXPLORATION LLC	1/8+	988 429	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*23446	5-25-18	DD	NICOLETTA MILICIA BLOODWORTH	TH EXPLORATION LLC	1/8+	1008 316	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*25627	5-25-18	DD	CHESTNUT HOLDINGS INC	TH EXPLORATION LLC	1/8+	1034 548	N/A				N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*27078	5-25-18	DD	CECILIA D NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697 381	N/A				Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc channed its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes

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10*27085	5-25-18	DD	DAPHNE HUFFMAN AND CHARLES HUFFMAN	GASTAR EXPLORATION USA INC	1/8+	697 383	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc chanded its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes
10*27086	5-25-18	DD	DONALD R NEWLAND AND SUZANNE NEWLAND PIKEWOOD ENERGY CORPORATION AN OHIO CORPORATION	GASTAR EXPLORATION USA INC	1/8+	698 639	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc chanded its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes
10*27714	5-25-18	DD		TH EXPLORATION LLC	1/8+	1060 572	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*14786	5-26-11	GG	TWILA O WHIPKEY	GASTAR EXPLORATION USA INC	1/8+	799 61	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*14792	5-26-11	GG	TIMOTHY YOHO	GASTAR EXPLORATION USA INC	1/8+	799 536	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*14797	5-26-11	GG	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8+	800 598	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*14822	5-26-11	GG	ONWARD E BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876 463	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/144	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*14823	5-26-11	GG	SARAH L BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876 459	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/144	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*14969	5-26-11	GG	REBECCA S WORD	GASTAR EXPLORATION USA INC	1/8+	872 219	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/119	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*14970	5-26-11	GG	GRACE EXLINE	GASTAR EXPLORATION USA INC	1/8+	872 623	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/119	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes

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10*17195	5-26-11	GG	PATRICIA HARTMAN	GASTAR EXPLORATION USA INC	1/8+	695 317	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17196	5-26-11	GG	DELBERT R. MONTGOMERY	GASTAR EXPLORATION USA INC	1/8+	695 311	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17197	5-26-11	GG	GLORIA J. SIMMONS HAROLD SIMMONS	GASTAR EXPLORATION USA INC	1/8+	695 313	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17199	5-26-11	GG	PAMELA L DRAZIC AND JEFFREY DRAZIC	GASTAR EXPLORATION USA INC	1/8+	695 315	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17200	5-26-11	GG	STEPHANIE L BATES	GASTAR EXPLORATION USA INC	1/8+	697 156	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17201	5-26-11	GG	DENISE A GALE	GASTAR EXPLORATION USA INC	1/8+	697 395	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17202	5-26-11	GG	JANE GALE	GASTAR EXPLORATION USA INC	1/8+	697 385	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes

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10*17203	5-26-11	GG	BARRY RAY MOORE	GASTAR EXPLORATION USA INC	1/8+	697 387	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17204	5-26-11	GG	CLARENCE RICHARD ZESIGER & MARY ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697 391	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17206	5-26-11	GG	M VIRGINIA & EDWARD C MARSH	GASTAR EXPLORATION USA INC	1/8+	697 399	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17207	5-26-11	GG	DEBORAH K. KLIMASZEWSKI FRANK KLIMASZEWSKI, SR.	GASTAR EXPLORATION USA INC	1/8+	697 389	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17210	5-26-11	GG	MARILYN NOEL	GASTAR EXPLORATION USA INC	1/8+	697 393	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17211	5-26-11	GG	GARY WAYNE ZESIGER & VITORINA ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697 397	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17212	5-26-11	GG	DARRELL NEWLAND LYDIA NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697 158	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes

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10*17213	5-26-11	GG	CAROL DEEN GARDNER	GASTAR EXPLORATION USA INC	1/8+	697 154	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17822	5-26-11	GG	ANTOINE E GERAUD	TH EXPLORATION LLC	1/8+	943 560	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18114	5-26-11	GG	DARRELL NEWLAND	TH EXPLORATION LLC	1/8+	927 66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18115	5-26-11	GG	DONALD R NEWLAND AND SUZANNE NEWLAND	TH EXPLORATION LLC	1/8+	927 73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18275	5-26-11	GG	BETTY JEAN NEELY	TH EXPLORATION LLC	1/8+	929 60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18366	5-26-11	GG	MARY LOU WILSON AND STANLEY D WILSON	TH EXPLORATION LLC	1/8+	931 311	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18369	5-26-11	GG	MICHAEL WILSON AIF	TH EXPLORATION LLC	1/8+	931 303	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18370	5-26-11	GG	CRAIG ALAN YOHO AND DONNA M YOHO	TH EXPLORATION LLC	1/8+	931 300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18379	5-26-11	GG	SAMUEL D YOHO	TH EXPLORATION LLC	1/8+	931 300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18541	5-26-11	GG	DAVID N DEVICK TRUSTEE OF THE TONI JO MASON LIVING TRUST	TH EXPLORATION LLC	1/8+	932 439	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18818	5-26-11	GG	PATRICK P MCHENRY	TH EXPLORATION LLC	1/8+	933 649	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19486	5-26-11	GG	LUCILLE R MCHENRY	TH EXPLORATION LLC	1/8+	937 624	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19540	5-26-11	GG	BARBARA ANN MAYNARD	TH EXPLORATION LLC	1/8+	941 229	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19543	5-26-11	GG	ERICA M MASON	TH EXPLORATION LLC	1/8+	942 53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19640	5-26-11	GG	ROBERT I BONAR SR	TH EXPLORATION LLC	1/8+	942 61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19641	5-26-11	GG	MARGARET F RICHMOND DEBORAH FEDOR POA	TH EXPLORATION LLC	1/8+	944 120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19650	5-26-11	GG	BRADFORD D LOWERY & DEBORAH LOWERY	TH EXPLORATION LLC	1/8+	944 122	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19652	5-26-11	GG	CLAUDIA LOWERY MALLOY	TH EXPLORATION LLC	1/8+	944 99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19657	5-26-11	GG	JACK R HAMMERS	TH EXPLORATION LLC	1/8+	944 108	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19732	5-26-11	GG	JANET LEE SPARKS	TH EXPLORATION LLC	1/8+	964 440	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19858	5-26-11	GG	CARL M MCHENRY AND PAMELA MCHENRY	TH EXPLORATION LLC	1/8+	944 469	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19903	5-26-11	GG	JAMES MICHAEL YOHO	TH EXPLORATION LLC	1/8+	945 442	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19996	5-26-11	GG	PAUL F HAMMERS	TH EXPLORATION LLC	1/8+	948 236	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21073	5-26-11	GG	CHARLES D WOOD	TH EXPLORATION LLC	1/8+	947 589	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21074	5-26-11	GG	ARDITH R ROSE AND TOMMY E ROSE	TH EXPLORATION LLC	1/8+	951 608	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21174	5-26-11	GG	MALCOLM E WOOD AND JOAN J WOOD	TH EXPLORATION LLC	1/8+	951 610	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21419	5-26-11	GG	SHAWN M WOOD	TH EXPLORATION LLC	1/8+	952 190	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21431	5-26-11	GG	DAPHNE HUFFMAN AND CHARLES HUFFMAN	TH EXPLORATION LLC	1/8+	957 59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21436	5-26-11	GG	GARY WAYNE ZESIGER & VITORINA ZESIGER	TH EXPLORATION LLC	1/8+	957 57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21439	5-26-11	GG	CECILIA D NEWLAND	TH EXPLORATION LLC	1/8+	957 55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21469	5-26-11	GG	M VIRGINIA & EDWARD C MARSH	TH EXPLORATION LLC	1/8+	957 53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21471	5-26-11	GG	KIMBERLY S DENNY AND JAMES E DENNY	TH EXPLORATION LLC	1/8+	957 244	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21620	5-26-11	GG	RICHARD ROSS WILSON	TH EXPLORATION LLC	1/8+	960 190	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21621	5-26-11	GG	ROBERT CRAIG MONTGOMERY AND CYNTHIA R MONTGOMERY	TH EXPLORATION LLC	1/8+	959 496	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21658	5-26-11	GG	MARILYN NOEL	TH EXPLORATION LLC	1/8+	959 494	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21659	5-26-11	GG	CLARENCE RICHARD ZESIGER & MARY ZESIGER	TH EXPLORATION LLC	1/8+	959 490	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21660	5-26-11	GG	DEBORAH BLOUGH	TH EXPLORATION LLC	1/8+	958 392	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21830	5-26-11	GG	PAMELA L DRAZIC AND JEFFREY DRAZIC	TH EXPLORATION LLC	1/8+	958 390	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21831	5-26-11	GG	MARISSA MASON	TH EXPLORATION LLC	1/8+	960 200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21834	5-26-11	GG	MATTHEW MASON	TH EXPLORATION LLC	1/8+	966 122	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21944	5-26-11	GG	GEORGE DANIEL KRUGER	TH EXPLORATION LLC	1/8+	960 204	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21947	5-26-11	GG	JILL A BECK	TH EXPLORATION LLC	1/8+	960 101	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22007	5-26-11	GG	WALLACE LYNN WENDEL	TH EXPLORATION LLC	1/8+	965 59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22008	5-26-11	GG	DEBORAH K KLIMASZEWSKI AND FRANK KLIMASZEWSKI	TH EXPLORATION LLC	1/8+	959 492	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22025	5-26-11	GG	COLIN R YOHO AND NORMA L YOHO	TH EXPLORATION LLC	1/8+	953 304	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22031	5-26-11	GG	MARK EUGENE YOHO & MARY YOHO	TH EXPLORATION LLC	1/8+	960 544	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22032	5-26-11	GG	PHILLIP YOHO AND PATRICIA YOHO	TH EXPLORATION LLC	1/8+	960 535	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22106	5-26-11	GG	JOANNE E RAY	TH EXPLORATION LLC	1/8+	960 537	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22129	5-26-11	GG	BARRY RAY MOORE	TH EXPLORATION LLC	1/8+	954 643	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
		GG	JANICE N HAUDENSCHILT	TH EXPLORATION LLC	1/8+	961 459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes

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10*22137	5-26-11	GG	CONNIE L NEELY	TH EXPLORATION LLC	1/8+	961 466	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22285	5-26-11	GG	DONALD JAMES WILSON AND SANDY L WILSON	TH EXPLORATION LLC	1/8+	962 193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22334	5-26-11	GG	JOHN BRYANT	TH EXPLORATION LLC	1/8+	962 540	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22434	5-26-11	GG	EDWIN NELSON WOOD	TH EXPLORATION LLC	1/8+	963 637	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22441	5-26-11	GG	APRIL ROSE POSTLETHWAIT	TH EXPLORATION LLC	1/8+	963 646	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22510	5-26-11	GG	DONNA V YOHO	TH EXPLORATION LLC	1/8+	964 432	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22561	5-26-11	GG	MARY ROSE YOHO	TH EXPLORATION LLC	1/8+	968 200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22562	5-26-11	GG	HAROLD C SIMMONS	TH EXPLORATION LLC	1/8+	966 100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22563	5-26-11	GG	KIMBERLY D STRAUCH	TH EXPLORATION LLC	1/8+	966 522	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22585	5-26-11	GG	CYNTHIA L CHICK	TH EXPLORATION LLC	1/8+	966 102	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22718	5-26-11	GG	WILLIAM R RICHMOND AND CONNIE S RICHMOND	TH EXPLORATION LLC	1/8+	963 389	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23042	5-26-11	GG	MARK A YOHO	TH EXPLORATION LLC	1/8+	1012 191	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23372	5-26-11	GG	DEWEY A MILICIA	TH EXPLORATION LLC	1/8+	1008 320	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23373	5-26-11	GG	DANA MILICIA HUMPHREYS	TH EXPLORATION LLC	1/8+	988 429	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23446	5-26-11	GG	NICOLETTA MILICIA BLOODWORTH	TH EXPLORATION LLC	1/8+	1008 316	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23669	5-26-11	GG	LINDA K TOTTEN AND JERRY STEPHEN TOTTEN	TH EXPLORATION LLC	1/8+	1010 358	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*24003	5-26-11	GG	CHARLES SIBURT AND PAULA SIBURT	TH EXPLORATION LLC	1/8+	1020 193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*24291	5-26-11	GG	MARY MARTHA BELLE DOYLE	TH EXPLORATION LLC	1/8+	1024 285	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*24491	5-26-11	GG	DENISE A GALE	TH EXPLORATION LLC	1/8+	1008 324	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*24890	5-26-11	GG	DEBRA JANE GALE	TH EXPLORATION LLC	1/8+	1021 122	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*25065	5-26-11	GG	COLBY G WOOD	TH EXPLORATION LLC	1/8+	1027 103	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*25066	5-26-11	GG	RODGER A HENDERSON JR	TH EXPLORATION LLC	1/8+	1027 97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*25627	5-26-11	GG	CHESTNUT HOLDINGS INC	TH EXPLORATION LLC	1/8+	1034 548	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27078	5-26-11	GG	CECILIA D NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697 381	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc chanded its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes	
10*27085	5-26-11	GG	DAPHNE HUFFMAN AND CHARLES HUFFMAN	GASTAR EXPLORATION USA INC	1/8+	697 383	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc chanded its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes	
10*27086	5-26-11	GG	DONALD R NEWLAND AND SUZANNE NEWLAND PIKEWOOD ENERGY CORPORATION AN OHIO CORPORATION	GASTAR EXPLORATION USA INC	1/8+	698 639	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc chanded its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes	
10*27714	5-26-11	GG	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1060 572	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27959	5-26-11	GG	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1063 594	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*14786	5-23-11.3	HH	TWILA O WHIPKEY	GASTAR EXPLORATION USA INC	1/8+	799 61	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes	

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10*14797	5-23-11.3	HH	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8+	800 598	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes			
10*14822	5-23-11.3	HH	ONWARD E BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876 463	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/144	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes			
10*14823	5-23-11.3	HH	SARAH L BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876 459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/144	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes			
10*17195	5-23-11.3	HH	PATRICIA HARTMAN	GASTAR EXPLORATION USA INC	1/8+	695 317	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17196	5-23-11.3	HH	DELBERT R. MONTGOMERY	GASTAR EXPLORATION USA INC	1/8+	695 311	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17197	5-23-11.3	HH	GLORIA J. SIMMONS HAROLD SIMMONS	GASTAR EXPLORATION USA INC	1/8+	695 313	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17199	5-23-11.3	HH	PAMELA L DRAZIC AND JEFFREY DRAZIC	GASTAR EXPLORATION USA INC	1/8+	695 315	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17200	5-23-11.3	HH	STEPHANIE L BATES	GASTAR EXPLORATION USA INC	1/8+	697 156	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes

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10*17201	5-23-11.3	HH	DENISE A GALE	GASTAR EXPLORATION USA INC	1/8+	697 395	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17202	5-23-11.3	HH	JANE GALE	GASTAR EXPLORATION USA INC	1/8+	697 385	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17203	5-23-11.3	HH	BARRY RAY MOORE	GASTAR EXPLORATION USA INC	1/8+	697 387	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17204	5-23-11.3	HH	CLARENCE RICHARD ZESIGER & MARY ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697 391	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17206	5-23-11.3	HH	M VIRGINIA & EDWARD C MARSH	GASTAR EXPLORATION USA INC	1/8+	697 399	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17207	5-23-11.3	HH	DEBORAH K. KLIMASZEWSKI FRANK KLIMASZEWSKI, SR.	GASTAR EXPLORATION USA INC	1/8+	697 389	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17210	5-23-11.3	HH	MARILYN NOEL	GASTAR EXPLORATION USA INC	1/8+	697 393	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes

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10*17211	5-23-11.3	HH	GARY WAYNE ZESIGER & VITORINA ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697 397	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17212	5-23-11.3	HH	DARRELL NEWLAND LYDIA NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697 158	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17213	5-23-11.3	HH	CAROL DEEN GARDNER	GASTAR EXPLORATION USA INC	1/8+	697 154	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*18275	5-23-11.3	HH	BETTY JEAN NEELY	TH EXPLORATION LLC	1/8+	929 60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18366	5-23-11.3	HH	MARY LOU WILSON AND STANLEY D WILSON	TH EXPLORATION LLC	1/8+	931 311	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18369	5-23-11.3	HH	CRAIG ALAN YOHO AND DONNA M YOHO	TH EXPLORATION LLC	1/8+	931 303	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18370	5-23-11.3	HH	SAMUEL D YOHO	TH EXPLORATION LLC	1/8+	931 300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18379	5-23-11.3	HH	DAVID N DEVICK TRUSTEE OF THE TONI JO MASON LIVING TRUST	TH EXPLORATION LLC	1/8+	932 439	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19540	5-23-11.3	HH	ERICA M MASON	TH EXPLORATION LLC	1/8+	942 53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19652	5-23-11.3	HH	JACK R HAMMERS	TH EXPLORATION LLC	1/8+	944 108	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19903	5-23-11.3	HH	PAUL F HAMMERS	TH EXPLORATION LLC	1/8+	948 236	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22008	5-23-11.3	HH	COLIN R YOHO AND NORMA L YOHO	TH EXPLORATION LLC	1/8+	953 304	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22025	5-23-11.3	HH	MARK EUGENE YOHO & MARY YOHO	TH EXPLORATION LLC	1/8+	960 544	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22129	5-23-11.3	HH	JANICE N HAUDENSCHILT	TH EXPLORATION LLC	1/8+	961 459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22441	5-23-11.3	HH	APRIL ROSE POSTLETHWAIT	TH EXPLORATION LLC	1/8+	963 646	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22510	5-23-11.3	HH	DONNA V YOHO	TH EXPLORATION LLC	1/8+	964 432	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23372	5-23-11.3	HH	DEWEY A MILICIA	TH EXPLORATION LLC	1/8+	1008 320	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23373	5-23-11.3	HH	DANA MILICIA HUMPHREYS	TH EXPLORATION LLC	1/8+	988 429	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23446	5-23-11.3	HH	NICOLETTA MILICIA BLOODWORTH	TH EXPLORATION LLC	1/8+	1008 316	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*25627	5-23-11.3	HH	CHESTNUT HOLDINGS INC	TH EXPLORATION LLC	1/8+	1034 548	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27078	5-23-11.3	HH	CECILIA D NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697 381	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc chanded its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes

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10*27085	5-23-11.3	HH	DAPHNE HUFFMAN AND CHARLES HUFFMAN	GASTAR EXPLORATION USA INC	1/8+	697 383	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc changed its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes
10*27086	5-23-11.3	HH	DONALD R NEWLAND AND SUZANNE NEWLAND	GASTAR EXPLORATION USA INC	1/8+	698 639	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc changed its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes
10*27714	5-23-11.3	HH	PIKEWOOD ENERGY CORPORATION AN OHIO CORPORATION	TH EXPLORATION LLC	1/8+	1060 572	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*14786	5-23-11.8	JJ	TWILA O WHIPKEY	GASTAR EXPLORATION USA INC	1/8+	799 61	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*17195	5-23-11.8	JJ	PATRICIA HARTMAN	GASTAR EXPLORATION USA INC	1/8+	695 317	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17196	5-23-11.8	JJ	DELBERT R. MONTGOMERY	GASTAR EXPLORATION USA INC	1/8+	695 311	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17197	5-23-11.8	JJ	GLORIA J. SIMMONS HAROLD SIMMONS	GASTAR EXPLORATION USA INC	1/8+	695 313	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17199	5-23-11.8	JJ	PAMELA L DRAZIC AND JEFFREY DRAZIC	GASTAR EXPLORATION USA INC	1/8+	695 315	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes

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10*17200	5-23-11.8	JJ	STEPHANIE L BATES	GASTAR EXPLORATION USA INC	1/8+	697 156	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17201	5-23-11.8	JJ	DENISE A GALE	GASTAR EXPLORATION USA INC	1/8+	697 395	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17202	5-23-11.8	JJ	JANE GALE	GASTAR EXPLORATION USA INC	1/8+	697 385	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17203	5-23-11.8	JJ	BARRY RAY MOORE	GASTAR EXPLORATION USA INC	1/8+	697 387	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17204	5-23-11.8	JJ	CLARENCE RICHARD ZESIGER & MARY ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697 391	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17206	5-23-11.8	JJ	M VIRGINIA & EDWARD C. MARSH	GASTAR EXPLORATION USA INC	1/8+	697 399	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17207	5-23-11.8	JJ	DEBORAH K. KLIMASZEWSKI FRANK KLIMASZEWSKI, SR.	GASTAR EXPLORATION USA INC	1/8+	697 389	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes

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10*17210	5-23-11.8	JJ	MARILYN NOEL	GASTAR EXPLORATION USA INC	1/8+	697 393	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes	
10*17211	5-23-11.8	JJ	GARY WAYNE ZESIGER & VITORINA ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697 397	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes	
10*17212	5-23-11.8	JJ	DARRELL NEWLAND LYDIA NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697 158	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes	
10*17213	5-23-11.8	JJ	CAROL DEEN GARDNER	GASTAR EXPLORATION USA INC	1/8+	697 154	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes	
10*19652	5-23-11.8	JJ	JACK R HAMMERS	TH EXPLORATION LLC	1/8+	944 108	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*19903	5-23-11.8	JJ	PAUL F HAMMERS	TH EXPLORATION LLC	1/8+	948 236	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*22025	5-23-11.8	JJ	MARK EUGENE YOHO & MARY YOHO	TH EXPLORATION LLC	1/8+	960 544	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*22129	5-23-11.8	JJ	JANICE N HAUDENSCHILT	TH EXPLORATION LLC	1/8+	961 459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*22441	5-23-11.8	JJ	APRIL ROSE POSTLETHWAIT	TH EXPLORATION LLC	1/8+	963 646	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*22510	5-23-11.8	JJ	DONNA V YOHO	TH EXPLORATION LLC	1/8+	964 432	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*23372	5-23-11.8	JJ	DEWEY A MILICIA	TH EXPLORATION LLC	1/8+	1008 320	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*23373	5-23-11.8	JJ	DANA MILICIA HUMPHREYS	TH EXPLORATION LLC	1/8+	988 429	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*23446	5-23-11.8	JJ	NICOLETTA MILICIA BLOODWORTH	TH EXPLORATION LLC	1/8+	1008 316	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*27714	5-23-11.8	JJ	PIKEWOOD ENERGY CORPORATION AN OHIO CORPORATION	TH EXPLORATION LLC	1/8+	1060 572	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes	
10*14786	5-23-11.4	NN	TWILA O WHIPKEY	GASTAR EXPLORATION USA INC	1/8+	799 61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	merger - SWN Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*14792	5-23-11.4	NN	TIMOTHY YOHO	GASTAR EXPLORATION USA INC	1/8+	799 536	N/A	N/A	N/A	N/A	N/A	N/A	N/A	merger - SWN Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*14797	5-23-11.4	NN	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8+	800 598	N/A	N/A	N/A	N/A	N/A	N/A	N/A	merger - SWN Exploration USA Inc to Atinum Marcellus I LLC: 806/1	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes

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10*14822	5-23-11.4	NN	ONWARD E BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876 463	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/144	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*14823	5-23-11.4	NN	SARAH L BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876 459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/144	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*14969	5-23-11.4	NN	REBECCA S WORD	GASTAR EXPLORATION USA INC	1/8+	872 219	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/119	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*14970	5-23-11.4	NN	GRACE EXLINE	GASTAR EXPLORATION USA INC	1/8+	872 623	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 35/119	Merger - Gastar Exploration USA Inc into Gastar Exploration, Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 43/563	yes
10*17195	5-23-11.4	NN	PATRICIA HARTMAN	GASTAR EXPLORATION USA INC	1/8+	695 317	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Properties Inc to TH Exploration II LLC: 19/624	Statoil USA Onshore Properties Inc to TH Exploration II LLC: 41/238	SWN Production Company LLC to TH Exploration II LLC: 41/256	yes
10*17196	5-23-11.4	NN	DELBERT R. MONTGOMERY	GASTAR EXPLORATION USA INC	1/8+	695 311	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Properties Inc to TH Exploration II LLC: 19/624	Statoil USA Onshore Properties Inc to TH Exploration II LLC: 41/238	SWN Production Company LLC to TH Exploration II LLC: 41/256	yes
10*17197	5-23-11.4	NN	GLORIA J. SIMMONS HAROLD SIMMONS	GASTAR EXPLORATION USA INC	1/8+	695 313	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Properties Inc to TH Exploration II LLC: 19/624	Statoil USA Onshore Properties Inc to TH Exploration II LLC: 41/238	SWN Production Company LLC to TH Exploration II LLC: 41/256	yes
10*17199	5-23-11.4	NN	PAMELA L DRAZIC AND JEFFREY DRAZIC	GASTAR EXPLORATION USA INC	1/8+	695 315	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Properties Inc to TH Exploration II LLC: 19/624	Statoil USA Onshore Properties Inc to TH Exploration II LLC: 41/238	SWN Production Company LLC to TH Exploration II LLC: 41/256	yes
10*17200	5-23-11.4	NN	STEPHANIE L BATES	GASTAR EXPLORATION USA INC	1/8+	697 156	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Properties Inc to TH Exploration II LLC: 19/624	Statoil USA Onshore Properties Inc to TH Exploration II LLC: 41/238	SWN Production Company LLC to TH Exploration II LLC: 41/256	yes

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10*17201	5-23-11.4	NN	DENISE A GALE	GASTAR EXPLORATION USA INC	1/8+	697 395	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17202	5-23-11.4	NN	JANE GALE	GASTAR EXPLORATION USA INC	1/8+	697 385	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17203	5-23-11.4	NN	BARRY RAY MOORE	GASTAR EXPLORATION USA INC	1/8+	697 387	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17204	5-23-11.4	NN	CLARENCE RICHARD ZESIGER & MARY ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697 391	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17206	5-23-11.4	NN	M VIRGINIA & EDWARD C MARSH	GASTAR EXPLORATION USA INC	1/8+	697 399	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17207	5-23-11.4	NN	DEBORAH K. KLIMASZEWSKI FRANK KLIMASZEWSKI, SR.	GASTAR EXPLORATION USA INC	1/8+	697 389	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes
10*17210	5-23-11.4	NN	MARILYN NOEL	GASTAR EXPLORATION USA INC	1/8+	697 393	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes

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Lease ID	TMP	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Wellbore?		
10*17211	5-23-11.4	NN	GARY WAYNE ZESIGER & VITORINA ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697 397					Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes	
10*17212	5-23-11.4	NN	DARRELL NEWLAND LYDIA NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697 158	N/A	N/A	N/A		Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes	
10*17213	5-23-11.4	NN	CAROL DEEN GARDNER	GASTAR EXPLORATION USA INC	1/8+	697 154	N/A	N/A	N/A		Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Exchange Titleholder LLC merged with and into SWN Production Company LLC: CB 19/624	Statoil USA Onshore Properties Inc to TH Exploration LLC: 41/238	SWN Production Company LLC to TH Exploration LLC: 41/256	yes	
10*17822	5-23-11.4	NN	ANTOINE E GERAUD	TH EXPLORATION LLC	1/8+	943 560	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18114	5-23-11.4	NN	DARRELL NEWLAND	TH EXPLORATION LLC	1/8+	927 66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18115	5-23-11.4	NN	DONALD R NEWLAND AND SUZANNE NEWLAND	TH EXPLORATION LLC	1/8+	927 73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18275	5-23-11.4	NN	BETTY JEAN NEELY	TH EXPLORATION LLC	1/8+	929 60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18366	5-23-11.4	NN	MARY LOU WILSON AND STANLEY D WILSON	TH EXPLORATION LLC	1/8+	931 311	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18369	5-23-11.4	NN	MICHAEL WILSON AIF	TH EXPLORATION LLC	1/8+	931 303	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18370	5-23-11.4	NN	CRAIG ALAN YOHO AND DONNA M YOHO	TH EXPLORATION LLC	1/8+	931 300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18379	5-23-11.4	NN	SAMUEL D YOHO	TH EXPLORATION LLC	1/8+	932 439	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18541	5-23-11.4	NN	DAVID N DEVICK TRUSTEE OF THE TONI JO MASON LIVING TRUST	TH EXPLORATION LLC	1/8+	933 649	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*18818	5-23-11.4	NN	PATRICK P MCHENRY	TH EXPLORATION LLC	1/8+	937 624	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19486	5-23-11.4	NN	LUCILLE R MCHENRY	TH EXPLORATION LLC	1/8+	941 229	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19540	5-23-11.4	NN	BARBARA ANN MAYNARD	TH EXPLORATION LLC	1/8+	942 53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19543	5-23-11.4	NN	ERICA M MASON	TH EXPLORATION LLC	1/8+	942 61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19640	5-23-11.4	NN	ROBERT I BONAR SR	TH EXPLORATION LLC	1/8+	944 120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19641	5-23-11.4	NN	MARGARET F RICHMOND DEBORAH FEDOR POA	TH EXPLORATION LLC	1/8+	944 122	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19650	5-23-11.4	NN	BRADFORD D LOWERY & DEBORAH LOWERY	TH EXPLORATION LLC	1/8+	944 99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19652	5-23-11.4	NN	CLAUDIA LOWERY MALLOY	TH EXPLORATION LLC	1/8+	944 108	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19657	5-23-11.4	NN	JACK R HAMMERS	TH EXPLORATION LLC	1/8+	964 440	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19732	5-23-11.4	NN	JANET LEE SPARKS	TH EXPLORATION LLC	1/8+	944 469	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19858	5-23-11.4	NN	CARL M MCHENRY AND PAMELA MCHENRY	TH EXPLORATION LLC	1/8+	960 188	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19903	5-23-11.4	NN	JAMES MICHAEL YOHO	TH EXPLORATION LLC	1/8+	945 442	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*19996	5-23-11.4	NN	PAUL F HAMMERS	TH EXPLORATION LLC	1/8+	948 236	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21073	5-23-11.4	NN	CHARLES D WOOD	TH EXPLORATION LLC	1/8+	947 589	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21074	5-23-11.4	NN	ARDITH R ROSE AND TOMMY E ROSE	TH EXPLORATION LLC	1/8+	951 608	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21174	5-23-11.4	NN	MALCOLM E WOOD AND JOAN J WOOD	TH EXPLORATION LLC	1/8+	951 610	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21419	5-23-11.4	NN	SHAWN M WOOD	TH EXPLORATION LLC	1/8+	952 190	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21431	5-23-11.4	NN	DAPHNE HUFFMAN AND CHARLES HUFFMAN	TH EXPLORATION LLC	1/8+	957 59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21436	5-23-11.4	NN	GARY WAYNE ZESIGER & VITORINA ZESIGER	TH EXPLORATION LLC	1/8+	957 57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21439	5-23-11.4	NN	CECILIA D NEWLAND	TH EXPLORATION LLC	1/8+	957 55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21469	5-23-11.4	NN	M VIRGINIA & EDWARD C MARSH	TH EXPLORATION LLC	1/8+	957 53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21471	5-23-11.4	NN	KIMBERLY S DENNY AND JAMES E DENNY	TH EXPLORATION LLC	1/8+	957 244	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21620	5-23-11.4	NN	RICHARD ROSS WILSON	TH EXPLORATION LLC	1/8+	960 190	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21621	5-23-11.4	NN	ROBERT CRAIG MONTGOMERY AND CYNTHIA R MONTGOMERY	TH EXPLORATION LLC	1/8+	959 496	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
			MARILYN NOEL	TH EXPLORATION LLC	1/8+	959 494	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes

Lease ID	TMP	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Wellbore?
10*21658	5-23-11.4	NN	CLARENCE RICHARD ZESIGER & MARY ZESIGER	TH EXPLORATION LLC	1/8+	959 490	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21659	5-23-11.4	NN	DEBORAH BLOUGH	TH EXPLORATION LLC	1/8+	958 392	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21660	5-23-11.4	NN	PAMELA L DRAZIC AND JEFFREY DRAZIC	TH EXPLORATION LLC	1/8+	958 390	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21830	5-23-11.4	NN	MARISSA MASON	TH EXPLORATION LLC	1/8+	960 200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21831	5-23-11.4	NN	MATTHEW MASON	TH EXPLORATION LLC	1/8+	966 122	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21834	5-23-11.4	NN	GEORGE DANIEL KRUGER	TH EXPLORATION LLC	1/8+	960 204	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21944	5-23-11.4	NN	JILL A BECK	TH EXPLORATION LLC	1/8+	960	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*21947	5-23-11.4	NN	WALLACE LYNN WENDEL	TH EXPLORATION LLC	1/8+	965 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22007	5-23-11.4	NN	DEBORAH K KLIMASZEWSKI AND FRANK KLIMASZEWSKI	TH EXPLORATION LLC	1/8+	959 492	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22008	5-23-11.4	NN	COLIN R YOHO AND NORMA L YOHO	TH EXPLORATION LLC	1/8+	953	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22025	5-23-11.4	NN	MARK EUGENE YOHO & MARY YOHO	TH EXPLORATION LLC	1/8+	960	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22031	5-23-11.4	NN	PHILLIP YOHO AND PATRICIA YOHO	TH EXPLORATION LLC	1/8+	960 535	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22032	5-23-11.4	NN	JOANNE E RAY	TH EXPLORATION LLC	1/8+	960 537	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22106	5-23-11.4	NN	BARRY RAY MOORE	TH EXPLORATION LLC	1/8+	954 643	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22129	5-23-11.4	NN	JANICE N HAUDENSCHILT	TH EXPLORATION LLC	1/8+	961 459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22137	5-23-11.4	NN	CONNIE L NEELY	TH EXPLORATION LLC	1/8+	961 466	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22285	5-23-11.4	NN	DONALD JAMES WILSON AND SANDY L WILSON	TH EXPLORATION LLC	1/8+	962 193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22334	5-23-11.4	NN	JOHN BRYANT	TH EXPLORATION LLC	1/8+	962 540	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22434	5-23-11.4	NN	EDWIN NELSON WOOD	TH EXPLORATION LLC	1/8+	963 637	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22441	5-23-11.4	NN	APRIL ROSE POSTLETHWAIT	TH EXPLORATION LLC	1/8+	963 646	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22510	5-23-11.4	NN	DONNA V YOHO	TH EXPLORATION LLC	1/8+	964 432	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22561	5-23-11.4	NN	MARY ROSE YOHO	TH EXPLORATION LLC	1/8+	968 200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22562	5-23-11.4	NN	HAROLD C SIMMONS	TH EXPLORATION LLC	1/8+	966 100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22563	5-23-11.4	NN	KIMBERLY D STRAUCH	TH EXPLORATION LLC	1/8+	966 522	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22585	5-23-11.4	NN	CYNTHIA L CHICK	TH EXPLORATION LLC	1/8+	966 102	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*22718	5-23-11.4	NN	WILLIAM R RICHMOND AND CONNIE S RICHMOND	TH EXPLORATION LLC	1/8+	963 389	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23372	5-23-11.4	NN	DEWEY A MILICIA	TH EXPLORATION LLC	1/8+	1008 320	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23373	5-23-11.4	NN	DANA MILICIA HUMPHREYS	TH EXPLORATION LLC	1/8+	988 429	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23446	5-23-11.4	NN	NICOLETTA MILICIA BLOODWORTH	TH EXPLORATION LLC	1/8+	1008 316	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*23669	5-23-11.4	NN	LINDA K TOTTEN AND JERRY STEPHEN TOTTEN	TH EXPLORATION LLC	1/8+	1010 358	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*24003	5-23-11.4	NN	CHARLES SIBURT AND PAULA SIBURT	TH EXPLORATION LLC	1/8+	1020 193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*24291	5-23-11.4	NN	MARY MARTHA BELLE DOYLE	TH EXPLORATION LLC	1/8+	1024 285	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*24491	5-23-11.4	NN	DENISE A GALE	TH EXPLORATION LLC	1/8+	1008 324	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*24890	5-23-11.4	NN	DEBRA JANE GALE	TH EXPLORATION LLC	1/8+	1021 122	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*25065	5-23-11.4	NN	COLBY G WOOD	TH EXPLORATION LLC	1/8+	1027 103	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*25066	5-23-11.4	NN	RODGER A HENDERSON JR	TH EXPLORATION LLC	1/8+	1027 97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*25627	5-23-11.4	NN	CHESTNUT HOLDINGS INC	TH EXPLORATION LLC	1/8+	1034 548	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27078	5-23-11.4	NN	CECILIA D NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697 381	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc chaned its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes
10*27085	5-23-11.4	NN	DAPHNE HUFFMAN AND CHARLES HUFFMAN	GASTAR EXPLORATION USA INC	1/8+	697 383	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc chaned its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes

Lease ID	TMP	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page		Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Wellbore?	
10*27086	5-23-11.4	NN	DONALD R NEWLAND AND SUZANNE NEWLAND PIKEWOOD ENERGY CORPORATION AN OHIO CORPORATION	GASTAR EXPLORATION USA INC	1/8+	698	639	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil USA Onshore Properties Inc: 27/311	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC mered with and into SWN Production Company LLC: CB 19/624	Name Chane - Statoil USA Onshore Properties Inc chaned its name to Equinor USA Onshore Properties Inc: 2/427	SWN Production Company LLC to TH Exploration LLC: 44/141	Equinor USA Onshore Properties Inc to TH Exploration LLC: 44/147	yes
10*27714	5-23-11.4	NN	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1060	572	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes
10*27959	5-23-11.4	NN	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1063	594	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	yes

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MEMORANDUM OF PARTIAL ASSIGNMENT OF OIL AND GAS LEASES

STATE OF WEST VIRGINIA §  
§  
COUNTY OF WETZEL §

This MEMORANDUM OF PARTIAL ASSIGNMENT OF OIL AND GAS LEASES (hereinafter, the "Memorandum") has been executed by and between PERKINS OIL & GAS, INC., a West Virginia corporation, whose address is 2966 Northwest Turnpike, Pennsboro, West Virginia 26415 (hereinafter the "Assignor"), and TH EXPLORATION, LLC, a Texas limited liability company (hereinafter the "Assignee") whose address is 1320 South University Drive, Suite 500, Fort Worth, Texas 76107. Assignor and Assignee are sometimes referred to herein, collectively, as the "Parties" and, individually, as a "Party." This Memorandum is being executed for the purpose of providing notice to third parties of the execution of a certain Partial Assignment of Oil and Gas Leases (hereinafter, the "Assignment"), by and between the Parties.

WHEREAS, Assignor is the current owner and lessee of certain oil and gas leases located in Wetzel County, West Virginia, covering specific parcels and being more particularly described on Exhibit "A" attached hereto and made a part hereof (collectively, the "Oil and Gas Leases").

In the Assignment dated effective as of the 15<sup>th</sup> day of October, 2020 (hereinafter, the "Effective Date") and this Memorandum, Assignor does hereby GRANT, BARGAIN, SELL, CONVEY, TRANSFER and ASSIGN unto Assignee, all right, title and interest in and to the Oil and Gas Leases INsofar AND ONLY INsofar as each lease and parcel covers those formations lying between two hundred (200) feet above and two hundred (200) feet below the formations commonly known to as the Utica/Point Pleasant Shale formations, or the stratigraphic equivalent thereof (such depths and formations being referred to as the "Assigned Formations"). The Assigned Formations are included with and part of the Assigned Rights as defined in the Assignment.

EXCLUDING THEREFROM AND EXCEPTING AND RESERVING UNTO THE ASSIGNOR, ITS SUCCESSORS AND ASSIGNS, THE OVERRIDING ROYALTY INTEREST, as defined in the Assignment.

The Assignment contains various other terms, provisions and conditions, all of which are incorporated herein by reference, and made a part hereof in all respects as though the same were fully set forth herein. To the extent that there are any inconsistencies between this Memorandum and the Assignment, the terms and provisions of the Assignment shall prevail.

Assignor does hereby bind itself and its successors and assigns to warrant and forever defend all and singular title to the Assigned Formations unto Assignee and Assignee's successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, by through, or under Assignor, but not otherwise.

This Memorandum is made expressly subject to the terms and conditions of the Purchase and Sale Agreement dated June, 24, 2020, by and between the Parties, all of which are fully incorporated herein by reference (the "Purchase Agreement").

This Memorandum may be executed in multiple counterparts, each of which shall be deemed an original instrument, but all such counterparts together shall constitute but one agreement.

[TWO SIGNATURE PAGES TO FOLLOW]

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ASSIGNMENT OF OIL AND GAS LEASES

This ASSIGNMENT OF OIL AND GAS LEASES (hereinafter, "Assignment"), made the 7th day of October, 2021 (hereinafter, "Effective Date"), is by and between CNX GAS COMPANY LLC, a Virginia limited liability company, whose address is 1000 CONSOL Energy Drive, Suite 400, Canonsburg, Pennsylvania 15317 (hereinafter "Assignor") and TH EXPLORATION, LLC, a Texas limited liability company, whose address is 1320 S. University Drive, Suite 500, Fort Worth, Texas 76107 (hereinafter "Assignee"). All references in this Assignment to "Party" shall be deemed at all times to mean Assignor or Assignee and to "Parties" shall be deemed to mean both Assignor and Assignee. Capitalized terms used but not defined herein shall have the meaning given such terms in the Acreage Trade Agreement, by and between Assignor and Assignee dated May 26, 2021 (the "Trade Agreement").

WHEREAS, Assignor desires to assign all of Assignor's right, title and interest in and to the Assigned Rights (as defined below), as more particularly described in this Assignment.

NOW, THEREFORE, for and in consideration of TEN AND NO/100 DOLLARS (\$10.00) and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor does hereby GRANT, BARGAIN, ASSIGN, TRANSFER, AND CONVEY unto Assignee the following "Assigned Rights" expressly excluding the Retained Rights (as defined below):

- (a) All of Assignor's right, title, and interest in and to the oil and gas leases described on Exhibit A attached hereto and made a part hereof located in Wetzel County, West Virginia ("Leases") TO THE EXTENT AND ONLY TO THE EXTENT of the Utica/Point Pleasant Formation (as defined below) (the Leases limited to the Utica/Point Pleasant Formation are the "Leasehold Rights");
- (b) all rights expressly granted under the Leases including rights related to, or necessary in connection with, the ownership, exploration, drilling, development, or operation of the Leasehold Rights, including, without limitation, any pooling or unitization, any ability to shut-in a well(s), and the non-exclusive access rights to conduct seismic, geophysical, and other investigations, install pipelines, roadways, surface locations, water and/or power lines, impoundments, structures, tanks, gas gathering and/or metering facilities, and all other related facilities; and
- (c) to the extent the formations shallower than the Utica/Point Pleasant Formation are owned or controlled by Assignor, the non-exclusive right to penetrate and drill through, but not stimulate, perforate or produce, the formations shallower than the Utica/Point Pleasant Formation in order to drill and produce from the Utica/Point Pleasant Formation.

TO HAVE AND TO HOLD the Assigned Rights unto Assignee, its respective successors and assigns, subject to the terms of this Assignment.

"Retained Rights" means: (i) any and all existing oil and/or gas wells currently in, on, or pertaining to the Leases ("Retained Wells"), (ii) all depths and formations for each Lease described on Exhibit A other than the Utica/Point Pleasant Formation ("Retained Formations"), (iii) all rights relating to, or necessary in connection with, the ownership, exploration, drilling, development, or operation of the Retained Wells and Retained Formations, including, without limitation, any pooling or unitization, any ability to shut-in any Retained Wells, and the non-exclusive access rights to conduct seismic, geophysical, and other investigations, install pipelines, roadways, surface locations, water and/or power lines,

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STATE OF WEST VIRGINIA           §  
  §  
COUNTIES OF MARSHALL AND WETZEL §

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "Assignment") is made and entered into this 30<sup>th</sup> day of April, 2019 (the "Effective Date"), by and between Atinum Marcellus I, LLC (hereinafter "Assignor") and TH Exploration II, LLC, (hereinafter "Assignee") and, together with Assignor, the "Parties"). Capitalized terms used but not defined herein shall have the meanings commonly given to such terms in the industry.

WITNESSETH:

WHEREAS, Assignor desires to assign, set over, and transfer to Assignee all of Assignor's right, title, and interest in and to one hundred feet (100 ft.) above the formation commonly referred to as the Marcellus Shale formation down to one hundred feet (100 ft.) below the same, in those certain Oil and Gas Leases, or the portions of those certain Oil and Gas Leases, situated in Marshall and Wetzel Counties, West Virginia, as described in Exhibit "A-1" and limited and described in Exhibit "A-2", attached hereto and made a part hereof. It being the Parties intention to assign all of Assignor's interest in each unit as described in Exhibit "A-1", including any changes, revisions, or amendments to the same, now or at any time in the future. (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 one hundred feet (100 ft.) above the formation commonly referred to as the Marcellus Shale formation down to one hundred feet (100 ft.) below the same, in the Leases, and the lands covered thereby, together with all rights incident thereto and appurtenances thereon. It being the Parties intention to assign all of Assignor's interest in each unit as described in Exhibit "A-1", including any changes, revisions, or amendments to the same, now or at any time in the future.

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 permits or easements, rights of way, surface leases and other rights with respect to surface operations that do not materially interfere with, impair or prohibit the operation of the affected Leases, hereinafter "Permitted Encumbrances") its interest in the Leases since the time that Assignor obtained its interests in the Leases. Assignor does covenant, promise and agree, to and with the

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ASSIGNMENT AND CONVEYANCE

This Assignment and Conveyance (this "*Assignment*") is from SWN PRODUCTION COMPANY, LLC, a Texas limited liability company ("*Assignor*"), to TH Exploration, LLC, a Texas limited liability company ("*Assignee*"), and is executed on December 18, 2017 (the "*Effective Date*"). Assignor and Assignee may be referred to herein collectively as the "*Parties*," or individually as a "*Party*." Capitalized terms used herein but not otherwise defined herein (including in Section 3.7) shall have the meanings given such terms in that certain Acreage Trade Agreement between the Assignor and the Assignee dated August 24, 2017 (the "*Acreage Trade Agreement*").

ARTICLE I  
ASSIGNMENT OF ASSETS

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

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

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

ARTICLE 2  
SPECIAL WARRANTY OF TITLE AND DISCLAIMERS

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

Section 2.2 Disclaimers of Warranties and Representations.

(a) EXCEPT AS EXPRESSLY REPRESENTED OTHERWISE IN SECTION VI OF THE ACREAGE TRADE AGREEMENT OR THIS ASSIGNMENT, ASSIGNOR MAKES NO, AND HEREBY EXPRESSLY DISCLAIMS, ANY REPRESENTATION OR

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ASSIGNMENT AND CONVEYANCE

This Assignment and Conveyance (this "*Assignment*") is from EQUINOR USA ONSHORE PROPERTIES, INC., a Delaware corporation ("*Assignor*"), to TH Exploration, L.L.C., a Texas limited liability company ("*Assignee*"), and is executed on June 18, 2019 (the "*Effective Date*"). Assignor and Assignee may be referred to herein collectively as the "*Parties*," or individually as a "*Party*." Capitalized terms used herein but not otherwise defined herein (including in Section 3.7) shall have the meanings given such terms in that certain Acreage Trade Agreement between the Assignor and the Assignee dated December 1, 2018 (the "*Acreage Trade Agreement*").

ARTICLE 1  
ASSIGNMENT OF ASSETS

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

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

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

ARTICLE 2  
SPECIAL WARRANTY OF TITLE AND DISCLAIMERS

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

Section 2.2 Disclaimers of Warranties and Representations.

(a) EXCEPT AS EXPRESSLY REPRESENTED OTHERWISE IN SECTION VI OF THE ACREAGE TRADE AGREEMENT OR THIS ASSIGNMENT, ASSIGNOR MAKES NO, AND HEREBY EXPRESSLY DISCLAIMS, ANY REPRESENTATION OR WARRANTY, EXPRESS, IMPLIED OR STATUTORY, INCLUDING AS TO (I) TITLE TO THE LEASEHOLD RIGHTS, (II) THE CONTENTS, CHARACTER OR NATURE OF ANY DESCRIPTIVE MEMORANDUM, OR ANY REPORT OF ANY OF ITS PETROLEUM ENGINEERING CONSULTANTS, OR ANY GEOLOGICAL OR SEISMIC DATA OR INTERPRETATION, RELATING TO THE LEASEHOLD RIGHTS, (III) THE QUANTITY, QUALITY OR RECOVERABILITY OF PETROLEUM SUBSTANCES IN OR FROM THE LEASEHOLD RIGHTS, (IV) THE EXISTENCE OF ANY PROSPECT, OR ANY RECOMPLETION, INFILL OR STEP-OUT DRILLING OPPORTUNITIES, (V) ANY ESTIMATES OF THE VALUE OF THE LEASEHOLD RIGHTS, (VI) THE PRODUCTION OF PETROLEUM SUBSTANCES FROM THE LEASEHOLD RIGHTS, OR ANY PRODUCTION OR DECLINE RATES, (VII) THE MAINTENANCE, REPAIR, CONDITION, QUALITY, SUITABILITY, DESIGN OR MARKETABILITY OF THE LEASEHOLD RIGHTS, (VIII) INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT, AND (IX) ANY OTHER MATERIALS OR INFORMATION THAT MAY HAVE BEEN MADE AVAILABLE OR COMMUNICATED TO ASSIGNEE OR ITS AFFILIATES, OR ITS OR THEIR RESPECTIVE

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April 26, 2022

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

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RE: Elmer N-15HU

Subject: Road Crossing Letter

Dear Taylor:

Tug Hill Operating, LLC (THO) hereby submits this letter as confirmation that THO has obtained the right to drill, extract and produce the minerals under Wetzel County Route 89, CR 82 and CR 29 in the area reflected on the Elmer N-15HU well plat. THO has conducted a full title search in the relevant Court House to confirm its ownership under said County Route and is not currently aware of any recorded document that would suggest an ownership other than THO.

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

Sincerely,

Amy L. Morris  
Permitting Specialist – Appalachia Region

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

Date of Notice Certification: 04/21/2022

API No. 47- 103 -

Operator's Well No. Elmer N-15HU

Well Pad Name: Elmer

**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>522,497.19</u>
County: <u>Wetzel</u>		Northing: <u>4,393,818.91</u>
District: <u>Proctor</u>	Public Road Access: <u>Proctor Creek Road</u>	
Quadrangle: <u>Wileyville 7.5'</u>	Generally used farm name: <u>Elnora Tuttle</u>	
Watershed: <u>Proctor Creek of French Creek - HUC 10</u>		

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

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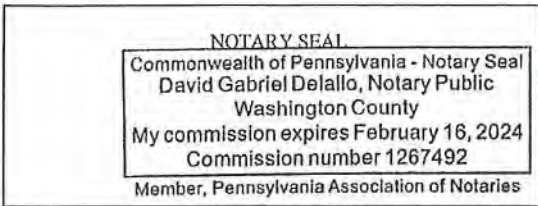
**Required Attachments:**

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

**Certification of Notice is hereby given:**

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

Well Operator:	<u>Tug Hill Operating, LLC</u>	Address:	<u>380 Southpointe Boulevard, Plaza II, Suite 200</u>
By:	<u>Amy L. Morris <i>[Signature]</i></u>		<u>Canonsburg, PA 15317</u>
Its:	<u>Permitting Specialist - Appalachia Region</u>	Facsimile:	<u>724-338-2030</u>
Telephone:	<u>724-749-8388</u>	Email:	<u>amorris@tug-hilltop.com</u>



Subscribed and sworn before me this 21 day of April, 2022.

*[Signature]* Notary Public

My Commission Expires 2/16/24

**Oil and Gas Privacy Notice:**

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

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

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

**Date of Notice:** 10/17/2022 **Date Permit Application Filed:** 10/18/2022

**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: \_\_\_\_\_

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

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

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

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

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

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

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

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

SURFACE OWNER(s) (Impoundments or Pits)

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

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

COAL OWNER OR LESSEE

Name: Consol Energy, Inc. Attn: Casey Saunders

Address: 275 Technology Drive, Suite 101

Canonsburg, PA 15317-9565

COAL OPERATOR

Name: Consol Energy, Inc. Attn: Casey Saunders

Address: 275 Technology Drive, Suite 101

Canonsburg, PA 15317-9565

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

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

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

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

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

\*Please attach additional forms if necessary

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**Notice is hereby given:**

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

**This Notice Shall Include:**

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

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

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

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

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

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**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

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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~~ <sup>ten</sup> days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

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

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

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

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

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

**Comment Requirements**

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

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

**Permit Denial or Condition**

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

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

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

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

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WW-6A  
(8-13)

API NO. 47- 103 -  
OPERATOR WELL NO. Elmer N-15HU  
Well Pad Name: Elmer

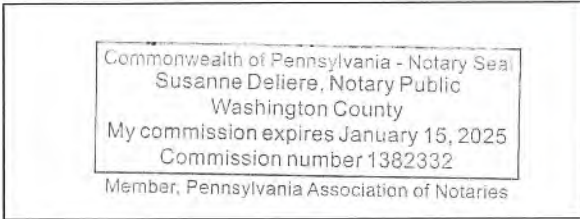
**Notice is hereby given by:**

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

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

**Oil and Gas Privacy Notice:**

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



Subscribed and sworn before me this 17<sup>th</sup> day of October, 2022  
Susanne Deliere Notary Public  
My Commission Expires 1/15/2025

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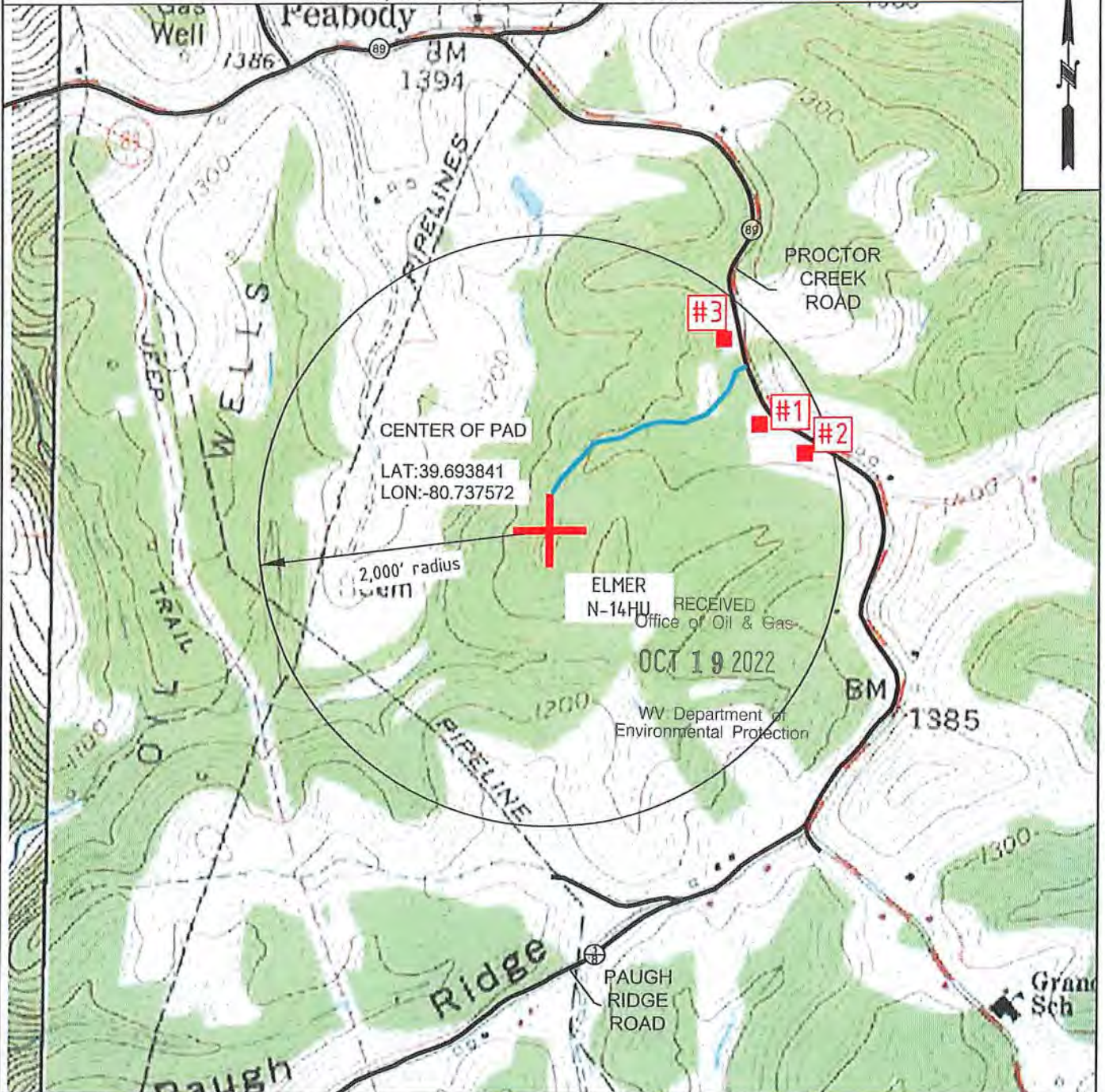
WV Department of  
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10/28/2022



# PROPOSED ELMER

THERE APPEAR TO BE THREE (3) RESIDENCES, AND NO (0) BUSINESSES,  
CHURCHES, SCHOOLS, OR EMERGENCY FACILITIES WITHIN 2000'.



**TUG HILL**  
OPERATING

OPERATOR **494510851**  
TUG HILL OPERATING, LLC  
380 SOUTHPONTE BLVD  
SUITE 200  
CANONSBURG, PA 15317

TOPO SECTION

WILEYVILLE 7.5'

SCALE:

1" = 2000'

LEASE NAME

ELMER

DATE:

DATE: 12-08-2021

**Exhibit 3A**

Tug Hill Oil & Gas Inc.  
380 Southpointe Blvd, Suite 200  
Canonsburg, PA 15137

**RESIDENCES WITHIN 2000' OF ELMER WELL PAD**

Well: Elmer  
District: Proctor  
County: Wetzel  
State: WV

There appears to be Three (3) Residences, No Businesses, No Schools and No Emergency Facilities within 2000' of the center of well pad for the above referenced well location.

Topo Spot # 1 (House/Cabin) TM 12-8-4.2 Brent A. & Kimberly J. Eddy 6882 Proctor Creek Rd. Proctor, WV 26055 304-455-1510 (h)	Topo Spot # 2 (House/Cabin) TM 12-8-21 Eduardo C. & Sonya R. Deguzman PO Box 1102 Solomons, MD 20688 410-326-0190 (h)	Topo Spot # 3 (House/Cabin) TM 12-8-15 Einora Tuttle 6768 Proctor Creek Rd. Proctor, WV 26055 304-455-4575 (h)
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**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:** 4/12/2022      **Date of Planned Entry:** 4/19/2022

**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: Elnora Tuttle (Pad & Access Road)  
 Address: 6768 Proctor Creek Road  
           Proctor, WV 26055  
 Name: Charles Lee & Betty Joan Huggins (Pad & Access Road)  
 Address: 5352 Palmer Ridge Road  
           Proctor, WV 26055  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

COAL OWNER OR LESSEE  
 Name: Consol Energy, Inc. Attn: Casey Saunders  
 Address: 275 Technology Drive, Suite 101  
           Canonsburg, PA 15317-9565  
 MINERAL OWNER(s)  
 Name: \*See attached list  
 Address: \_\_\_\_\_  
 \*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>39.69364130; -80.73757155</u>
County: <u>Wetzel</u>	Public Road Access: <u>Proctor Creek Road</u>
District: <u>Proctor</u>	Watershed: <u>French Creek - Ohio River (HUC 10)</u>
Quadrangle: <u>Wileyville 7.5'</u>	Generally used farm name: <u>Elnora Tuttle</u>

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

**Notice is hereby given by:**

Well Operator: <u>Tug Hill Operating, LLC</u>	Address: <u>380 Southpointe Boulevard, Plaza II, Suite 200</u>
Telephone: <u>724-749-8388</u>	<u>Canonsburg, PA 15317</u>
Email: <u>amorris@tug-hillop.com</u>	Facsimile: <u>724-338-2030</u>

**Oil and Gas Privacy Notice:**

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

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Additional Parties to Notice

Elmer Pad

Anita Louise Croghan  
46 Fox Lane  
Winnetka, IL 60093

Charles W. Kolish, Jr.  
4353 Rudy Lane  
Louisville, KY 40207

Christopher Palmer  
37 Eton Rd.  
Montgomery, AL 36109

David M. Eddy  
60090 Kiowa Ln.  
Montrose, CO 81403

Ellen Kay Shook  
1706 Virginia St.  
Moundsville, WV 26041

John Richard Nuzum  
2728 Cypress Street  
Columbia, SC 29205

Linda L. Simmons Nuzum  
98 Michigan Ave.  
Asheville, NC 28806

Mary Margaret Sterling  
372 Ruddles Mill Rd.  
Paris, KY 40361

Perkins Oil & Gas Inc.  
2966 Northwest Turnpike  
Pennsboro, WV 26415

Richard H. Arman  
724 Mitchell Point Rd.  
Mineral, VA 23117

Roger E. Woodington  
11 North Point Drive  
Portsmouth, VA 23703

Susain Rosier  
665 W. Maryland Ave  
Sebring, OH 44672

Thelma N. Palmer  
P.O. Box 188  
Pine Grove, WV 26419

Thomas E. Garner  
413 Tomlinson Ave.  
Glen Dale, WV 26038

Vicki S. Voorhis and Norman K. Voorhis  
802 Highland Ave.  
New Martinsville, WV 26155

Barbara K. Eddy  
P.O. Box 483  
Centre Hall, PA 16828

Charles W. Kolish, Sr.  
307 Bramton Road  
Louisville, KY 40207

Daria F. Palmer Brooks  
5500 Prytania St., PMB #601  
New Orleans, LA 70115

Debra K. Eddy  
60090 Kiowa Ln.  
Montrose, CO 81403

James Arman  
2048 Bridal Rd.  
Fernandina Beach, FL 32757

Larry D. Garner  
5130 Hampton Court  
Zanesville, OH 43701

Lisa Marian Palmer Beers  
2832 Woodley Rd.  
Montgomery, AL 36111

Michelle Sherwood  
4725 Milford Rd.  
Wilmington, NC 28405

R. Shane Goddard and Kathryn Goddard  
5904 Proctor Creek Road  
Proctor, WV 26055

Ridgetop Royalties, LLC  
Attn: Chris Coonfare  
380 Southpointe Blvd, Ste. 405  
Canonsburg, PA 15317  
Sharon Burton  
314 N. 1st Ave.  
Paden City, WV 26159

Tamela P. Wood and James G. Wood  
215 McBride Ridge Rd.  
Wileyville, WV 26581

Thomas Arman  
840 Blue Bird Lane  
Wake Forest, NC 27587

Vanita and Cordova Holding Company, LLC  
356 Nicholson Loop Rd.  
Morgantown, WV 26508

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

**Notice Time Requirement:** notice shall be provided no later than the **filing date of permit application.**  
**Date of Notice:** 04/21/2022      **Date Permit Application Filed:** 04/28/2022

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: Einora Tuttle (Pad & Access Road)  
Address: 6768 Proctor Creek Road  
Proctor, WV 26055

Name: Charles Leo & Betty Jean Huggins (Pad & Access Road)  
Address: 5352 Palmer Ridge Road  
Proctor, WV 26055

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: West Virginia                      UTM NAD 83      Easting: 522,497.19  
County: Wetzel                              Northing: 4,393,818.91  
District: Proctor                              Public Road Access: Proctor Creek Road  
Quadrangle: Wileyville 7.5                      Generally used farm name: Einora Tuttle  
Watershed: French Creek - Ohio River

**This Notice Shall Include:**

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

Well Operator: Tug Hill Operating, LLC  
Telephone: 724-749-8368  
Email: amorris@tug-hill-op.com

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

**Oil and Gas Privacy Notice:**

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

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WV Department of  
Environmental Protection

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
**VOLUNTARY STATEMENT OF NO OBJECTION**

**Instructions to Persons Named on Page WW-6A**

The well operator named on page WW-6A is applying for a permit from the State of West Virginia to conduct oil or gas well work. Well work permits are valid for twenty-four (24) months. Please contact the listed well operator and the Office of Oil and Gas if you do not own any interest in the listed surface tract.

**Comment and Waiver Provisions**

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.

Pursuant to West Virginia Code § 22-6A-8(b) No permit may be issued less than thirty days after the filing date of the application for any well work except plugging or replugging; and no permit for plugging or replugging may be issued less than five days after the filing date of the application except a permit for plugging or replugging a dry hole: *Provided*, That if the applicant certifies that all persons entitled to notice of the application under the provisions of subsection (b), section ten of this article have been served in person or by certified mail, return receipt requested, with a copy of the well work application, including the erosion and sediment control plan, if required, and the well plat, and further files written statements of no objection by all such persons, the secretary may issue the well work permit at any time.

**VOLUNTARY STATEMENT OF NO OBJECTION**

I, \_\_\_\_\_, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through \_\_\_\_\_, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State:	<u>West Virginia</u>	UTM NAD 83 Easting:	<u>522,496.06</u>
County:	<u>Wetzel</u>	UTM NAD 83 Northing:	<u>4,393,814.39</u>
District:	<u>Proctor</u>	Public Road Access:	<u>Proctor Creek Road</u>
Quadrangle:	<u>Cameron 7.5'</u>	Generally used farm name:	<u>Elmora Tuttle Heirs</u>
Watershed:	<u>French Creek - Ohio River</u>		

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

<p>*Please check the box that applies</p> <p><input type="checkbox"/> SURFACE OWNER</p> <p><input type="checkbox"/> SURFACE OWNER (Road and/or Other Disturbance)</p> <p><input type="checkbox"/> SURFACE OWNER (Impoundments/Pits)</p> <p><input checked="" type="checkbox"/> COAL OWNER OR LESSEE</p> <p><input checked="" type="checkbox"/> COAL OPERATOR</p> <p><input type="checkbox"/> WATER PURVEYOR</p> <p><input type="checkbox"/> OPERATOR OF ANY NATURAL GAS STORAGE FACILITY</p>	<p><b>FOR EXECUTION BY A NATURAL PERSON</b></p> <p>Signature: <u>Cary V. Saunders</u></p> <p>Print Name: <u>Cary V. Saunders / Manager Coal/Gas Coordination</u></p> <p>Date: <u>10/18/2022</u></p> <p><b>FOR EXECUTION BY A CORPORATION, ETC.</b></p> <p>Company: <u>CONSOL Energy</u></p> <p>By: <u>Cary V. Saunders</u></p> <p>Its: <u>Manager Coal/Gas Coordination</u></p> <p>Signature: <u>Cary V. Saunders</u></p> <p>Date: <u>10/18/2022</u></p>
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**Oil and Gas Privacy Notice:**

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

10/28/2022



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
**Division of Highways**

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

D. Alan Reed, P.E.  
State Highway Engineer

Jimmy Wriston, P. E.  
Secretary of Transportation  
Commissioner of Highways

October 29, 2021

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

Subject: DOH Permit for the Elmer Pad, Wetzel County  
Elmer N-15HU Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2021-0381 which has been issued to Tug Hill Operating LLC for access to the State Road for a well site located off Wetzel County Route 89 SLS MP 6.84.

This operator is in compliance with §22-6A-20 of the WV Code. 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 October 1, 2018. This letter is valid for permitting purposes for one year from the date of this letter.

Very Truly Yours,

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

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

E.E.O. AFFIRMATIVE ACTION EMPLOYER

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

Elmer Wells

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

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

10/28/2022







