

west virginia department of environmental protection

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

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

Monday, September 21, 2020 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 MCMASTERS S-17HU 47-051-02338-00-00

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: MCMASTERS S-17HU

Farm Name: ROBERT L. SHIELDS, ET AL

U.S. WELL NUMBER: 47-051-02338-00-00

Horizontal 6A New Drill Date Issued: 9/21/2020



west virginia department of environmental protection

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

Randall M. Albert, Chairman dep.wv.gov

August 5, 2020

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

RE: Application for Deep Well Permit – API #47-051-02338

COMPANY: Tug Hill Operating, LLC

Robert L. Shields, et al FARM:

McMasters S-17HU

COUNTY:

Marshall

DISTRICT: Franklin

QUAD: Powhatan Point

The deep well review of the application for the above company is Approved to drill to Trenton for Point Pleasant completion.

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

- 1. Comments to Notice of Deviation filed? No.
- 2. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners? Yes
- 3. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells: **yes
- 4. Provided a plat showing that the productive interval of the well meets the requirements of the Rules of the Commission W. Va. C.S.R. § 39-1-4.2.

Sincerely,

Susan Rose Administrator

^{**}Corley N-9HU 47-051-01983; Corley N-10HU 47-051-01998; Burch Ridge S-7HU 47-051-02194; Burch Ridge S-6HU 47-051-02193; Blake N-10HU 47-051-02204; Blake N-11HU 47-051-02205; Blake N-9HU 47-051-02203; Blake U-7H 47-051-01766; McMasters N-12HU 47-051-02316; McMasters N-13HU 47-051-02332; McMasters N-14HU 47-051-02333; McMasters N-15HU 47-051-02334; McMasters S-16HU 47-051-02337; McMasters S-18HU 47-051-02339; McMasters S-19HU 47-051-02340; McMasters S-20HU 47-051-02341; Simms U-4H 47-051-01742; Hillrock S-15HU 47-051-02263; Hillrock S-13HU 47-051-02273; Hillrock S-12HU 47-051-02272; Hillrock S-14HU 47-051-02262; Armstrong 1S-12HU 47-051-02258; Simms U-5H 47-051-01731

API Number: 51-02338 Deep/HGA

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. <u>Failure to adhere to the specified permit conditions may result in enforcement action.</u>

CONDITIONS

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

API Number:	

PERMIT CONDITIONS

11. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, 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.

4705102338

API NO. 47-051

OPERATOR WELL NO. McMasters S-17HU
Well Pad Name: Shields

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS WELL WORK PERMIT APPLICATION

1) Well Operat	or: Tug H	ill Operating	, LLC	494510851	Marshall	Franklin	Powhatan Point 7
-			7,	Operator ID	County	District	Quadrangle
2) Operator's \	Vell Numbe	er: McMaster	s S-17HU	Well Pa	d Name: Shiel	ds	
3) Farm Name/	Surface Ov	vner: Robert	L. Shields,	et al Public Roa	ad Access: Bur	ch Ridge F	Road - CR 29
4) Elevation, c	urrent grour	nd: 1206'	Ele	evation, proposed	post-constructi	on: 1206'	
5) Well Type	(a) Gas Other	<u>x</u>	_ Oil	Und	erground Stora	ge	
	(b)If Gas	Shallow		Deep	x		
6) Existing Pac	l. Vas or Na	Horizontal	X		gi	6/6/10	20
			(s) Antici	ipated Thickness a	– and Evnacted D	raccura(c):	
				spated TITICKTIESS of spated pressure of approx. 9500 psi	iliu Expecteu i	iessure(s).	
8) Proposed To	tal Vertical	Depth: 11,4	427'				
9) Formation a		· · · · · · · · · · · · · · · · · · ·		olug back to Ree	dsville		
10) Proposed T	otal Measu	red Depth:	22,100'				
11) Proposed F	Iorizontal L	eg Length:	10,418.58	3'			
12) Approxima	te Fresh W	ater Strata De	pths:	70' ; 802'			
13) Method to	Determine 1	Fresh Water I	Depths: O	Offset well reports or n	oticeable flow at the	e flowline or w	hen need to start soaping
14) Approxima	ite Saltwate	r Depths: 2,	167'				
15) Approxima	ite Coal Sea	ım Depths: S	Sewickley	Coal - 701' ; Pitt	sburgh Coal -	796'	
16) Approxima	te Depth to	Possible Voi	d (coal mi	ne, karst, other):	none		
17) Does Propo directly overly:					No	<u> </u>	RECEIVED Office of Oil and G
(a) If Yes, pro	ovide Mine	Info: Name	, .				JUL 17 2020
(a) 11 1 cs, pro	ovide iville	Depth					WV Department of Environmental Protect
		Seam	-				
		Owne			A. A		

WW-6B (04/15)

API NO. 47- 04 70 5 1 0 2 3 3 8

OPERATOR WELL NO. McMasters S-17HU Well Pad Name: Shields

18)

CASING AND TUBING PROGRAM

ТҮРЕ	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	20"	NEW	J55	106.5#	900'	900'	1,463FT^3(CTS)
Coal	13 3/8"	NEW	J55	54.5#	2600'	2600'	1,842FT^3(CTS)
Intermediate	9 5/8"	NEW	HPP110	47#	10,080'	10,080'	3,286FT^3(CTS)
Production	5 1/2"	NEW	P110	23#	22,100'	22,100'	5,234'FT^3(CTS)
Tubing	2 7/8"	NEW	P110	6.5#		10,759'	
Liners							

Jul 120

ТҮРЕ	Size (in)	Wellbore Diameter (in)	<u>Wall</u> <u>Thickness</u> <u>(in)</u>	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	<u>Cement</u> <u>Yield</u> (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	1.99
Production	5 1/2"	8 1/2"	.415	16,510	10,864	SEE #24	1.18
Tubing	2 7/8"			11,385	11,624		
Liners							

PACKERS

		PACKERS	Office of Oil and Gas
Kind:	N/A		JUL 17 2020
Sizes:	N/A		Environmental Protection
Depths Set:	N/A		

16/6/2020

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 (10,259'). Drill curve and lateral per proposed well plan, run and cement production casing. Perform CBL from 60 deg to surface, make cleanout run, and stimulate.

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

Well to be completed with approximately 26,042,500 lb proppant and 402,636 bbl of water. Max rate = 80 bpm; max psi = 12.000#.

- 21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 17.76 acres
- 22) Area to be disturbed for well pad only, less access road (acres): 5.84 acres
- 23) Describe centralizer placement for each casing string:

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

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

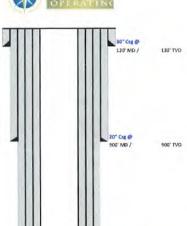
*See Attachment

Office of Oil and Gas

25) Proposed borehole conditioning procedures:

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

*Note: Attach additional sheets as needed.



13 3/8" Csg @ 2,500" MD /

95/8" Cs; @ 10,080" MD /

Pilot Hole

PH TO @

11,A27

1,600° TVD

WELL NAME:	McMasters S-17	ни	
STATE	wv	COUNTY:	Marshall
DISTRICT:	Franklin		
DF Elev:	1,206"	GL Elev:	1,206'
TD:	22,100'		
TH Latitude:	39.76030238		
TH Longitude:	-80.78751484		
BH Latitude:	39.733836		
BH Longitude:	-80.771313		

Formation	Depth TVD	
Deepest Fresh Water	802'	
Sewickley Coal	701	
Pittsburgh Coal	796	
Big Lime	1,955	
Berea	2,493'	
Tully	5,350*	
Marcellus	5,443° 5,493°	
Onondaga		
Salina	7,184	
Lockport	8,211	
Utica	10,876	
Point Pleasant	11,131	
Landing Depth	11,181	
Trenton	11,277	
Pilot Hole TD	11,427	

CASING SUMMARY									
Туре	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cemen		
Conductor	36	30	120'	1.20"	BW	8W	Surface		
Surface	26	20	900	900	106.5	155	Surface		
Intermediate 1	17 1/2	13 3/8	2,600	2,600	54.5	155	Surface		
Intermediate 2	12 1/4	95/8	10,080	10,012	47	HP110	Surface		
Production	8 1/2	51/2	22,100	11,363"	в	P110	Surface		

	CEMENT SUM	MARY		DRILLING DETAILS			
	Sacks	Class	Density	Fluid Type	Centralizer Notes		
Conductor	338	A	15.6	Aic	None		
Surface	1,578	A	15.6	Air	3 Centralizers at equal distance		
intermediate 1	1,995	A	15	Air	1 Centralizer every other jt		
Intermediate 2	2,796	А	14.5	Air	1 Centralizer every other it		
Production	4,634	A	15	Air / SOBM	1 every other joint in leteral; 1 per joint in curve; 1 every other it to s		

10,012° TVD

Landing Point @ 11,684' MD / 11,181' TVD

Office of Oil and Ga

JUL 17 2020

MW Department of recetion

Discotoro

22,100 11,363



Tug Hill Operating, LLC Casing and Cement Program

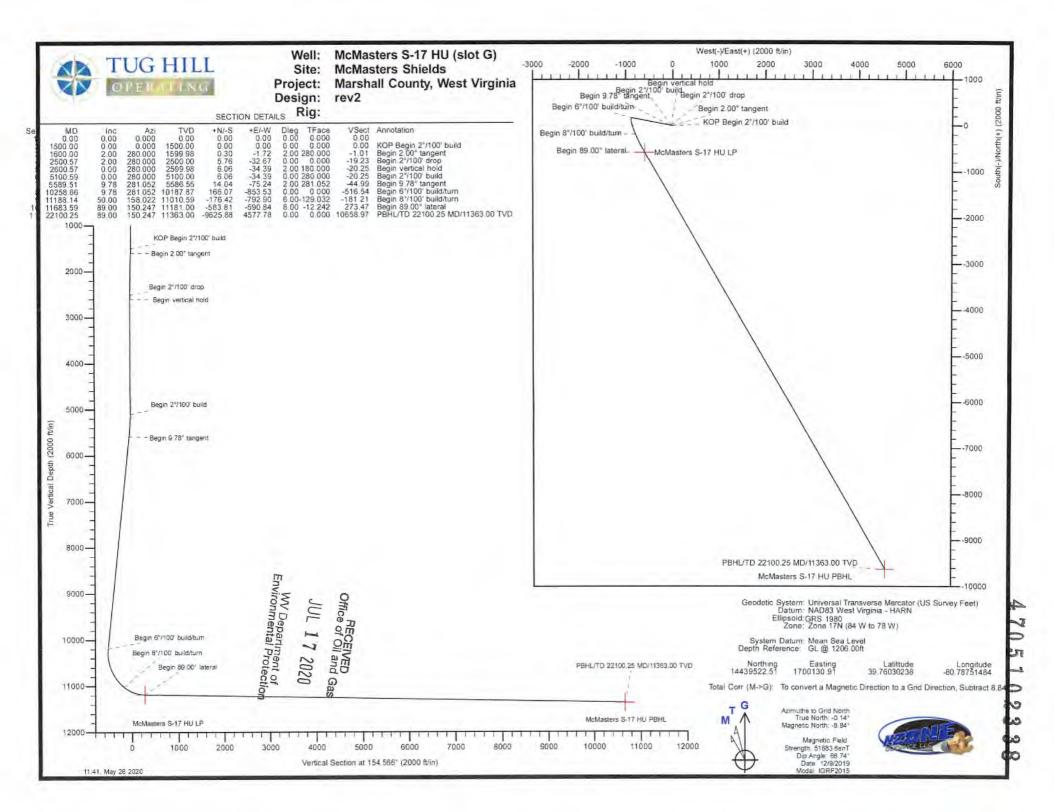
McMasters S-17HU

		(Casing		
	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	20"	J55	26"	900'	CTS
Intermediate 1	13 3/8"	J55	17 1/2"	2,600'	CTS
Intermediate 2	9 5/8"	HP110	12 1/4"	10,080'	CTS
Production	5 1/2"	P110	8 1/2"	22,100'	CTS

Cement

Surface:	Premium NE-1 + 2% bwoc CaC12 + 46.5% Fresh Water – Surface Cement mixed at 15.6 ppg, Y=1.2
Intermediate 1:	Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 15.6 ppg, Y=1.2
Intermediate 2:	Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water Intermediate Cement mixed at 15.6 ppg, Y=1.99
Production:	50:50 Poz: Premium NE-1 + .1% bwoc ASA-301 + 60lb/sk ASCA-1 + .35% bwoc BA-10A + .25% bwoc MPA-170, 44 lb sack + .5% bwoc R-3 + .75 gals/100sk FP-13L - Production Cement mixed at 15.2ppg, Y = 1.18

Office of Oil and Gas JUL 17 2020





Database: Company: DB_Aug1919_v14 Tug Hill Operating LLC

Marshall County, West Virginia Project: Site: McMasters Shields

Well: McMasters S-17 HU (slot G) Original Hole

Wellbore: Design: rev2 Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well McMasters S-17 HU (slot G)

GL @ 1206.00ft GL @ 1206.00ft

Grid

Minimum Curvature

Project

Marshall County, West Virginia

Map System: Geo Datum:

Universal Transverse Mercator (US Survey Feet)

NAD83 West Virginia - HARN

System Datum:

Mean Sea Level

Map Zone:

Zone 17N (84 W to 78 W)

Site McMasters Shields

Site Position: From:

Lat/Long

Northing: Easting:

14,439,441,76 usft 1,700,145.18 usft

Latitude: Longitude:

39.76008050 -80.78746471 0.136

Position Uncertainty:

0.00 ft

0.00 ft

Slot Radius:

13-3/16 "

14,439,522,52 usft

Grid Convergence:

Well

McMasters S-17 HU (slot G)

Well Position **Position Uncertainty** +N/-S 0.00 ft +E/-W 0.00 ft Northing: Easting:

1,700,130.90 usft Wellhead Elevation:

Latitude: Longitude:

39.76030238 -80.78751484

1,206,00 ft

Ground Level:

Wellbore Original Hole

Declination Dip Angle Field Strength Model Name Sample Date Magnetics (°) (°) (nT) 66.739 51.883.56008426 IGRF2015 12/9/2019 -8.707

rev2 Design

Audit Notes:

Version: Phase:

PLAN +N/-S

Tie On Depth: +E/-W

0.00

Vertical Section:

Depth From (TVD) (ft) 0.00

(ft) 0.00

(ft) 0.00 Direction (°) 154.566

Plan Survey Tool Program

Date 5/28/2020

Depth From Depth To (ft)

0.00

Survey (Wellbore) (ft) 22,100.25 rev2 (Original Hole) **Tool Name**

MWD - Standard

MWD

Remarks

RECEIVED Office of Oil and Gas



Database: Company: Project: DB_Aug1919_v14 Tug Hill Operating LLC Marshall County, West Virginia

Site: McMasters Shields
Well: McMasters S-17 HU (slot G)

Wellbore: Original Hole
Design: rev2

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well McMasters S-17 HU (slot G)

GL @ 1206.00ft GL @ 1206.00ft

Grid

Minimum Curvature

an Sections Measured			Vertical			Dogleg	Build	Turn		
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Rate (°/100ft)	Rate (°/100ft)	Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,500.00	0.00	0.000	1,500.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,600.00	2.00	280.000	1,599.98	0.30	-1.72	2.00	2.00	0.00	280.000	
2,500.57	2.00	280.000	2,500.00	5.76	-32.67	0.00	0.00	0.00	0.000	
2,600.57	0.00	280.000	2,599.98	6.06	-34.39	2.00	-2.00	0.00	180.000	
5,100.59	0.00	280.000	5,100.00	6.06	-34.39	0.00	0.00	0.00	280.000	
5,589.51	9.78	281.052	5,586.55	14.04	-75.24	2.00	2.00	0.22	281.052	
10,258.66	9.78	281.052	10,187.87	166.07	-853.53	0.00	0.00	0.00	0.000	
11,188.14	50.00	158.022	11,010.59	-176.42	-792.90	6.00	4.33	-13.24	-129.032	
11,683.59	89.00	150.247	11,181.00	-583.81	-590.84	8.00	7.87	-1.57	-12.242	
22,100.25	89.00	150.247	11,363.00	-9,625.88	4,577.78	0.00	0.00	0.00	0.000	McMasters S-17 HL

Office of Oil and Gas

JUL 17 2020



Database: Company: Project: DB_Aug1919_v14 Tug Hill Operating LLC Marshall County, West Virginia

Site: McMasters Shields
Well: McMasters S-17 HU (slot G)

Wellbore: Original Hole Design: rev2 Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well McMasters S-17 HU (slot G)

GL @ 1206.00ft GL @ 1206.00ft

Grid

Minimum Curvature

Office of Oil and Gas

JUL 17 2020

ned Survey	1								Environ Departme
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Map Northing	Map Easting		WV Departme
(ft)	(°)	(")	(ft)	(ft)	(ft)	(usft)	(usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.7875148
100.00	0.00	0.000	100.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.7875148
200.00	0.00	0.000	200.00	0.00	0.00	14,439,522,52	1,700,130.90	39.76030238	-80.7875148
300.00	0.00	0.000	300.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
400.00	0.00	0.000	400.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
500,00		0.000	500.00	0.00	0.00	14.439,522.52	1,700,130.90	39.76030238	-80.787514
600.00		0.000	600.00	0.00	0.00	14.439.522.52	1,700,130.90	39.76030238	-80.787514
700.00		0.000	700.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
800.00		0.000	800.00	0,00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
900.00		0.000	900.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
1,000.00		0.000	1,000.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80,787514
1,100.00		0.000	1,100.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
				0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
1,200.00		0.000	1,200.00					39.76030238	-80.787514
1,300.00		0.000	1,300.00	0.00	0.00	14,439,522,52	1,700,130,90		
1,400.00		0.000	1,400.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
1,500.00		0.000	1,500.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
	gin 2°/100' bui								0.000000
1,600.00	2.00	280.000	1,599.98	0.30	-1.72	14,439,522.82	1,700,129,19	39.76030323	-80.787520
Begin 2.	.00° tangent								
1,700.00	2.00	280,000	1,699.92	0.91	-5.16	14,439,523,43	1,700,125,75	39.76030491	-80.787533
1,800.00	2.00	280,000	1,799.86	1.52	-8,59	14,439,524,03	1,700,122.31	39,76030660	-80.787545
1,900,00		280.000	1,899.80	2.12	-12.03	14,439,524.64	1,700,118.88	39.76030829	-80,787557
2,000.00		280.000	1,999.74	2.73	-15.47	14,439,525.24	1,700,115.44	39.76030997	-80,787569
2,100.00		280.000	2,099.68	3.33	-18.90	14,439,525,85	1,700,112.00	39.76031166	-80,787582
2,200.00		280.000	2,199.61	3.94	-22.34	14,439,526,46	1,700,108.56	39.76031335	-80.787594
2,300.00		280,000	2,299.55	4.55	-25.78	14,439,527.06	1,700,105.13	39,76031503	-80.787606
2,400.00		280.000	2,399.49	5.15	-29.21	14,439,527.67	1,700,101.69	39.76031672	-80.787618
2,500.00		280.000	2,499.43	5.76	-32.65	14,439,528.27	1,700,098.25	39.76031841	-80.787630
		280.000	2,500.00	5.76	-32.67	14,439,528.28	1,700,098.23	39,76031841	-80.787631
2,500.57		260,000	2,500.00	3.70	-32.07	14,455,520,20	1,700,050.20	35,75037047	00.707001
	1100, quob	Licologia.	4 444 11		21.22	14 100 500 50	1 700 000 50	20.75024025	-80.787637
2,600.00		280.000	2,599.41	6.06	-34,39	14,439,528.58	1,700,096.52	39.76031926	
2,600.57	0.00	280.000	2,599.98	6.06	-34.39	14,439,528.58	1,700,096.52	39,76031926	80.787637
Begin ve	ertical hold								
2,700.00	0.00	280.000	2,699.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
2,800.00	0.00	280.000	2,799.41	6.06	-34.39	14.439,528.58	1,700,096.52	39.76031926	-80.787637
2,900.00	0.00	280.000	2,899.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
3,000.00		280.000	2,999.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	80.787637
3,100.00		280.000	3,099,41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
3.200.00		0.000	3,199.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
3,300.00		280.000	3,299,41	6.06	-34.39	14,439,528,58	1,700,096.52	39.76031926	-80.787637
3,400.00		0.000	3,399.41	6.06	34.39	14,439,528.58	1,700,096.52	39,76031926	-80.787637
3,500.00		280.000	3,499.41	6.06	-34.39	14,439,528.58	1,700,096,52	39.76031926	-80.787637
3,600.00		280.000	3,599.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
		280.000	3,699.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80,787637
3,700.00				6.06	-34.39	14,439,528,58	1,700,096.52	39.76031926	-80.787637
3,800.00		280.000	3,799.41			14,439,528,58	1,700,096.52	39,76031926	-80.787637
3,900.00		0.000	3,899.41	6.06	-34.39				-80.787637
4,000.00		280.000	3,999.41	6.06	-34.39	14,439,528,58	1,700,096.52	39.76031926	
4,100.00		280.000	4,099.41	6.06	-34.39	14,439,528,58	1,700,096.52	39.76031926	80.787637
4,200.00		280.000	4,199.41	6.06	34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
4,300.00		280.000	4,299.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
4,400.00		280,000	4,399.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80,787637
4,500.00	0.00	0.000	4,499.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
4,600.00	0.00	280.000	4,599.41	6.06	-34.39	14,439,528.58	1,700,096.52	39,76031926	-80.787637
4,700.00	0.00	0.000	4,699.41	6.06	-34.39	14,439,528.58	1,700,096,52	39.76031926	-80.787637



Database: Company: Project:

DB_Aug1919_v14 Tug Hill Operating LLC Marshall County, West Virginia

Site: McMasters Shields Well: McMasters S-17 HU (slot G)

Wellbore: Original Hole Design: rev2

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well McMasters S-17 HU (slot G)

GL @ 1206:00ft GL@ 1206.00ff

Grid

Minimum Curvature

Office of Oil and Gas JUL 17 2020

ned Survey	ye.							h	Environmental Pr
									inal P
Measured			Vertical			Map	Мар		
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Northing	Easting		
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)	Latitude	Longitude
4,800.00	0.00	280.000	4,799.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
4,900.00	0.00	280.000	4,899.41	6.06	-34.39	14,439,528,58	1,700,096.52	39,76031926	-80,787637
5,000.00	0,00	280.000	4,999.41	6.06	-34.39	14,439,528.58	1,700,096.52	39,76031926	-80.787637
5,100.00	0.00	280.000	5,099.41	6.06	-34.39	14,439,528,58	1,700,096.52	39.76031926	-80.787637
5,100.59	0.00	280,000	5,100.00	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	80.787637
Begin 2°	100' build								
5,200.00	1.99	281.052	5,199.39	6.39	-36,08	14,439,528,91	1,700,094,82	39,76032018	-80,787643
5,300.00	3,99	281.052	5,299.25	7.39	-41,20	14,439,529,91	1,700,089.71	39,76032296	-8D 787661
5,400.00	5.99	281.052	5,398.87	9.06	-49.73	14,439,531.58	1,700,081.17	39,76032759	-80 787691
5,500.00	7.99	281.052	5,498.12	11.39	-61,67	14,439,533.91	1,700,069.23	39.76033407	-80.787734
5,589.51	9.78	281.052	5,586.55	14.04	-75,24	14,439,536.56	1,700,055.67	39.76034144	-80.787782
Begin 9.	78° tangent								
5,600.00	9.78	281.052	5,596.89	14.38	-76,99	14,439,536.90	1,700,053.92	39,76034239	-80,787788
5,700.00	9.78	281.052	5,695 44	17.64	-93,65	14,439,540,16	1,700,037.25	39.76035144	-80 787847
5,800.00	9.78	281.052	5,793,98	20.90	-110,32	14,439,543,41	1,700,020,58	39,76036049	-80,787907
5,900.00	9.78	281.052	5,892,53	24.15	-126,99	14,439,546.67	1,700,003.91	39.76036954	-80.787966
6,000.00	9.78	281.052	5,991.08	27.41	-143.66	14,439,549.92	1,699,987.24	39.76037859	-80.788025
6,100.00	9.78	281.052	6,089.62	30.66	-160.33	14,439,553.18	1,699,970,57	39,76038764	-80.788085
6,200.00	9.78	281.052	6,188.17	33.92	-177.00	14,439,556.44	1,699,953.91	39,76039669	-80.788144
6,300.00	9.78	281.052	6,286.72	37.18	-193,67	14,439,559.69	1,699,937.24	39.76040573	-80.788203
6,400.00	9.78	281 052	6,385.27	40.43	-210.34	14,439,562.95	1,699,920.57	39.76041478	-80.788262
6,500.00	9.78	281.052	6,483.81	43.69	-227,01	14,439,566.20	1,699,903.90	39.76042383	-80,788322
6,600.00	9.78	281.052	6,582.36	46.94	-243.68	14,439,569.46	1,699,887.23	39.76043288	-80.788381
6,700.00	9.78	281.052	6,680.91	50.20	-260.34	14,439,572.72	1,699,870.56	39,76044193	-80.788440
6,800.00	9.78	281.052	6,779.45	53.45	-277.01	14,439,575.97	1,699,853.89	39,76045098	-80.788500
6,900.00	9.78	281.052	6,878.00	56.71	-293.68	14,439,579.23	1,699,837.22	39.76046003	-80.788559
7,000.00	9,78	281.052	6,976.55	59.97	-310.35	14,439,582.48	1,699,820.55	39.76046908	-80.788618
7,100.00	9.78	281.052	7,075.10	63.22	-327.02	14,439,585,74	1,699,803.89	39.76047813	-80.788677
7,200.00	9.78	281.052	7,173.64	66.48	-343.69	14,439,588.99	1,699,787.22	39.76048718	-80.788737
7,300.00	9.78	281.052	7,272.19	69.73	-360.36	14,439,592.25	1,699,770.55	39.76049623	-80.788796
7,400.00	9.78	281.052	7,370.74	72.99	-377.03	14,439,595,51	1,699,753.88	39,76050528	-80.788855
7,500.00	9.78	281.052	7,469.28	76,25	-393.70	14,439,598.76	1,699,737.21	39.76051433	-80.788915
7,600.00	9.78	281 052	7,567.83	79.50	-410,36	14,439,602,02	1,699,720.54	39,76052338	-80.788974
7,700,00	9.78	281.052	7,666,38	82.76	-427.03	14,439,605.27	1,699,703.87	39.76053243	-80.789033
7,800.00	9.78	281.052	7,764,93	86.01	-443.70	14,439,608.53	1,699,687.20	39.76054148	-80.789092
7,900.00	9.78	281.052	7,863.47	89.27	-460.37	14,439,611.79	1,699,670.53	39.76055053	-80.789152
8,000.00	9.78	281.052	7,962.02	92.53	477.04	14,439,615.04	1,699,653.87	39.76055958	80.78921
8,100.00	9.78	281.052	8,060.57	95.78	-493.71	14,439,618,30	1,699,637.20	39.76056863	-80.789270
8,200.00	9.78	281.052	8,159.12	99.04	-510.38	14,439,621.55	1,699,620.53	39.76057768	-80.78933
8,300.00	9.78	281.052	8,257.66	102.29	-527.05	14,439,624,81	1,699,603.86	39.76058673	-80.789389
8,400.00	9.78	281.052	8,356.21	105.55	-543.72	14,439,628.07	1,699,587.19	39.76059578	-80.789448
8,500.00	9,78	281.052	8,454.76	108,81	-560.38	14,439,631,32	1,699,570.52	39.76060482	-80,789507
8,600.00	9.78	281.052	8,553,30	112.06	-577.05	14,439,634,58	1,699,553,85	39.76061387	-80.78956
8,700.00	9.78	281.052	8,651.85	115.32	-593,72	14,439,637,83	1,699,537.18	39.76062292	-80.789626
8,800.00	9.78	281.052	8,750.40	118,57	-610.39	14,439,641,09	1,699,520.51	39.76063197	-80,789685
8,900.00	9,78	281,052	8,848,95	121.83	-627.06	14,439,644.34	1,699,503.85	39.76064102	-80.789745
9,000,00	9.78	281,052	8,947.49	125.08	-643.73	14,439,647,60	1,699,487 18	39,76065007	-80.789804
9,100.00	9.78	281.052	9,046.04	128.34	-660.40	14,439,650.86	1,699,470.51	39,76065912	-80.789863
9,200.00	9.78	281.052	9,144.59	131.60	-677.07	14.439,654.11	1,699,453.84	39.76066817	-80,789922
9,300.00	9.78	281.052	9,243 13	134.85	-693.74	14.439,657.37	1,699,437.17	39.76067722	-80.789982
9,400.00	9.78	281.052	9,341.68	138.11	-710.41	14,439,660.62	1,699,420.50	39,76068627	-80.79004
9,500,00	9.78	281.052	9,440.23	141.36	-727.07	14,439,663.88	1,699,403.83	39,76069531	-80.790100
9,600.00	9.78	281.052	9,538.78	144.62	-743,74	14,439,667,14	1,699,387.16	39.76070436	-80,790160
9,700.00	9.78	281.052	9,637,32	147.88	-760,41	14,439,670.39	1,699,370.49	39,76071341	-80.790219



Database: Company: Project:

DB_Aug1919_v14 Tug Hill Operating LLC Marshall County, West Virginia McMasters Shields

Site: Well:

Wellbore: Design:

Plant

McMasters S-17 HU (slot G) Original Hole

rev2

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well McMasters S-17 HU (slot G)

GL @ 1206.00fl GL @ 1206.00ft

Grid

Minimum Curvature

Office of Oil and Gas

ned Survey									17 202	n
Measured Depth (ft)	Inclination	Azimuth	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Environmental Prolect	
9,800.00	9.78 9.78	281.052	9,735.87	151.13	-777.08 -793.75	14,439,673.65	1,699,353.83	39.76072246	-80.79027870 -80.79033799	

Depth (ft)	Inclination	Azimuth	Vertical Depth (ft)	+N/-S (ft)	+E/-VV (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Environmental Prote
	7.0						2.7000		
9,800.00	9.78	281.052	9,735.87	151.13	-777.08	14,439,673.65	1,699,353.83	39.76072246	-80.79027870
9,900.00	9.78	281.052	9,834.42	154.39	-793.75	14,439,676,90	1,699,337.16	39.76073151	-80.79033799
10,000.00	9.78	281.052	9,932.96	157.64	-810.42	14,439,680.16	1,699,320.49	39.76074056	-80.79039727
10,100.00	9.78	281.052	10,031.51	160.90	-827.09	14,439,683.42	1,699,303.82	39.76074961	-80.79045656
10,200.00	9.78	281.052	10,130.06	164.16	-843.76	14,439,686,67	1,699,287.15	39.76075866	-80.79051585
10,258.66	9.78	281.052	10,187.87	166.07	-853.53	14,439,688,58	1,699,277.37	39.76076396	-80.79055062
Begin 6°	/100' build/tur	n							
10,300.00	8,44	267.807	10,228,69	166.62	-860.01	14,439,689.14	1,699,270.89	39.76076554	-80.79057367
10,400.00	7.92	224,774	10,327.76	161.45	-872.20	14,439,683.96	1,699,258.70	39.76075140	-80,79061710
10,500.00	11.21	193.783	10,426.42	147.10	-879.38	14,439,669.62	1,699,251.53	39.76071206	-80.79064274
10,600.00	16,14	178.999	10,523.59	123.75	-881.45	14,439,646.26	1,699,249.45	39.76064792	-80,79065032
10,700 00	21.60	171.252	10,618.19	91.63	-878.41	14,439,614.15	1,699,252.50	39.76055970	-80.79063975
10,800.00	27.28	166.565	10,709.20	51.11	-870.28	14,439,573.62	1.699,260.63	39.76044837	-80.79061115
10,900.00	33.07	163.404	10,795.62	2.63	-857.15	14,439,525.14	1,699,273.76	39.76031514	-80.79056484
11,000.00	38.92	161.098	10,876.49	-53.29	-839.16	14,439,469.23	1.699,291.74	39.76016147	-80.79050131
11,100.00	44.80	159.313	10,950.95	-116.02	-816.52	14,439,406.50	1,699,314,39	39.75998904	-80.79042127
11,188.14	50.00	158.022	11,010.59	-176.42	-792.90	14,439,346.10	1,699,338.01	39.75982301	-80.79033772
Begin 8°	/100' build/tur	n							
11,200.00	50.93	157.763	11,018.14	-184.89	789.46	14,439,337.62	1,699,341.45	39.75979972	-80.79032554
11,300.00	58.77	155 811	11,075 67	-259.94	-757.20	14,439,262.57	1,699,373,71	39,75959340	-80.79021137
11,400.00	66.63	154 161	11,121.50	-340.38	-719.61	14,439,182,13	1,699,411.29	39.75937225	-80.79007831
11,500.00	74.51	152.697	11,154,74	424.65	-677.44	14,439,097.87	1,699,453.47	39.75914057	-80.78992894
11,600.00	82.40	151.340	11,174,74	-511.09	-631.49	14,439,011.42	1,699,499.41	39.75890287	-80.78976617
11,683.59		150.247	11,181,00	-583.81	-590.84	14,438,938.71	1,699,540.07	39.75870291	-80,78962213
	0.00° lateral	(22.4)	111121122	1,500,000		10010012-001	2157-5145-7040		
11,700.00	89.00	150.247	11,181.29	-598.05	-582.70	14,438,924,47	1,699,548,21	39.75866374	-80.78959327
11,800.00	89.00	150.247	11,183.04	-684.86	-533.08	14,438,837.66	1,699,597,83	39.75842503	-80.78941744
11,900.00	89.00	150.247	11,184.78	-771.66	-483.46	14,438,750.86	1,699,647,45	39.75818632	-80.78924161
12,000.00	89.00	150.247	11,186.53	-858.46	-433.84	14,438,664.05	1,699,697.07	39.75794761	-80.78906578
12,100.00		150.247	11,188.28	-945.27	-384.22	14,438,577.25	1,699,746.68	39.75770890	-80.78888996
12,700.00		150.247	11,190.02	-1,032,07	-334.60	14,438,490,45	1,699,796.30	39.75747019	-80.78871413
12,300.00	89.00	150.247	11,191,77	1,118.88	-284.98	14,438,403.64	1,699,845.92	39.75723148	-80.78853831
12,400.00		150.247	11,193.52	-1,205.68	-235.37	14,438,316.84	1,699,895.54	39.75699277	-80.78836249
12,500.00		150.247	11,195.27	-1,292.48	-185.75	14,438,230.03	1,699,945.16	39.75675406	-80.78818666
	89.00	150.247	11,197.01	1,379.29	-136.13	14,438,143,23	1,699,994.78	39.75651535	-80.78801084
12,600.00		150.247	11,198.76	-1,466.09	-86.51	14,438,056,43	1,700,044.40	39.75627664	-80.78783502
12,700.00		150.247	11,200.51	-1,552.90	-36.89	14,437,969.62	1,700,094.01	39.75603793	-80.78765921
		150.247	11,202.26	-1,639.70	12.73	14,437,882.82	1,700,143.63	39,75579922	-80.78748339
12,900.00		150.247	11,204.00	-1.726.50	62.35	14,437,796,02	1,700,143.05	39.75556051	-80.78730757
13,000.00				-1.813.31	111.97	14,437,709.21	1,700,242.87	39.75532179	-80,78713176
13,100.00		150.247	11,205.75	-1,900.11	161,58	14,437,622.41	1,700,292.49	39,75508308	-80.78695595
13,200.00		150.247			211.20	14,437,535.60	1,700,342.11	39.75484437	-80.78678013
13,300.00		150.247	11,209.24	1,986.92		14,437,448.80	1,700,391.73	39.75460566	-80.78660432
13,400.00		150.247	11,210.99	2,073.72	260,82 310,44	14,437,362.00	1,700,441.35	39.75436694	-80.78642851
13,500.00		150.247	11,212.74	2,160.52	360.06	14,437,362.00	1,700,441.33	39.75412823	-80.78625271
13,600.00		150.247	11,214.49	-2,247.33	409.68	14,437,188.39	1.700,540.58	39.75388952	-80.78607690
13,700.00		150.247	11,216,23	-2,334.13		14,437,100.39	1,700,540.50	39.75365080	-80.78590109
13,800.00		150.247	11,217,98	2,420.94	459.30	14,437,101.59	1,700,639.82	39.75341209	-80.78572529
13,900.00		150.247	11,219.73	2,507.74	508,92				-80.78554949
14,000.00		150,247	11,221,47	-2,594.54	558.53	14,436,927.98	1.700,689.44	39,75317337	-80.78537368
14,100.00		150,247	11,223,22	-2,681.35	608.15	14,436,841.17	1,700,739.06	39,75293466	-80.78519788
14,200.00		150.247	11,224 97	-2,768.15	657.77	14,436,754.37	1,700,788.68	39,75269594	ALC: 4200 L. L. A.
14,300.00		150.247	11,226.72	-2,854.96	707.39	14,438,667.57	1,700,838.29	39.75245723	-80.78502208
14,400.00	89.00	150.247	11,228.46	2,941.76	757.01	14,436,580.76	1.700,887.91	39,75221851	-80.78484628





Database: Company: Project: DB_Aug1919_v14 Tug Hill Operating LLC Marshall County, West Virginia

Site: McMasters Shields
Well: McMasters S-17 HU (slot G)

Wellbore: Original Hole Design: rev2 Local Co-ordinate Reference: TVD Reference:

MD Reference: North Reference: Survey Calculation Method: Well McMasters S-17 HU (slot G)

GL @ 1206.00ft GL @ 1206.00ft

Grid

Minimum Curvature

Office of Oil and Gas

JUL 17 2020

Environmental Protest

Pla	nned Survey
	mica carrey

Depth (ft)	Inclination (")	Azimuth	Vertical Depth (ft)	+N/+S (ft)	+E/-W (ft)	Map Northing (usπ)	Map Easting (usft)	Latitude	Longitude
14,600.00	89.00	150.247	11,231.96	-3,115.37	856.25	14,436,407.16	1,700,987.15	39.75174108	-80.784494
14,700.00	89.00	150.247	11,233.70	-3,202.17	905.87	14,436,320.35	1,701,036.77	39.75150236	-80.784318
14,800.00	89.00	150.247	11,235.45	3,288.98	955.48	14,436,233.55	1,701,086.39	39.75126365	-80.78414
14,900.00	89.00	150,247	11,237.20	-3,375.78	1,005.10	14,436,146.74	1.701.136.01	39.75102493	-80.783967
15,000.00	89.00	150.247	11,238.95	3,462.58	1,054.72	14,436,059.94	1,701,185.62	39.75078621	-80.78379
15,100.00	89.00	150 247	11,240.69	-3,549.39	1,104.34	14,435,973.14	1,701,235.24	39.75054750	-80.783615
15,200.00	89.00	150.247	11,242,44	-3,636.19	1,153.96	14,435,886.33	1,701,284.86	39.75030878	-80.78343
15,300.00		150.247	11,244.19	-3,722.99	1,203.58	14,435,799.53	1,701,334.48	39.75007006	-80,78326
15,400.00	89.00	150.247	11,245.93	-3,809.80	1,253,20	14,435,712.73	1,701,384.10	39.74983134	-80,78308
15,500.00	89,00	150.247	11,247.68	-3,896.60	1,302.82	14,435,625.92	1,701,433.72	39.74959262	-80.78291
15,600.00	89.00	150.247	11,249.43	-3,983.41	1,352.43	14,435,539.12	1.701,483.34	39,74935390	-80.78273
15,700.00	89.00	150.247	11,251.18	-4,070.21	1,402.05	14,435,452.31	1,701,532.96	39.74911518	-80.78256
15,800.00	89.00	150.247	11,252.92	-4.157.01	1,451.67	14,435,365.51	1.701,582.57	39.74887646	-80.78238
15,900.00		150.247	11,254.67	4,243.82	1,501.29	14,435,278.71	1,701,632.19	39.74863775	-80.78220
16,000.00	89.00	150.247	11,256.42	4,330.62	1,550.91	14,435,191.90	1,701,681.81	39,74839903	-80.78203
16,100.00		150.247	11,258.16	-4,417.43	1,600.53	14,435,105.10	1.701.731.43	39.74816031	-80.78185
16,200.00	89.00	150.247	11,259.91	-4,504.23	1,650.15	14,435,018.29	1.701.781.05	39.74792158	-80.78168
16,300.00		150.247	11,261.66	-4,591.03	1,699.77	14,434,931.49	1,701,830.67	39.74768286	-80.78150
16,400.00	89.00	150.247	11,263.41	4,677.84	1,749.38	14,434,844.69	1,701,880.29	39.74744414	-80.78133
16,500.00		150.247	11,265.15	4,764.64	1,799.00	14,434,757.88	1,701,929.90	39.74720542	80.78115
16,600.00		150.247	11,266.90	4,851.45	1,848.62	14,434,671.08	1,701,979.52	39.74696670	-80.78097
16,700.00		150.247	11,268.65	4,938.25	1,898.24	14,434,584.28	1,702,029.14	39.74672798	-80 78080
16,800.00		150.247	11,270.40	-5,025.05	1,947.86	14,434,497.47	1,702,078.76	39.74648926	-80.78062
16,900.00		150.247	11,272.14	-5,111.86	1,997.48	14,434,410.67	1,702,128.38	39.74625053	-80.78045
17,000.00		150.247	11,273.89	-5.198.66	2,047.10	14,434,323,86	1,702,178.00	39.74601181	-80.78027
17,100.00		150.247	11,275.64	-5,285.47	2,096.72	14,434,237.06	1,702,227.62	39.74577309	-80.78010
17,200.00		150.247	11,277.38	-5,372.27	2,146.33	14,434,150.26	1,702,277.24	39,74553436	-80.77992
17,300.00		150.247	11,279.13	-5,459.07	2,195.95	14,434,063.45	1,702,326.85	39.74529564	-80.77974
17,400.00	89.00	150.247	11,280.88	-5,545.88	2,245.57	14,433,976.65	1,702,376,47	39.74505692	-80.77957
17,500.00		150.247	11,282.63	-5,632.68	2,295.19	14,433,889,85	1,702,426,09	39.74481819	-80.77939
17,600.00		150.247	11,284.37	-5,719.49	2,344.81	14,433,803.04	1,702,475.71	39.74457947	-80.77922
17,700.00		150.247	11,286.12	5,806.29	2,394.43	14,433,716.24	1,702,525,33	39.74434074	-80.77904
17,800.00		150.247	11,287.87	-5,893.09	2,444.05	14,433,629.43	1,702,574.95	39,74410202	-80.77886
17,900.00		150.247	11,289.51	-5,979.90	2,493.67	14,433,542.63	1,702,624.57	39.74386329	-80.77869
18,000 00		150.247	11,291,36	-6,066,70	2,543.28	14,433,455.83	1,702,674 18	39.74362457	-80.77851
18,100.00		150.247	11,293.11	-6,153.51	2,592.90	14,433,369.02	1,702,723.80	39.74338584	-80 77834
8,200.00		150.247	11,294.86	-6.240.31	2,642.52	14,433,282.22	1,702,773.42	39.74314712	-80.77816
18,300.00		150.247	11,296.60	-6.327.11	2,692.14	14,433,195.42	1,702,823.04	39.74290839	-80,77799
18,400.00		150.247	11,298.35	-6,413.92	2,741.76	14,433,108.61	1,702,872,66	39,74266966	-80.77781
18,500.00		150.247	11,300.10	-6,500.72	2,791.38	14,433,021.81	1,702,922,28	39.74243094	-80.77763
18,600.00		150.247	11,301.84	-6,587.53	2,841.00	14,432,935.00	1,702,971.90	39.74219221	-80.77746
18,700.00		150,247	11,303.59	-6,674,33	2,890.62	14,432,848.20	1,703,021.51	39,74195348	-80.77728
18,800.00		150,247	11,305.34	-6,761 13	2,940.23	14,432,761.40	1.703,071.13	39,74171476	-80.77711
18,900.00		150,247	11,307.09	-6,847.94	2,989.85	14,432,674.59	1,703,120.75	39.74147603	-80,77693
19,000.00		150,247	11,308 B3	6,934.74	3,039.47	14,432,587.79	1,703,170.37	39,74123730	-80.77676
19,100.00		150.247	11,310.58	-7,021.55	3,089.09	14,432,500.98	1,703,219,99	39,74099857	-80.77658
19,200.00	10.5	150.247	11,312.33	-7,108.35	3,138.71	14,432,414.18	1,703,269,61	39,74075984	-80.77640
19,300.00		150.247	11,314.07	-7,195,15	3,188.33	14,432,327.38	1,703,319.23	39.74052111	-80.77623
19,400.00		150.247	11,315.82	-7,193,15	3,237.95	14,432,240.57	1,703,368.85	39.74028238	-80,77605
19,500.00		150.247	11,317,57	-7,368.76	3,287.57	14,432,153.77	1.703,418.46	39,74004365	-80.77588
19,600.00		150.247	11,319.32	-7,455,57	3,337.18	14,432,066.97	1.703,468.08	39.73980492	-80.77570
19,700.00		150.247	11,321.06	-7,542.37	3,386,80	14,431,980.16	1,703,517.70	39.73956619	-80.77553
19,800.00		150.247	11,322.81	-7,629.17	3,436.42	14,431,893.36	1,703,567.32	39,73932746	80.77535
19,900.00		150.247	11,324.56	-7.715.98	3,486.04	14,431,806.55	1,703,616.94	39.73908873	80.77517
20,000.00		150.247	11,326.31	-7,802.78	3,535.66	14,431,719.75	1,703,666.56	39,73885000	80.77500



Database: Company: Project: DB_Aug1919_v14 Tug Hill Operating LLC Marshall County, West Virginia

Site: McMasters Shields
Well: McMasters S-17 HU (slot G)

Wellbore: Original Hole Design: rev2 Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

North Reference: Survey Calculation Method: Well McMasters S-17 HU (slot G)

GL @ 1206.00ft GL @ 1206.00ft

Grid Minimum Curvature Office of Oil and Gas

JUL 17 2020

Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Map Northing	Map Easting	Env	WV Department of ironmental Protect
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)	Latitude	Longitude
20,100.00	89,00	150.247	11,328.05	-7,889.59	3,585.28	14,431,632,95	1,703,716.18	39.73861127	-80.77482777
20,200.00	89.00	150.247	11,329.80	-7,976.39	3,634.90	14,431,546.14	1,703,765.79	39.73837254	-80.77465204
20,300.00	89.00	150.247	11,331.55	-8,063.19	3,684.52	14,431,459,34	1,703,815.41	39.73813381	-80.77447632
20,400.00	89.00	150.247	11,333.29	-8,150.00	3.734.13	14,431,372.54	1,703,865.03	39.73789508	-80.77430059
20,500.00	89.00	150.247	11,335.04	-8,236.80	3,783.75	14,431,285.73	1,703,914.65	39,73765634	-80.77412487
20,600.00	89.00	150.247	11,336.79	-8,323.60	3,833.37	14,431,198.93	1.703,964,27	39,73741761	-80.77394914
20,700.00	89.00	150.247	11,338.54	-8,410.41	3,882.99	14,431,112.12	1,704,013.89	39.73717888	-80.77377342
20,800.00	89.00	150.247	11,340.28	-8,497.21	3,932.61	14,431,025.32	1,704,063.51	39.73694015	-80.77359770
20,900.00	89.00	150.247	11,342.03	-8,584.02	3,982,23	14,430,938.52	1,704,113.13	39.73670141	-80.77342198
21,000.00	89.00	150.247	11,343.78	-8,670.82	4,031.85	14,430,851.71	1,704,162.74	39.73646268	-80.77324626
21,100.00	89.00	150.247	11,345.52	-8,757.62	4.081.47	14,430,764.91	1,704,212.36	39.73622395	-80.77307054
21,200.00	89.00	150.247	11,347.27	8,844.43	4,131,08	14,430,678.11	1.704,261.98	39.73598521	-80.77289483
21,300.00	89.00	150.247	11,349.02	-8,931.23	4,180.70	14,430,591.30	1,704,311.60	39.73574648	-80.77271911
21,400.00	89.00	150.247	11,350.77	9.018.04	4,230,32	14,430,504.50	1.704,361.22	39.73550774	-80.77254340
21,500.00	89.00	150.247	11,352.51	-9,104.84	4,279.94	14,430,417.69	1.704,410.84	39.73526901	-80.77236769
21,600.00	89.00	150.247	11,354.26	9,191.64	4,329.56	14,430,330.89	1,704,460.46	39.73503027	-80.77219197
21,700.00	89.00	150.247	11,356.01	-9,278.45	4,379.18	14,430,244.09	1,704,510.07	39.73479154	-80.77201626
21,800 00	89.00	150.247	11,357.75	-9,365.25	4,428.80	14,430,157.28	1,704,559.69	39.73455280	-80.77184055
21,900.00	89.00	150.247	11,359.50	-9,452.06	4,478,42	14,430,070.48	1,704,609.31	39.73431406	-80.77166485
22,000.00	89.00	150.247	11,361.25	-9,538.86	4,528.03	14,429,983.68	1,704,658.93	39,73407533	-80.77148914
22,100.00	89.00	150.247	11,363.00	-9,625,66	4,577.65	14,429,896.87	1,704,708.55	39,73383659	-80,77131344
22,100.25	89.00	150.247	11,363.00	-9,625,88	4,577.78	14,429,896.66	1,704,708.67	39,73383600	-80.77131300

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle	Dip Dir.	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
McMasters S-17 HU LP - plan misses larget of Point	0.00 center by 0.05		11,181,00 58ft MD (1118	-583.77 31,00 TVD, -5	-590.80 83.80 N, -590	14.438,938.74 .85 E)	1,699,540.10	39.75870300	-80.78962200
McMasters S-17 HU PBI - plan hits target cent - Point	0.00 fer	0.000	11,363.00	-9,625.88	4,577.78	14.429,896,66	1,704,708.67	39.73383600	-80.77131300

lan Annotations Measured	Vertical	Local Coor	dinates		
Depth (ft)	Depth (ff)	+N/-S (ft)	+E/-W (ft)	Comment	
1,500.0	0 1,500.00	0.00	0.00	KOP Begin 2°/100' build	
1,600.0	0 1,599.98	0.30	-1.72	Begin 2,00° tangent	
2,500.5	7 2,500.00	5.76	-32.67	Begin 2°/100' drop	
2,600.5	7 2,599.98	6.06	-34.39	Begin vertical hold	
5,100.5	9 5,100,00	6.06	-34.39	Begin 2°/100' build	
5,589.5	1 5,586.55	14.04	-75.24	Begin 9.78° tangent	
10.258.6	6 10,187,87	166.07	853.53	Begin 6°/100' build/turn	
11,188.1	4 11,010.59	-176.42	-792.90	Begin 8°/100' build/turn	
11,683.5	9 11,181,00	-583.81	-590.84	Begin 89.00° lateral	
22,100.2	5 11,363.00	9,625.88	4,577.78	PBHL/TD 22100.25 MD/11363.00 TVD	

Area of Review

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

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

Data Sources Reviewed:

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

Contacted Devin Ducoeur 724-705-0444, <u>dducoeur@dpslandservices.com</u> DPS GIS (06/02/2020) to have him make maps of the wellbores with his information. DPS utilizes WVGES maps for their mapping seems it as the best publicly available. See attached map he provided.

Request maps for:

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

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

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

Office of Oil and Gas

JUL 17 2020

WV Department of Environmental Protection

Permit well - McMasters S-17HU
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

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
4705100234	Unknown	1289° TVD	Unknown	Unknown	Uknown but unlikley. The well likley represents an old shallow well that is too shallow to be effected by fracturing in the planned Point Pleasant well.	Well was plugged 6/18/1952.
4705100097	Fauber & Henry	1152'TVD	Unknown	Unknown	Uknown but unlikley. The well likley represents an old shallow well that is too shallow to be effected by fracturing in the planned Point Pleasant well.	Well was plugged 5/20/1949.
4705100100	Fauber & Henry	1165' TVD	Unknown	Unknown	Uknown but unlikley. The well likley represents an old shallow well that is too shallow to be effected by fracturing in the planned Point Pleasant well,	Well was plugged 8/6/1945.
4705170361	Unknown	Unknown	Unknown	Unknown	Uknown but unlikley. The well likley represents an old shallow well that is too shallow to be effected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4705101533	Tug Hill Operating, LLC	6509' TVD, 9961' MO	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101534	Tug Hill Operating, LLC	6514' TVD, 9890' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101535	Tug Hill Operating, LLC	6519' TVD, 9890' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101536	Tug Hill Operating, LLC	6526' TVD, 10185' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101537	Tug Hill Operating, LLC	6527' TVD, 10560' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent inigration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101538	Tug Hill Operating, LLC	6494' TVD, 9541' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation, Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101539	Tug Hill Operating, LLC	6488' TVD, 11480' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101540	Tug Hill Operating,	6490' TVD, 12101' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101541	Tug Hill Operating, LLC	6485' TVD, 9612' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101542	Tug Hill Operating,	6487' TVD, 11281' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from	Producing Marcellus horizontal well.

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Office of Oil and Gas

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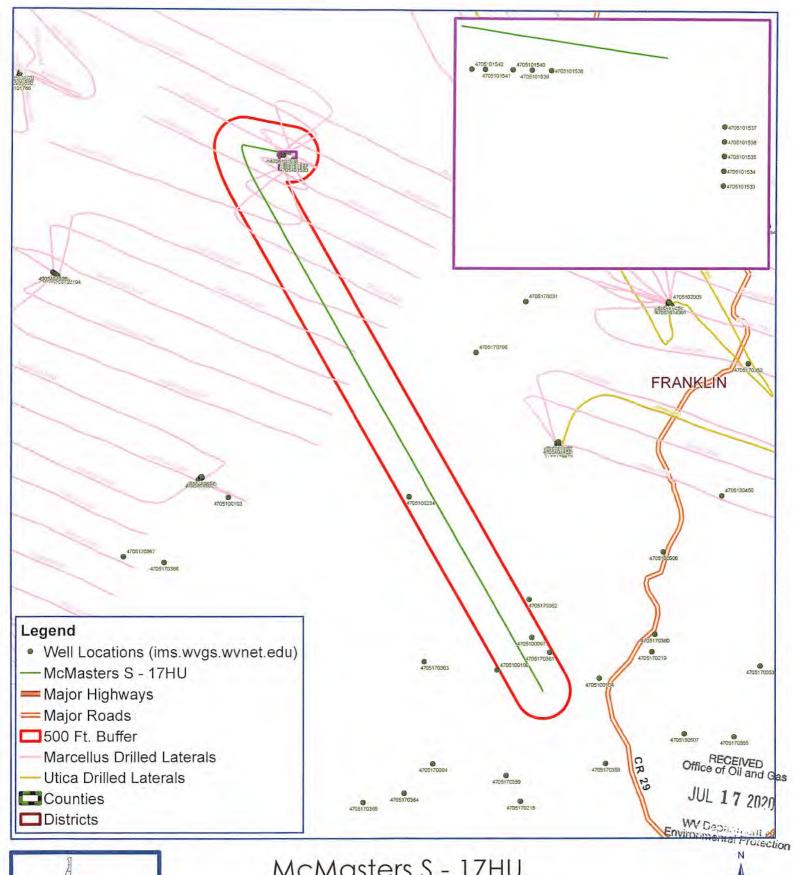
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McMasters S - 17HU Franklin District Marshall County, WV

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





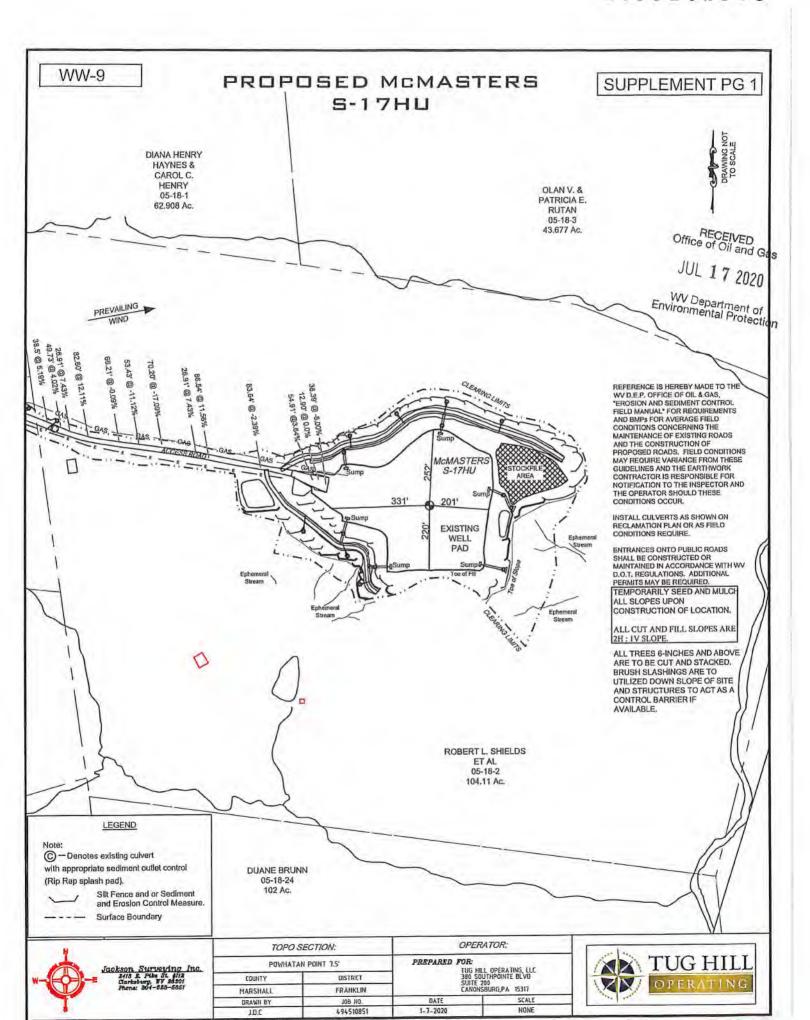
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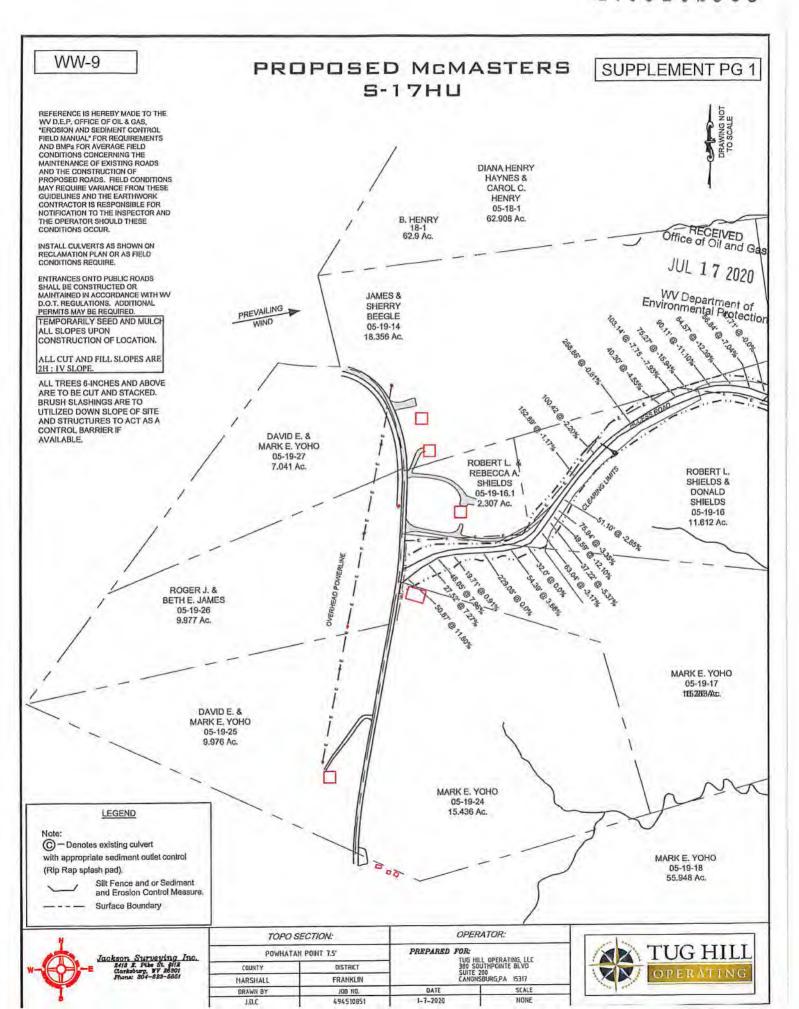
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Operator's	Well No.	McMasters S-17HU

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

Watershed (HUC 10) Fish Creek Quadrangle Powhatan Point 7.5' JUL Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes No Environment WIII 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 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 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 with proper containment will be used for staging fresh water for frac and flow back water Will closed Disposal Method For Treated Pit Wastes: Land Application Underground Injection (UIC Permit 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 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? Barile for weight Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. All drill cultings 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? Wested County Suminary Landfill (SWF-1021 (W00109185) and Westerordinal Sandary Landfill LLC (SAN1405 I PA DEP EC#1388428).	PECEIVED of Oil and 1 7 202 partment ental Prote
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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 applications 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 the application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible footatining the information, I believe that the information is true, accurate, and complete. I am aware that there are significated penalties for submitting false information, including the possibility of fine or imprisonment.	the ble his for
Company Official Signature James A. Joncoke	
Company Official (Typed Name) Jim Pancake	
Company Official Title VP Geosciences	

Proposed Revegetation Treatme	ent: Acres Disturbed1	Prevegetation pH	6.0
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Fertilizer type 10-20-	-20		
Fertilizer amount 500		lbs/acre	
Mulch 2.5		_Tons/acre	
		Seed Mixtures	
Тетр	oorary	Perman	ient
Seed Type	lbs/acre	Seed Type	lbs/acre
Annual Ryegrass	40	Orchard Grass	12
Spring Oats	96	Ladino	3
		White Clover	2
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Well Site Safety Plan

Tug Hill Operating, LLC

Well Name: McMasters S-17HU

Marshall County, West Virginia

Pad Location: Shields Pad

UTM (meters), NAD83, Zone 17:

Northing: 4,401,175.26 Easting: 518,200.94

Office of Oil and Gas

JUL 17 2020

My Department of

SUPPLEMENT PG 2 WW-9 PROPOSED McMASTERS S-17HU McHASTERS/ S-17HU NOTE: CLOSEST WATER PURVEYOR GRANDVIEW - DOOLIN PUBLIC SERVICE DISTRICT PROCTOR, WV LAT:39,7136943 LON:-80,8260157 LOCATED S 33-24 W AT 20,085' FROM McMASTERS S-17HU SURFACE LOCATION 494510851 TOPO SECTION LEASE NAME **OPERATOR** TUG HILL TUG HILL OPERATING, LLC POWHATAN POINT 7.5' **McMASTERS** 380 SOUTHPOINTE BLVD SUITE 200 **OPERATING** SCALE: DATE 1'' = 2000'DATE: 1-7-2020 CANONSBURG, PA 15317



July 15, 2020

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

RE: McMasters S-17HU

Subject: Proposed Voluntary Pooling and Unitization

Dear Susan:

Tug Hill Operating, LLC is authorized through, either lease or other agreement, to unitize and pool all lands falling within the boundaries of the proposed voluntary unit included with this submission.

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

Sincerely,

Amy L. Miller

Permitting Specialist - Appalachia Region

Tug Hill Operating

Office of Oil and Gas

JUL 17 2020

WW Department or Environmental Protection

Offset Operators within 500' McMasters S - 17HU

WELL	COUNTY	DISTRICT	PARCEL	OWNER	ADDRESS
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-18-2	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-18-2	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-2	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-2	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshali	Franklin	5-23-3	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-3	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
1					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-3	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-4	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-4	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-4	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-5	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-5	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
					Fort Worth,TX 76107 1320 S. University Drive Suite 500
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-5	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters					1 Diversion Cuite 710
S-17HU	Marshall	Franklin	5-23-8	ATINUM MARCELLUS I LLC	Houston, TX 7705 In Wood
					1320 S. University Drivenne
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-8	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-8	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-13	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters	l			,	Suite 500
S-17HU	Marshall	Franklin	5-23-13	TH EXPLORATION, LLC	Fort Worth,TX 76107
		~ 			1320 S. University Drive
McMasters	l				Suite 500
S-17HU	Marshall	Franklin	5-23-14	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters				,	1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-19-16	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters					Suite 500
	NA-mala all	Franklin	5-19-16	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
S-17HU	Marshall	FIANKIN I	J-13-10	1111 2711 2010 111011 11, 220	11016 1101611) 176 70207
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Offset Operators within 500' McMasters S - 17HU

	т				7
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-19-17	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-19-18	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters]			1	Suite 500
S-17HU	Marshall	Franklin	5-19-18	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshali	Franklin	5-18-22	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshail	Franklin	5-18-22	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-18-24	ATINUM MARCELLUS I LLC	Houston, TX 77056
				7	1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-18-24	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
McMasters	Widistidii	TTUTKIIT	3 10 24	THEAT EGNATION II, EEC	1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-11.1	ATINUM MARCELLUS I LLC	Houston, TX 77056
3 17110	IVIGISITATI	Trankiii	3 23 11.1	ATTIVOM MARCELEOSTEEC	1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-11.1	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
3-1/110	IVIAISIIAII	FLAHKIIII	3-23-11.1	TH EXPLORATION II, ELC	1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-11.1	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters	IVIdiSilali	FIGURIU	3-23-11.1	TH EXPLORATION, LLC	1 Riverway, Suite 710
S-17HU		Franklin	F 22 44 4	ATINUMA NAARGELLIIG LIIG	**
2-1/110	Marshall	Franklin	5-23-11.4	ATINUM MARCELLUS I LLC	Houston, TX 77056 1320 S. University Drive
Mandagtaga					Suite 500
McMasters				T	
S-17HU	Marshall	Franklin	5-23-11.4	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-11.4	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-2.1	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters			ı		Suite 500
S-17HU	Marshall	Franklin	5-23-2.1	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-9.2	TH EXPLORATION, LLC	Fort Worth,TX 76107
					1320 S. University Drive
McMasters					Suite 500 Fort Worth TX 76107 Office
S-17HU	Marshall	Franklin	5-23-9.3	TH EXPLORATION, LLC	Fort Worth,TX 76107

^{*} TH Exploration II, LLC is a wholly owned subsidiary of THQ Appalachia I, LLC. Tug Hill Operating, LLC provides oil and gas operation 17 2020 services to THQ Appalachia I. LLC under that certain Operating Services Agreement detect in 182 2011. services to THQ Appalachia I, LLC under that certain Operating Services Agreement dated July 23, 2014. For further info please see the W Department of Environmental Protection recorded affidavit submitted as part of the permit package.



west virginia department of environmental protection

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

Randall M. Albert, Chairman dep.wv.gov

February 28, 2020

TH Exploration, LLC 1320 S. University Dr Ste 500 Ft Worth TX 76107 9489 0090 (027 6201 4282 50

RE: Intenti

Intentional Deviation of New Deep Well

Tug Hill Operating, LLC – McMasters S-17HU

Dear Sir or Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 414-1239.

Sincerely,

Susan Rose Administrator

encl:



April 13, 2020

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number: 9489 0090 0027 6201 4282 50.

Item Details

Status: Delivered, Front Desk/Reception/Mail Room

Status Date / Time: March 5, 2020, 1:35 pm

Location: FORT WORTH, TX 76107

Postal Product: First-Class Mail®
Extra Services: Certified Mail™

Return Receipt Electronic

Shipment Details

Weight: 20lb, 4.1oz

Recipient Signature

Signature of Recipient:

Address of Recipient:

renew it to

16107 500

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Sincerely, United States Postal Service® 475 L'Enfant Plaza SW Washington, D.C. 20260-0004



west virginia department of environmental protection

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

Randall M. Albert, Chairman dep.wv.gov

February 28, 2020

Atinum Marcellus I, LLC 1 Riverway Ste 710 Houston TX 77056 7489 0090 0027 6201 4282 67

RE: Intentional Deviation of New Deep Well

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Sincerely,

Susan Rose Administrator

encl:



April 13, 2020

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number: 9489 0090 0027 6201 4282 67.

Item Details

Status: Delivered

Status Date / Time: March 11, 2020, 3:24 pm Location: HOUSTON, TX 77057

Postal Product: First-Class Mail®
Extra Services: Certified Mail™

Return Receipt Electronic

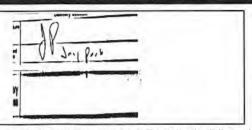
Shipment Details

Weight: 20lb, 4.1oz

Recipient Signature

Signature of Recipient:

Address of Recipient:



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Sincerely, United States Postal Service® 475 L'Enfant Plaza SW Washington, D.C. 20260-0004



west virginia department of environmental protection

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

Randall M. Albert, Chairman dep.wv.gov

February 28, 2020

TH Exploration II, LLC 1320 S University Dr Ste 500 Fort Worth TX 76107 9489 0090 0027 6201 4282 74

RE: Intentional Deviation of New Deep Well

Tug Hill Operating, LLC – McMasters S-17HU

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April 13, 2020

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Item Details

Status: Delivered, Front Desk/Reception/Mail Room

Status Date / Time: March 5, 2020, 1:35 pm Location: FORT WORTH, TX 76107

Postal Product: First-Class Mail®
Extra Services: Certified Mail™

Return Receipt Electronic

Shipment Details

Weight: 20lb, 4.1oz

Recipient Signature

Signature of Recipient:

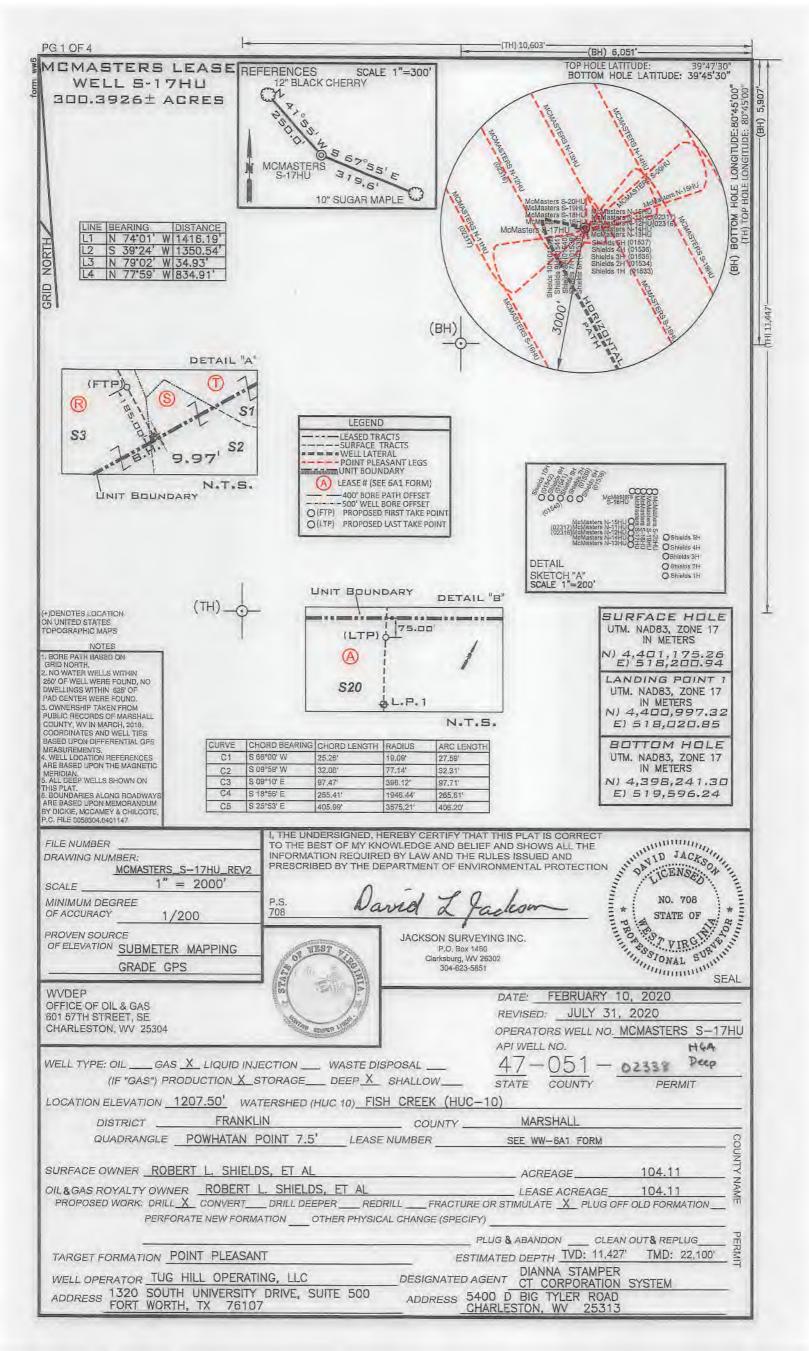
Address of Recipient:

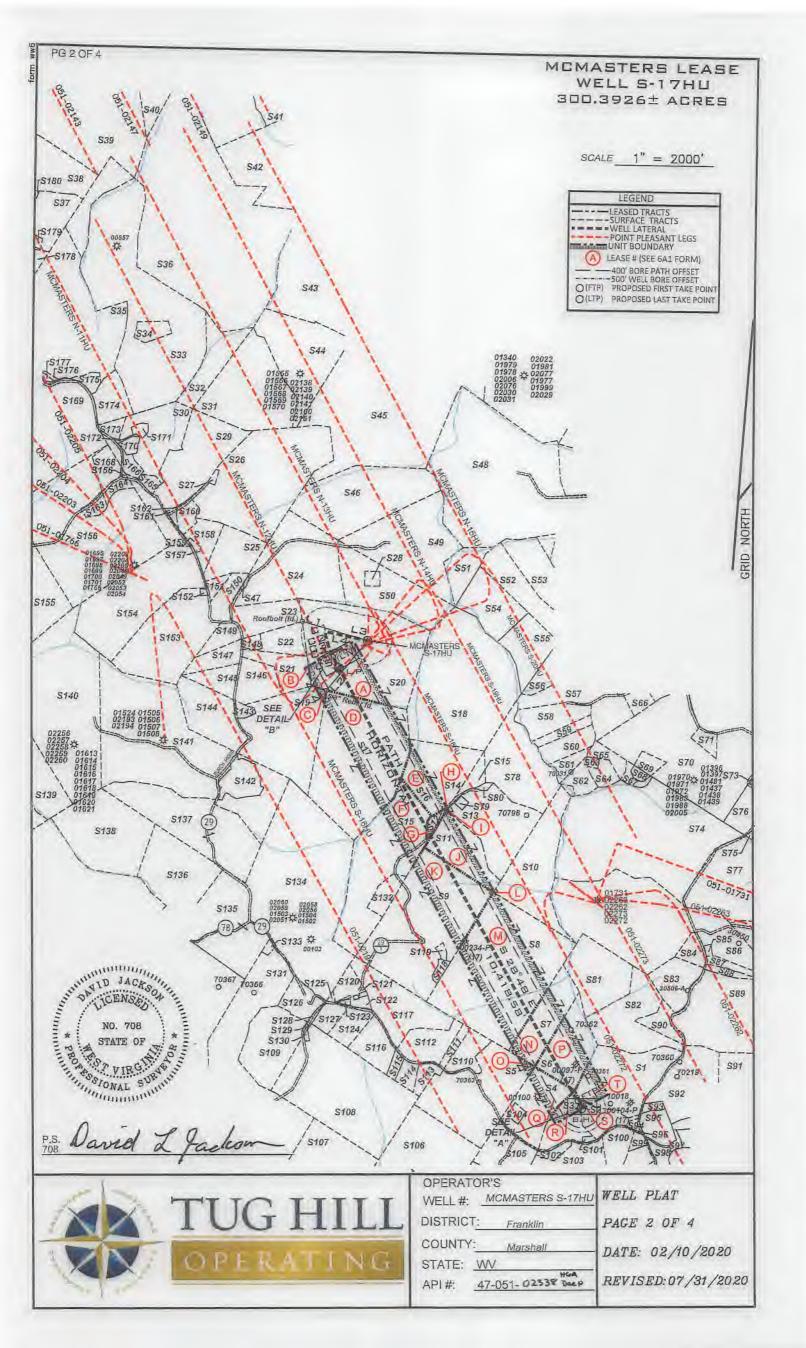
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Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

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Sincerely, United States Postal Service® 475 L'Enfant Plaza SW Washington, D.C. 20260-0004





PG 3 OF 4

MCMASTERS LEASE WELL S-17HU 300,3926± ACRES

Number	TAX MAP -PARCEL	ADJOINER OWNER	ACRES
S1 T	05-23-11.1	John H. & Sonya D. Holliday	46.482
S2 S	05-23-11.4	Kenneth L. Lemons, Trustee for Jeffrey G. Hudson	10.879
S3 R	05-23-13	Linda D. Greathouse	14.24
S4 Q	05-23-9.2	Linda D. Greathouse	25.58
S5 0	05-23-14	Dominion Transmission Inc.	59.5
S6 P	05-23-9.3	Linda D. Greathouse	17.5
S7 N	05-23-08	Carl David & Suzanne L. Guseman	29.5
S8 M	05-23-05	Daniel D. Rhyand	118.5
S9 K	05-23-04	Abe J. Hochstetler	100.7
S10 L	05-23-06	James A. Channing Et Al	48.0
S11 J	05-23-03	Abe J. Hochstetler	50.0
S12 G	05-23-2.1	William L. & Janice M. Wayne	2.364
S13	05-18-21	Curtis E. & Michelle J. Hall	43.119
S14 H	05-18-21.1	Rodney & Rhonda Jackson	5.47
S15 F	05-23-02	Danielle D. Lilley	77.636
S16 E	05-18-22	Rodney & Rhonda Jackson	30.345
S17 D	05-18-24	Duane Brunn	102.0
S18	05-18-23	XCL Midsteeam Operating LLC	110.0
S19 C	05-19-18	Mark E. Yoho Et Ux	55.948
S20 A	05-18-02	Robert L. Shields Et Al	104.11
S21 B	05-19-17	Mark A. Yoho	15.263
S22	05-19-16	Robert L. Shields & Donald Shields	11.612
S23	05-19-14	James & Sherry Beegle	18.356
S24	05-18-1	Diana Henry Haynes & Carol C. Henry	62.908
S25	05-19-30	Ernie & Tammy Anderson	19.037
S26	05-19-13	Rona Lee Rice & Charles Franklin McCardle	94.925
S27	05-19-13.1	Donald Shields	0.800
S28	05-18-3.1	Nikki L. & Jonathan Stevens	2.223
S29	05-19-8	CNX Gas Company LLC	40.0
S30	05-19-7	Olan V. Rutan Et Ux	32.4801
S31	05-14-15	Robert L. Shields Et Al	53.0
S32	05-14-14	Robert L. Shields Et Al	29.05
S33	05-14-12	Dale R, Galleher Et Al	135.100
S34	05-14-12.1	Henry Wilson Plunkert Jr.	5.0
S35	05-14-10	Wanda P. Rine, Life	126.03
S36	05-14-13	Ralph D, & Sally Jane Hoyt	222.18
S37	05-14-9.2	Maria T. Flores	25.0
S38	05-12-21	Edward L. Gibson-Life	73.436
S39	05-12-14	Linda Hamilton Et Al	117.495
S40	05-12-12.1	Linda L. Persinger Et Ux	148.09
S41	05-12-11	Wesley R. Bryan & Wesley R. Bryan II	52.478
542	05-11-15	Lionel L. Persinger Ex Ux	93.0
S43	05-15-01	Marcus Sharp & Angela R. Schlabach	121.0
S44	05-15-15	Robert L. Shields Et Al	49.02

Lease No.	Tags	Parcel	Lessor	Book	Page
10*14116	А	5-18-2	DONALD SHIELDS	669	367
10*14295	В	5-19-17	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	655	546
10*14295	С	5-19-18	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	655	546
10*14295	D	5-18-24	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	655	546
10*14022	Е	5-18-22	HOWARD N WAYNE SR AND DENISE D WAYNE	665	384
10*14022	F	5-23-2	HOWARD N WAYNE SR AND DENISE D WAYNE	665	384
10*19145	G	5-23-2.1	WILLIAM L WAYNE & JANICE M WAYNE	706	87
10*17145	Э	5-18-21.1	JAMES J. CAMPBELL AND BETTY J CAMPBELL	685	458
10*17145	T-	5-18-21	JAMES J. CAMPBELL AND BETTY J CAMPBELL	685	458
10*17145	J	5-23-3	JAMES J. CAMPBELL AND BETTY J CAMPBELL	685	458
10*14849	К	5-23-4	DAVID GUSTELY	806	265
10*17186	L	5-23-6	ROBERT J HENRY	708	51
10*14847	М	5-23-5	LETHA RUCKMAN	806	270
10*17192	N	5-23-8	ROBERT J HENRY	716	1,93
10*18343	0	5-23-14	DOMINION ENERGY TRANSMISSION INC	936	79
10*17189	Р	5-23-9.3	ROBERT J HENRY	716	197
10*17189	Q	5-23-9.2	ROBERT J HENRY	716	197
10*14786	R	5-23-13	TWILA O WHIPKEY	799	61
10*14786	S	5-23-11.4	TWILA O WHIPKEY	799	61
10*14786	T	5-23-11.1	TWILA O WHIPKEY	799	61

NO. 70B
STATE OF VIRCHMAN

P.S. David L Jackson



OPERATOR'S

WELL #: MCMASTERS S-17HU

DISTRICT: Franklin

COUNTY: Marshall

STATE: <u>WV</u>
API#: <u>47-051-02358</u> Peep

WELL PLAT

PAGE 3 OF 4

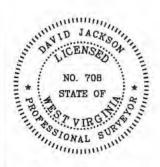
DATE: 02/10/2020

REVISED: 07/31/2020

MCMASTERS LEASE WELL S-17HU 300.3926 ACRES

Number	TAX MAP -PARCEL	ADJOINER OWNER	ACRES
S45	05-15-12	John David Petrock & Thomas Andrew Petrock	150.23
S46	05-15-11	Diana Henry Haynes & Carol Henry	65.59
S47	05-18-1.1	Charles F. & Diana L. Haynes	0.392
S48	05-15-10	Mark Stanley Ruckman	153.75
S49	05-18-04	Olan & Patricia Rutan	65.89
S50	05-18-03	Olan V. & Patricia E. Rutan	43.677
S51	05-18-05	Terry Melott	8.14
S52	05-18-15.3	Charles Yeater	26.44
S53	05-18-15.4	Edward Lee Burge, Jr.	22.34
S54	05-18-06	Charles Yeater	26.0
S55	05-18-07	Charles Yeater	24.22
S56	05-18-16	Charles Yeater	17.768
S57	05-18-13	Southern Sountry Farms Inc.	11.054
S58	05-18-59	Southern Country Farms Inc.	15.79
S59	05-18-30	Mary & Daniel Robinson	5.46
S60	05-18-13.10	Carl Berg	10.88
S61	05-18-29	Carl G. Berg	5.319
S62	05-18-31	Kenneth E. Rastell	6.94
S63	05-18-32.1	Lori D. Carpenter	5.545
S64	05-18-32	Kenneth E. Rastall	5.335
S65	05-18-13.8	Lori D. Carpenter	5.545
S66	05-18-33	Sandra & Glenn Whister	5.343
S67	05-17-12	James & Jill C. Corley	3.33
S68	05-17-12.1	Williams Ohio Valley Midstream LLC	1.67
S69	05-17-10.5	Williams Ohio Valley Midstream LLC	4.24
S70	05-17-10	James A. Corley Et Al	92.61
S71	05-17-10.1	James A. & Jill C. Corley	4.51
S72	05-17-9.1	Jeri J. White	1.0
S73	05-17-9.2	Jeri J. White	7.136
S74	05-17-11	Kenneth N. Corley Et Ux	120.0
S75	05-17-9.4	Vicki L. Bowen	60.3
S76	05-17-9.3	James A. & Corley Et Ux	12.478
S77	05-17-11.1	Randy W. Francis Et Ux	67.0
S78	05-18-20	Wayne E. Channing Et Al	75.6
S79	05-18-21.2	David P. Lassan	1.0
580	05-18-21.3	Hilda M. Gilberson-Wayt, Life	0.811
S81	05-23-8.1	William & Virginia Roupe	34.0
S82	05-24-5.4	Thomas V. Tuttle Et Ux	38.244
S83	05-24-5.5	Sonny & Linda Lou Tagg	17.194
S84	05-23.7.2	Florella Lou Weigand	6.354
S85	05-23-7.1	Florella Lou Weigand	0.549
S86	P/0 05-23-7	Terry E. Simms Et Ux	123.09
S87	05-24-5.1	James D. Watkins Et Ux	4.6
S88	05-24-5.2	James D. Watkins Et Ux	3.151
589	05-24-5	Robert C. Francis Et Ux (Life)	145.78
590	05-24-3.1	T.H. Exploration II LLC	5.50

Number	TAX MAP-PARCEL		ACRES
S91	05-24-6	Terry E. Simms Et Ux	42.84
592	05-23-10	Terry E. Simms Et Ux	38.95
593	05-23-11.7	Bryan L. Huggins	1.835
594	05-23-11.2	Evelyn Hudson	1.154
S95 S96	05-23-11	Roy F. Yoho	9.475
S97	05-23-11.6	T.H. Exploration II, LLC	0.094
S98	05-25-20.2	James M. Zambotti	1.347
599	05-25-20.3	James A. & Jo C, Estep	4.49
S100	05-23-11.5	Rey F. Yoho	2.25
S100	05-23-11.3	Colin R. Yoho	0.75
5102	05-23-13.1	James R. & Pamela J. Ferrell Mark A. Yoho	3.05
S103	05-23-12	Mark A. Yoho	89.25
5104	05-26-11	Jackson R. Davis Sr. & Deanna L. Davis	
\$105	05-23-9.4 05-23-9.1	John W. Van Orden Et Ux	2.087
5106	05-26-7	Dominion Transmission, Inc.	71.0
S107	05-26-5	Michael J. Wiley Et Al	65.0
5108	05-23-26	Michael J. Wiley Et Al	101.57
5109	05-23-27	Michael J. Wiley Et Al	33.14
S110	05-23-15	Henry Virginia Ethel Estate	15.5
S111	05-23.16.1	Donald B, Henry	1.97
S112	05-23-16	Roy Friend Yoho Sr.	18.03
S113	05-23-17.3	William & Katherine Flewelling	5.018
S114	05-23-17	Tammy & Thomas E. Brown	4.62
S115	05-23-17.4	Tammy D. Meadows	2.605
S116	05-23-17.2	Dick Rowan Jr. & Carol J. Rowan	14,920
S117	05-23-18	Abe J. Hochstetler	35.38
S118	05-23-4.1	XCL Midstream Operating LLC	2.16
S119	05-23-4.2	XCL Midstream Operating LLC	1.17
S120	05-23-18.1	Mark A. Yoho	7.8
5121	05-23-19	Doty Cemetery	1.0
S122	05-23-20	Christian Church	0.19
S123	05-23-21	Mark A. & Mark E. Yoho	0.19
S124	05-23-17.1	Curtis E. Hall Et Ux	10.051
S125	05-23-29	James Wiley	0.25
S126	05-23-28.2	Mark W. & Carolyn L. Tennant	10.8
S127	05-23-22	Daniel D. Rhyand & Laurel R. Greene	6.25
S128	05-23-23	Michael J. Wiley Et Al	1.0
S129	05-23-24	Michael J. Wiley Et Al	0.25
S130	05-23-25	Arthur A. Wiley	0.43
S131	05-23-28	Gregg D. Minor	39.43
S132	05-23-2.2	Jessica N. & Andrew L. Fox	7.636
S133	05-23-28.1	Troy W. & Erin M. Thomas	1.0
5134	05-23-01	Patricia Accettolo Et Al	146.66
S135	05-22-7.1	T.H. Exploration II LLC & Atinum Marcellus I	20.68
100,000		LLC	20,00
S136	05-22-08	T.H. Exploration III LLC	48.44
S137	05-22-06	CNX Gas Company LLC	64.70
S138	05-22-10	T.H. Exploration III LLC	58.40
S139	05-22-17	CNX Gas Company LLC	37.5
S140	05-22-04	CNX Gas Company LLC	159.05
5141	05-22-05	CNX Gas Company LLC	134,425
S142	05-22-5.1	Williams Ohio Valley Midstream LLC	12.875
S143	05-19-18.1	Mark E. Yoho Et Ux	2.57
S144	05-19-18.2	Paul V. & Carol Neely	32.672
S145	05-19-25	David E. Yoho & Mark E, Yoho	9.976
S146	05-19-24	Mark E. Yoho	15.436
S147	05-19-26	Roger J. & Beth E. James	9.977
S148	05-19-16.1	Robert L. & Rebecca A. Shields	2.307
S149	05-19-27	David E. Yoho & Mark E. Yoho	7.041
S150	05-19-31	Charles F. & Diana L. Haynes	8.779
S151	05-19-30.1	Eric R.W. & Ashley A. Huggins	2.911
S152	05-19-32	Jasper N. Burch Et Al-Trustees	0.397
S153	05-19-28	David E. Yoho & Mark E. Yoho	56.899
S154	05-19-19	Russell Blake Et Ux	66.4
S155	05-19-21	Sammy E. Whitlatch Et Al	116,45
S156	05-19-20		114.989
S157	05-19-15	Carly Herran	0.72
S158	05-19-29	Ernie L. & Tammy L. Anderson	10.961
S159	05-19-09	Penny Elaine Ashcraft	10.44
S160	05-19-12	Ernie L. Anderson Et Ux	5.33
S161	05-19-10	Ernie L. Anderson Et Ux	0.8125
5162	05-19-11	Ernie L. Anderson Et Ux	0.08
S163	05-19-20.3	Sidney Harmon	3.715
S164	05-19-20.1	John J. Ebert-Life	3.848
5165	05-19-7.5	Adam T. & Jesse L. Robinson	2.64
S166	05-19-7.1	Robert L. Shields Et Ux	3.399
S168	05-19-20.2	Casandra L. Harmon	7.448
5169	05-19-05	Margirene Keefe	126.03
S170	05-19-7.2	Olan Rutan	2.783
5171	05-19-7.4	Olan V. Rutan, Et Ux	1.787
	05-19-7.3	Clan V. Rutan Et Ux	0.341
S172	05-19-06	Belinda Kay Meadows, Rebecca Ann Shields	5.1099
S172 S173		& Olan V. Rutan	
S173			12.0
S173 S174	05-14-11	Dale R. Gallaher Et Al	
S173 S174 S175	05-14-10.4	Adam R. & Jesse L. Robinson	3.343
S173 S174 S175 S176	05-14-10.4 05-14-10.2	Adam R. & Jesse L. Robinson Ida Belle Rutan-Life, Raiph R. Hoyt	3.343 0.495
\$173 \$174 \$175 \$176 \$177	05-14-10.4 05-14-10.2 05-14-10.1	Adam R. & Jesse L. Robinson Ida Belle Rutan-Life, Ralph R. Hoyt Ida Belle Rutan-Life, Ralph R. Hoyt	3.343 0.495 0.5
\$173 \$174 \$175 \$176 \$177 \$178	05-14-10.4 05-14-10.2 05-14-10.1 05-14-9.5	Adam R. & Jesse L. Robinson Ida Belle Rutan-Life, Raiph R. Hoyt Ida Belle Rutan-Life, Raiph R. Hoyt Maria T. Flores	3.343 0.495 0.5 6.024
\$173 \$174 \$175 \$176 \$177	05-14-10.4 05-14-10.2 05-14-10.1	Adam R. & Jesse L. Robinson Ida Belle Rutan-Life, Ralph R. Hoyt Ida Belle Rutan-Life, Ralph R. Hoyt	3.343 0.495 0.5



P.S. David L Jackson

XX	TUG HILL
XX	OPERATING

OPERATOR'S

STATE: WV

WELL #: MCMASTERS S-17HU

DISTRICT: Franklin

COUNTY: Marshall

API#: 47-051- 02331 Deep

WELL PLAT

PAGE 4 OF 4

DATE: 02/10/2020

REVISED: 07/31/2020

WW-6A1 (5/13)

Operator's Well No. McMasters S-17HU

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

Office of Oil and Gas

WV Department of Environmental Protection

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

Well Operator: Tug Hill Operating, LLC

By:

Amy L. Miller

Its:

Permitting Specialist - Appalachia Region

Page 1 of

WW-6A1 (5/13) Operator's Well No. McMasters S-17HU

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

Office of Oil and Gas

JUL 17 2020

WW Department of Environmental Protection

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Well Operator: Tug Hill Operating, LLC

By:

Amy L. Miller and Shall

Its:

Permitting Specialist - Appalachia Region

WW-6A1 Supplement

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Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
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प्रव						4,9 V	le totaion						21/41 Gastar Exploration	23/353 Gastar Exploration	
ro L				GASTAR EXPLORATION		Office 1	Mendie C		NA		l		USA Inc and Gastar Exploration inc merger	USA Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14116	A	5-18-2	DONALD SHIELDS	USA INC	1/8+	0. 69	2 A 367	NA	NA .	INA	NA	NA	exploration inc merger	Wai cellus i EEC	inc to 111 Exploration in EEC
						3, 0	Serie .								
4						Office Self Transfer							21/41 Gastar Exploration	23/353 Gastar Exploration	
			ROBERT L SHIELDS AND REBECCA A SHIELDS	GASTAR EXPLORATION USA INC	1/0.	550	350	100		NA.	NA.	NA.	USA Inc and Gastar Exploration Inc merger	USA Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14117	A	5-18-2	REBECCA A SHIELDS	USA INC	1/8+	669	360	INA	INA	INA .	INA	INA	exploration the merger	Wal Cellus I EEC	inc to 111 exploration in Lee
10*14295	В	5-19-17	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	TRIENERGY, INC.	1/8+	655	546	19/623 TriEnergy Inc to AB Resources LLC	666/40 AB Resources LLC to Chief Exploration & Development LLC	21/148 TriEnergy Inc and AB Resources LLC to TriEnergy Holdings LLC	21/520 Chief Exploration & Development LLC and Radler 2000 Limited Partnership to Enerplus Resources USA	720/214 TriEnergy Holdings LLC to AB Resources LLC	24/39 AB Resources LLC, Chief Exploration & Development LLC, Radler 2000 Limited Partnership and Enerplus Resources USA to Gastar Exploration USA inc and Atinum Marcellus i LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*1429 5	с	5-19-18	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	TRIENERGY, INC.	1/8+	655	546	19/623 TriEnergy Inc to AB Resources LLC	666/40 AB Resources LLC to Chief Exploration & Development LLC	21/148 TriEnergy Inc and AB Resources LLC to TriEnergy Holdings LLC	21/520 Chief Exploration & Development LLC and Radler 2000 Limited Partnership to Enerplus Resources USA	720/214 TriEnergy Holdings LLC to AB Resources LLC	24/39 AB Resources LLC, Chief Exploration & Development LLC, Radler 2000 Limited Partnership and Enerplus Resources USA to Gastar Exploration USA Inc and Atinum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC
10 ° 14295	D	5-18-24	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	TRIENERGY, INC.	1/8+	655	546	19/623 TriEnergy Inc to AB Resources LLC	666/40 AB Resources LLC to Chief Exploration & Development LLC	21/148 TriEnergy Inc and AB Resources LLC to TriEnergy Holdings LLC	21/520 Chief Exploration & Development LLC and Radler 2000 Limited Partnership to Enerplus Resources USA	720/214 TriEnergy Holdings LLC to AB Resources LLC	24/39 AB Resources LLC, Chief Exploration & Development LLC, Radler 2000 Limited Partnership and Enerplus Resources USA to Gastar Exploration USA Inc and Atinum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC
10 ° 14296	D	5-18-24	DUANE BRUNN	TRIENERGY HOLDINGS, LLC	1/8+	705	484	NA .	NA .	NA .	NA .	24/29 TriEnergy Holdings LLC to AB Resources LLC	24/32 AB Resources LLC to Gastar Exploration USA Inc and Atinum Marcellus I LLu		36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14022	E	5-18-22	. HOWARD N WAYNE SR AND DENISE D WAYNE	GASTAR EXPLORATION USA INC	1/8+	665	384	NA	NA	NA	NA	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC

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6 0 S 23/353 Gastar Exploration 21/41 Gastar Exploration USA Inc to Atinum USA Inc and Gastar 36/9 Gastar Exploration HOWARD N WAYNE SR GASTAR EXPLORATION 10*14022 Marcellus I LLC Exploration Inc merger Inc to TH Exploration II LLC 384 5-23-2 AND DENISE D WAYNE USA INC 1/8+ 665 23/353 Gastar Exploration 21/41 Gastar Exploration USA Inc to Atinum USA Inc and Gastar 36/9 Gastar Exploration WILLIAM L WAYNE & Marcellus I LLC Inc to TH Exploration II LLC Exploration Inc merger TRIENERGY HOLDINGS, LLC 706 87 10*19145 5-23-2.1 JANICE M WAYNE 1/8+ 33/424 Statoil USA Onshore Properties Inc to 19/624 SWN Exchange 41/256 SWN Production 23/127 Chesapeake 33/110 Chesapeake JAMES J. CAMPBELL AND CHESAPEAKE APPALACHIA Titleholder LLC to SWN Company LLC to TH Appalachia LLC to Statoil Appalachia LLC to SWN SWN Exchange Titleholder Production Company LLC Onshore Properties Inc Production Company LLC Exploration LLC 5-18-21.1 BETTY J CAMPBELL 1/8+ 685 458 10*17145 33/424 Statoil USA 33/110 Chesapeake Onshore Properties Inc to 19/624 SWN Exchange 41/256 SWN Production CAROLYN CAMPBELL 23/127 Chesapeake itleholder LLC to SWN Company LLC to TH BRITTON AND ROBERT C. CHESAPEAKE APPALACHIA Appalachia LLC to Statoil Appalachia LLC to SWN SWN Exchange Titleholder Onshore Properties Inc Production Company LLC Production Company LLC Exploration LLC 685 464 10*17146 5-18-21.1 1/8+ 33/424 Statoil USA Onshore Properties Inc to 19/624 SWN Exchange 41/256 SWN Production 23/127 Chesapeake 33/110 Chesapeake Appalachia LLC to Statoil Appalachia LLC to SWN SWN Exchange Titleholder Titleholder LLC to SWN Company LLC to TH CHESAPEAKE APPALACHIA JOANN J PARSONS AND Production Company LLC Production Company LLC Exploration LLC GARY D PARSONS 1/8+ 685 470 5-18-21.1 10*17147 33/424 Statoil USA 33/110 Chesapeake Onshore Properties Inc to 19/624 SWN Exchange 41/256 SWN Production 23/127 Chesapeake Appalachia LLC to SWN Company LLC to TH Appalachia LLC to Statoil SWN Exchange Titleholder Titleholder LLC to SWN DONALD E. CAMPBELL CHESAPEAKE APPALACHIA oduction Company LLC Production Company LLC Exploration LLC 476 JUNE L. CAMPBELL 685 10*17148 5-18-21.1 33/424 Statoil USA Onshore Properties Inc to 19/624 SWN Exchange 41/256 SWN Production 23/127 Chesapeake 33/110 Chesapeake Company LLC to TH Appalachia LLC to Statoil Appalachia LLC to SWN SWN Exchange Titleholder Titleholder LLC to SWN CHESAPEAKE APPALACHIA Onshore Properties Inc Production Company LLC Production Company LLC Exploration LLC 10*17149 WANDA M. BLAKE 1/8+ 685 482 5-18-21.1

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10*17150	н	5-18-21.1	IDA L. CAMPBELL	CHESAPEAKE APPALACHIA LLC	1/8+	685	488	NA	NA	NA	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC		41/256 SWN Production Company LLC to TH Exploration LLC
	н	5-18-21.1	BARBARA KITTLE	TH EXPLORATION, LLC	1/8+	954	641	NA.	NA	NA NA	NA NA	NA	NA	N A	NA
10*22169	н		JAMES J. CAMPBELL AND	CHESAPEAKE APPALACHIA							23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC to SWN Production Company LLC	41/256 SWN Production Company LLC to TH
10*17145	I	5-18-21		CHESAPEAKE APPALACHIA	1/8+	685	458	NA	NA NA	NA	23/127 Chesapeake Appalachia LLC to Statoil	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder		41/256 SWN Production Company LLC to TH
10*17146		5-18-21	JOANN J PARSONS AND	CHESAPEAKE APPALACHIA	1/8+	685	464	NA NA	NA NA	NA NA	Onshore Properties Inc 23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder	19/624 SWN Exchange	41/256 SWN Production Company LLC to TH
10*17147		5-18-21	GARY D PARSONS DONALD E. CAMPBELL JUNE L. CAMPBELL	CHESAPEAKE APPALACHIA	1/8+	685	470 476	NA NA	NA NA	NA.	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder	19/624 SWN Exchange	41/256 SWN Production Company LLC to TH
10°17148	1	5-18-21	JUNE L. CAMPBELL WANDA M. BLAKE	CHESAPEAKE APPALACHIA	1/8+	685	476	NA.	IMS.	NA.	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder	19/624 SWN Exchange	41/256 SWN Production Company LLC to TH
10*17149		5-18-21	IWANIIA M BIAKE												

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0											23/127 Chesapeake	33/110 Chesapeake	33/424 Statoil USA Onshore Properties Inc to	19/624 SWN Exchange	41/256 SWN Production
_				CHESAPEAKE APPALACHIA	1/8+	685	488	NA.		l _{NA}	Appalachia LLC to Statoil	Appalachia LLC to SWN Production Company LLC	SWN Exchange Titleholder		Company LLC to TH
10*17450	1	5-18-21	IDA L. CAMPBELL	lic	1/8+	685	488	NA .	INA .	INA.	Olishore Properties Inc	Production Company LCC		Production Company LLC	Exploration EEC
B		1									1				
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10*22169	1	5-18-21	BARBARA KITTLE	TH EXPLORATION, LLC	1/8+	954	641	NA	NA	NA	NA	NA	NA	NA	NA
														:	
													33/424 Statoil USA		
			IAMAES I CAMADREII AND	CHESAPEAKE APPALACHIA							23/127 Chesapeake Appalachia LLC to Statoil	33/110 Chesapeake Appalachia LLC to SWN	Onshore Properties Inc to SWN Exchange Titleholder		41/256 SWN Production Company LLC to TH
10*17145	1	5-23-3	BETTY J CAMPBELL	uc	1/8+	685	458	NA	NA	NA	Onshore Properties Inc		пс	Production Company LLC	
													33/424 Statoil USA		
			CAROLYN CAMPBELL BRITTON AND ROBERT C.	CHESAPEAKE APPALACHIA							23/127 Chesapeake Appalachia LLC to Statoil	33/110 Chesapeake Appalachia LLC to SWN	Onshore Properties Inc to SWN Exchange Titleholder	Titleholder LLC to SWN	41/256 SWN Production Company LLC to TH
10*17146		5-23-3	BRITTON	uc	1/8+	685	464	NA .	NA	NA	Onshore Properties Inc	Production Company LLC	rrc	Production Company LLC	Exploration LLC
						,									
											23/127 Chesapeake	33/110 Chesapeake	33/424 Statoil USA Onshore Properties Inc to	19/624 SWN Exchange	41/256 SWN Production
			JOANN J PARSONS AND	CHESAPEAKE APPALACHIA	440		470	NA .	NA.	NA	Appalachia LLC to Statoil	Appalachia LLC to SWN Production Company LLC	SWN Exchange Titleholder		Company LLC to TH
10*17147		5-23-3	GARY D PARSONS	LLC	1/8+	685	470	NA .	INA .	INA .	Onshore Properties inc	Production Company LLC	LLC .	Production Company LLC	Exploration LLC
											23/127 Chesapeake	33/110 Chesapeake	33/424 Statoil USA Onshore Properties Inc to		41/256 SWN Production
	1 .	5-23-3	DONALD E. CAMPBELL JUNE L. CAMPBELL	CHESAPEAKE APPALACHIA	1/8+	685	476	INA	NA.	NA.	Appalachia LLC to Statoil Onshore Properties Inc	Appalachia LLC to SWN Production Company LLC	SWN Exchange Titleholder	Titleholder LLC to SWN Production Company LLC	Company LLC to TH Exploration LLC
10*17148		3-23-3	JONE E CAMPBELL		43*									,,	
]							33/424 Statoil USA		
											23/127 Chesapeake	33/110 Chesapeake	Onshore Properties Inc to		41/256 SWN Production
10*17149	,	5-23-3	WANDA M. BLAKE	CHESAPEAKE APPALACHIA	1/8+	685	482	NA	NA	NA		Appalachia LLC to SWN Production Company LLC	SWN Exchange Titleholder LLC	Titleholder LLC to SWN Production Company LLC	Company LLC to TH Exploration LLC
10 1/143		10.20.0							-						

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10*17150	J	5-23-3	IDA L CAMPBELL	CHESAPEAKE APPALACHIA	1/8+	685	488	N A	NA	NA .	23/127 Chesapeake Appalachia LLC to Statoli Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC		41/256 SWN Production Company LLC to TH Exploration LLC
			ABE J HOCHSTETLER AND												
10*21415	J.	5-23-3	ANNA E HOCHSTETLER	TH EXPLORATION, LLC	1/8+	957	7	NA	NA .	NA	NA	NA	NA .	NA	NA
	K	5334	DAVID GUSTELY	GASTAR EXPLORATION USA INC	1/8+	806	265	NA NA	NA	NA NA	NA.	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration
10*14849	K	5-23-4	DAVID GOSTELY	USAINC	1/6+	300	200	100	195	100	na .	na .	Capital and Me Me Ige		
10*14853	K	5-23-4	DURWOOD WRIGHT BY CATHERINE HUMMEL AIF	GASTAR EXPLORATION USA INC	1/8+	809	507	NA .	NA NA	NA -	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	Inc to Atinum Marcellus I	36/9 Gastar Exploration Inc to TH Exploration II LLC
			NANCY WHITLATCH	GASTAR EXPLORATION USA INC	1/8+	809	526	NA NA	NA NA	NA NA	NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration
10*14861	К	5-23-4	NANCY WHITEATCH	USA INC	1/0+	609	326	INA.	INA.	INA .	INA.	NA .	Exploration in therger		Inc to 111 Exploration in Ecc
10*14862	ĸ	5-23-4	ANN GUSTELY	GASTAR EXPLORATION USA INC	1/8+	809	568	NA.	NA NA	NA NA	NA NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14864		5-23-4	CAROLYN DURWAY	GASTAR EXPLORATION USA INC	1/8+	810	330	NA NA	NA	NA	NA.	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	Inc to Atinum Marcellus I	36/9 Gastar Exploration

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0													21/41 Gastar Exploration	31/184 Gastar Exploration	
				GASTAR EXPLORATION				l	l	l			USA Inc and Gastar	Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14866	K	5-23-4	GARY CARMICHAEL	USA INC	1/8+	810	316	NA .	NA NA	NA NA	NA NA	NA	Exploration Inc merger	ис	Inc to TH Exploration II LLC
NO.															
0															
4													21/41 Gastar Exploration		
		5 22 4	WOODROW CAMPBELL JR	GASTAR EXPLORATION	1/8+	813	454	NA	NA NA	NA NA	NA.	NA.	USA Inc and Gastar Exploration Inc merger	Inc to Atinum Marcellus I	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14868	К	5-23-4	WOODROW CAMPBELLIN	USA INC		923	107								
													21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcelius I	36/9 Gastar Exploration
10*14869	к	5-23-4	RALPH VAUGHN TAYLOR	GASTAR EXPLORATION USA INC	1/8+	813	561	NA	NA	NA	NA	NA	Exploration Inc merger	LLC	Inc to TH Exploration II LLC
				GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14870	к	5-23-4	DAVID CARMICHAEL	USA INC	1/8+	816	16	NA	NA	NA	NA	NA	Exploration Inc merger	rrc	Inc to TH Exploration II LLC
												ı			
		1	DWG OIL & GAS	GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14872	К	5-23-4	ACQUISITIONS LLC	USA INC	1/8+	817	312	NA	NA	NA NA	NA	NA	Exploration Inc merger	rrc	Inc to TH Exploration II LLC
														1.	
				GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14873	К	5-23-4	RAYMOND MILLER	USA INC	1/8+	821	44	NA	NA	NA NA	NA	NA	Exploration Inc merger	пс	Inc to TH Exploration II LLC
				GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar	Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14874	к	5-23-4	RICHARD MILLER	USA INC	1/8+	822	260	NA	NA	NA	NA	NA	Exploration Inc merger	ιιc	Inc to TH Exploration II LLC

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10°14876	K	5-23-4	SHIRLEY LARGENT	GASTAR EXPLORATION USA INC	1/8+	827	228	NA	NA .	NA .	NA NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II Ltd
10*14877	K	5-23-4	GARY F OBLOY AND DENISE I OBLOY	GASTAR EXPLORATION USA INC	1/8+	836	112	NA	NA .	NA	NA .	NA .	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14878	K	5-23-4	ARTHUR BRUCE COULTER	GASTAR EXPLORATION USA INC	1/8+	839	519	NA	NA	NA	NA NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
	K	5-23-4	THERESA RINE	GASTAR EXPLORATION USA INC	1/8+	840	162	NA	NA.	NA	NA NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LU
10*14879				GASTAR EXPLORATION				NA NA	NA.	NA.	NA.	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LU
10*14880	к	5-23-4	IRIS LUCAS	USA INC	1/8+	849	545	NA	NA .	NA.	NA NA	NA	21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14881	К	5-23-4	MARY WHITLATCH	USA INC	1/8+	849	548	NA	NA .	NA NA	NA NA	NA NA	Exploration Inc merger	LLC 31/184 Gastar Exploration	Inc to TH Exploration II LLG
10*14882	ĸ	5-23-4	GARY RINE	USA INC	1/8+	849	551	NA	NA	NA	NA	NA	Exploration Inc merger	LLC	Inc to TH Exploration II

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				GASTAR EXPLORATION									USA Inc and Gastar		36/9 Gastar Exploration
10*14884	к	5-23-4	RENEE HAGERTY	USA INC	1/8+	852	255	NA	NA	NA	NA .	NA NA	Exploration Inc merger	uc	Inc to TH Exploration II LLC
10*14885	к	5-23-4	HOWARD RINE	GASTAR EXPLORATION USA INC	1/8+	854	601	NA	NA	NA	NA NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration
10 14003															
			individua.	GASTAR EXPLORATION USA INC	1/8+	854	604	NA	, NA	NA.	NA	NA.	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14886	K	5-23-4	JODI YOHO	USA INC	1/8+	854	604	INA	INA.	INA .	INA INA	INA INA	Exploration inclinerger		inc to the exploration in Elec
10*14887	к	5-23-4	CHRISTINA ROBERTS	GASTAR EXPLORATION USA INC	1/8+	867	392	NA	NA .	NA .	NA NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
				GASTAR EXPLORATION								NA.	USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration
10*14888	K	5-23-4	DARLENE BUTLER	USA INC	1/8+	867	395	NA	NA .	NA	NA NA	NA NA	Exploration Inc merger	lic	Inc to TH Exploration II LLC
10*14889	K	5-23-4	HAROLD YOHO	GASTAR EXPLORATION USA INC	1/8+	870	37	NA	NA	NA NA	NA NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
				GASTAR EXPLORATION									USA Inc and Gastar		36/9 Gastar Exploration
10*14890	к	5-23-4	HENRY MALONE JR	USA INC	1/8+	870	40	NA	NA	NA	NA	NA	Exploration Inc merger	uc	Inc to TH Exploration II LLC

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10*14891	к	5-23-4	NANCY F FYE & STEPHEN M FYE	GASTAR EXPLORATION USA INC	1/8+	885	606	NA	NA .	NA NA	NA .	NA .	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*17145	К	5-23-4		CHESAPEAKE APPALACHIA LLC	1/8+	685	458	NA	NA .	NA	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC to SWN Production Company LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17146	к	5-23-4	CAROLYN CAMPBELL BRITTON AND ROBERT C. BRITTON	CHESAPEAKE APPALACHIA LLC	1/8+	685	464	NA	NA	NA	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC		41/256 SWN Production Company LLC to TH Exploration LLC
10*17147	ĸ	5-23-4	JOANN J PARSONS AND GARY D PARSONS	CHESAPEAKE APPALACHIA LLC	1/8+	685	470	NA	NA	NA.	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	SWN Exchange Titleholder	19/624 SWN Exchange Titleholder LLC to SWN Production Company LLC	41/256 SWN Production Company LLC to TH Exploration LLC
			DONALD E. CAMPBELL	CHESAPEAKE APPALACHIA		685	476	NA	NA	NA.	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder ILC		41/256 SWN Production Company LLC to TH
10*17148	K	5-23-4	JUNE L CAMPBELL	CHESAPEAKE APPALACHIA	1/8+	993	470	IVA	IVA	NA.	23/127 Chesapeake Appalachia LLC to Statoil	33/110 Chesapeake Appalachia LLC to SWN	33/424 Statoll USA Onshore Properties Inc to SWN Exchange Titleholder	19/624 SWN Exchange	41/256 SWN Production Company LLC to TH
10*17149	K	5-23-4	WANDA M. BLAKE	LIC LICENTERING APPAINTING	1/8+	685	482	NA .	NA .	NA	Onshore Properties Inc	Production Company LLC 33/110 Chesapeake	33/424 Statoii USA Onshore Properties Inc to	Production Company LLC	Exploration LLC 41/256 SWN Production
10*17150	к	5-23-4	IDA L CAMPBELL	CHESAPEAKE APPALACHIA	1/8+	685	488	NA	NA	NA	Appalachia LLC to Statoil	Appalachia LLC to SWN Production Company LLC	SWN Exchange Titleholder		Company LLC to TH

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10*17502	к	5-23-4	PATRICIA E GUSTELY	TH EXPLORATION, LLC	1/8+	942	334	NA	NA	NA	NA	NA	NA	NA	NA
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	к	5-23-4	DONALD S BOBOVNIK AND DOLORES J BOBOVNIK	TH EXPLORATION LLC	1/8+	942	346	NA .	NA .	NA NA	NA NA	NA .	NA .	NA	NA .
10*17532		3-23-4	DOCONES 3 BOBOVIIII												
			RONALD L MAYER AND		- 15			NA .	NA .	NA	NA NA	NA .	INA	NA	INA.
10*17535	K	5-23-4	DEBRA A MAYER	TH EXPLORATION, LLC	1/8+	929	580	INA	INA .	INA .	INA .	INA.	INA	No.	100
10*17539	к	5-23-4	JOANN HAGERTY	TH EXPLORATION, LLC	1/8+	942	342	NA	NA	NA	NA	NA	NA	NA	NA
10*17593	К	5-23-4	REBECCA HAGERTY	TH EXPLORATION, LLC	1/8+	942	350	NA	NA	NA	NA	NA	NA	NA	NA
10*17594	к	5-23-4	MEGAN HAGERTY	TH EXPLORATION, LLC	1/8+	942	362	NA	NA	NA	NA	NA	NA	NA	NA
10*17505	K	5-23-4	THOMAS E RINE AND MARY P RINE	TH EXPLORATION, LLC	1/8+	929	572	NA	NA .	NA	NA	NA	NA	NA	NA
10*17595	K	15-23-4	Issuer Court			·			•		-				

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0 0 10°17640	K	5-23-4	PATRICIA A GARCAR	TH EXPLORATION, LLC	1/8+	942	8	NA	NA	NA	NA .	NA .	NA	NA	NA
4 7	к	5-23-4	NORMA J ASH	TH EXPLORATION, LLC	1/8+	944	130	NA NA	NA	NA	NA NA	NA NA	NA	NA NA	NA .
10*17679											NA	NA	NA NA	NA NA	NA NA
10*17680		5-23-4	DAVID E CHURCH WALTER E LOSEY AND	TH EXPLORATION, LLC	1/8+	932		NA	NA	NA					NA NA
10*17681	К	5-23-4	JAMES E GARLOCH AND	TH EXPLORATION, LLC	1/8+	942				NA .			NA		NA NA
10*17682	К	5-23-4	MARY K GARLOCH PATRICK HAGERTY AND DALANE HAGERTY	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	935		NA NA	NA NA	NA NA			NA NA		NA NA
10*17683		5-23-4	ROBERT A SANDS AND JOYCE A SANDS	TH EXPLORATION, LLC	1/8+	942		NA NA	NA	NA NA	NA NA	NA	NA NA	NA	NA

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10*17719	к	5-23-4	ROBERT R DARROW	TH EXPLORATION, LLC	1/8+	942	380	N A	NA	NA	NA	NA .	NA	NA	NA
	K	5-23-4	WILLIAM KOTSON AND	TH EXPLORATION, LLC	1/8+	938	507	NA .	NA NA	NA	NA	NA .	NA	NA	, NA
10*17720			HAROLD H HAGERTY AND							NA NA	NA	NA NA	NA	NA	NA
10*17775	К	5-23-4	DEBORAH M HAGERTY JAMES GARCAR AND		1/8+	942								NA NA	NA NA
10*17776	K	5-23-4		TH EXPLORATION, LLC	1/8+	941				NA .	NA .	NA NA	NA NA	NA NA	NA NA
10*17824	К	5-23-4		TH EXPLORATION, LLC	1/8+	942				NA	NA				
10*17901	к	5-23-4		TH EXPLORATION, LLC	1/8+	924	602	NA .	NA	NA	NA .	NA .	NA .	NA .	NA .
10*17965	к	5-23-4	ROBERT DAVID BARNES AND RHONDA BARNES	TH EXPLORATION, LLC	1/8+	942	366	NA	NA	NA	NA	NA	NA	NA	NA

											NA.	NA.	NA.	NA .
		JAMES M ONORE AND												NA NA
		CRYSTAL M HOOKER AND												NA .
														NA NA
														NA
														NA NA
К	5-23-4	ROBERTA K MILLER	TH EXPLORATION, LLC	1/8+	931	457	NA .	NA .	NA .	NA .	NA .	INA	INA	NA .
	к к	K 5-23-4 K 5-23-4 K 5-23-4	K 5-23-4 CINDY L ONORE K 5-23-4 CRYSTAL M HOOKER AND JAMES HOOKER K 5-23-4 COLLEEN HAGERTY K 5-23-4 WALTER C SCHUBERT AND BARBARA A SCHUBERT	K 5-23-4 CRYSTAL M HOOKER AND TH EXPLORATION, LLC CRYSTAL M HOOKER AND JAMES HOOKER TH EXPLORATION, LLC K 5-23-4 COLLEEN HAGERTY TH EXPLORATION, LLC WALTER C SCHUBERT AND BARBARA A SCHUBERT TH EXPLORATION, LLC	K 5-23-4 COLLEEN HAGERTY TH EXPLORATION, LLC 1/8+ K 5-23-4 COLLEEN HAGERTY TH EXPLORATION, LLC 1/8+ K 5-23-4 TH EXPLORATION, LLC 1/8+ K 5-23-4 TH EXPLORATION, LLC 1/8+	K 5-23-4 COLLEEN HAGERTY TH EXPLORATION, LLC 1/8+ 929 K 5-23-4 COLLEEN HAGERTY TH EXPLORATION, LLC 1/8+ 929 K 5-23-4 COLLEEN HAGERTY TH EXPLORATION, LLC 1/8+ 929	K 5-23-4 CINDYL ONORE TH EXPLORATION, LLC 3/8+ 927 105 K 5-23-4 CINDYL ONORE THE EXPLORATION, LLC 3/8+ 929 568 K 5-23-4 COLLEEN HAGERTY THE EXPLORATION, LLC 1/8+ 929 560 K 5-23-4 WALTER C SCHUBERT AND BARBARA A SCHUBERT THE EXPLORATION, LLC 1/8+ 931 377	NA NA NA NA NA NA NA	SAMES M ONORE AND CHOYL ONORE THEOPLOBATION, LLC 1/8+ 927 105 NA NA	K 5-23-4 JAMES M ORICHE AND CHIEF CONDRECT THE DEPLOPMENTAN, LLC 1/8+ 927 105 NA	E 5-23-4 DAMES MODIFIE AND CHOYLOROGE THE EXPLORATION, LLC 1/8+ 922 105 NA	K 5-23-4 CONSTALM HOORER AND THE DEPLOMENTON, LIC 1/8- 929 568 NA	K 5-23-4 DAMES MOISTER AND CHOICE	E 523-4 OMETICIONES DE DESCRIPTION D

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10*18598	κ	5-23-4	MARK E GUSTELY	TH EXPLORATION, LLC	1/8+	935	52	NA	NA	NA	NA	NA	NA	NA	NA
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•			GASTON FAMILY												
10*18795	к	5-23-4	INVESTMENTS LLC	TH EXPLORATION, LLC	1/8+	959	502	NA	NA	NA	NA	NA	NA	NA	NA
10*18994	к	5-23-4	SHIRLEY ANN DRAKE	TH EXPLORATION, LLC	1/8+	940	137	NA	NA	NA	NA	NA	NA	NA	NA
10*19736	К	5-23-4	DOROTHY HLINKA DUKE	TH EXPLORATION, LLC	1/8+	944	571	NA	NA	NA	NA	NA	NA	NA	NA
										i e					
			KEITH JAY FISCHER AND												l
10*21217	K	5-23-4	DAWN M FISCHER	TH EXPLORATION, LLC	1/8+	952	643	NA .	NA	NA	NA	NA	NA	NA .	NA
				THE STATE OF THE S	4/0.	046	42	NA	NA	NA	NA.	NA .	NA .	NA	NA
10*21222	K	5-23-4	PATRICIA J SHAW KELLER	TH EXPLORATION, LLC	1/8+	946	43	INA	INA	IIIO	net	para	100		
10*21415	, k	5-23-4	ABE J HOCHSTETLER AND ANNA E HOCHSTETLER	TH EXPLORATION LLC	1/8+	957	7	INA	NA	NA	NA	NA	NA	NA	NA
10*21415	1 K	J5-25-4	JANNA E HOCHSTETLER	III EAFLOIMIUN, LLC	1/07		· · · · · · · · · · · · · · · · · · ·		1	1::: '		_t	·		

10*21425	к	5-23-4	ORIE N YOUNG AND BERNIE A YOUNG	TH EXPLORATION, LLC	1/8+	957	29	NA	NA	NA	NA	NA	NA	NA	NA
10*21428	К	5-23-4	FRANCIS R SMITH AND ANNA M SMITH	TH EXPLORATION, LLC	1/8+	957	37	NA	NA	NA	NA	NA	NA	NA	NA
10*21434	к	5-23-4	CATHERINE HUMMEL	TH EXPLORATION, LLC	1/8+	957	33	NA	NA	NA	NA	NA	NA	NA	NA
			RICHARD RICH AND KAREN	TH EXPLORATION, LLC	1/8+	954	254	NA	NA	NA	NA	NA	NA .	NA	NA
10*21451	K	5-23-4	RICH	IN EXPLORATION, LLC	1/8+	334	234								
														NA	INA
10*21452	K	5-23-4	KIMBERLY COX	TH EXPLORATION, LLC	1/8+	954	262	NA	NA	NA	NA	NA	NA	IVA	INO.
			WARREN L COULTER AND												
10*21457	K	5-23-4	ROSLINA A COULTER	TH EXPLORATION, LLC	1/8+	954	249	NA	NA	NA	NA	NA	NA	NA	NA
10*21458	ĸ	5-23-4	HUSTON A SMITH JR AND ANN C SMITH	TH EXPLORATION, LLC	1/8+	957	45	NA	NA	NA	NA	NA	NA	NA	NA

1972-1999 K 5-23-4 JAMES I GAILING TO EXPROMATION, LIC 1/29 954 248 240													
1971499 K 5-23-4 SMORT COULTER ATD SMORTON, LLC 1/8+ 95-4 245 NA													
AND CLEFFORD 10°21498 K 5-22-4 SHILLING BURGH THE EXPLORATION, LLC 1/8+ 954 228 NA NA NA NA NA NA NA N	*21459 K	5-23-4 JAMES L C	L CHURCH TH EXPLORATION, LLC	1/8+ 957	41	NA	NA	NA	NA	NA	NA	NA	NA .
10°21500 K 5-23-4 SIMONE COLUTER THE EPROBATION, LLC 1/8+ 954 245 NA	3°21498 K	AND CLIFF	IFFORD	1/8+ 954	258	NA	NA	NA .	N A	N A	NA	NA .	NA .
10*21501 K 5-23-4 EUGENIA E HOUSER THEOPLORATION, LLC 1/8+ 954 241 NA		MATTHEV	EW COULTER AND				MA.	NA.	NA.	NA.	NA.	NA .	NA .
10*21501 K 5-25-4 [CUSENIA E ROUSER IN EXPLORATION, LEC 1/6* 1/6* 1/6* 1/6* 1/6* 1/6* 1/6* 1/6*	*21500 K	5-23-4 SIMONE C	E COULTER TH EXPLORATION, LLC	1/8+ 954	245	INA	INA	INA	NA	IVA	IVA .	<u> </u>	no.
		5.22.4 FIGENIA	IA F HOUSER TH EXPLORATION, IIC	1/8+ 954	241	NA	NA .	NA .	NA NA	NA	NA	NA	NA
I I I I I I I I I I I I I I I I I I I					237		NA .	NA .	N A	N A	NA NA	NA .	NA .
10-21502 K 3-22-4 DEDICEMENTAL HELD CONTROLL ALC.	*21502 K	5-23-4 DEBRA M	MURIN TH EXPLORATION, LLC	1/8+ 954	237	INA	INA	INA.					
10*21503 K 5-23-4 DARLENE M DAVIS TH EXPLORATION, LLC 1/8+ 954 233 NA)*21503 K	5-23-4 DARLENE	NE M DAVIS TH EXPLORATION, LLC	1/8+ 954	233	NA	NA	NA	NA	NA	NA	NA	NA
CLARENCE RANDALL EMERY AND PAULA JEAN EMERY AND PAULA JEAN TH EXPLORATION, LLC 1/8+ 958 344 NA		EMERY A	AND PAULA JEAN	1/8+ 958	344	NA NA	NA .	NA NA	NA .	N A	NA	NA	NA .

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10*21632	К	5-23-4	JOHN ARLES EMERY	TH EXPLORATION, LLC	1/8+	959	339	NA	NA	NA	NA	NA	NA .	NA	INA
10*21655	ĸ	5-23-4	STANLEY GUSTELY	TH EXPLORATION, LLC	1/8+	965	206	NA	NA .	NA	NA	NA	NA	NA	NA
10 21000															
10*21656	к	5-23-4	JOHN OBLOY AND JANET L OBLOY	TH EXPLORATION, LLC	1/8+	959	331	NA	NA	NA	NA	NA	NA	NA	NA
			RONALD J SALKOVICK II &											NA	NA .
10*21657	К	5-23-4	SANDRA SALKOVICK	TH EXPLORATION, LLC	1/8+	958	373	NA	NA	NA	NA	NA	NA	NA .	INA
10*21774	K	5-23-4	JOYCE KAY BURTON AND SAMUEL C BURTON	TH EXPLORATION, LLC	1/8+	957	467	NA	NA	NA	NA	NA	NA	NA	NA
			STUART WHITE AND BETTY												
10*21813	K	5-23-4	WHITE	TH EXPLORATION, LLC	1/8+	958	352	NA	NA	NA	NA	NA	NA	NA	NA
			JAMES NEAL EMERY AND								NA.	NA.	NA.	NA NA	NA.
10*21815	K	5-23-4	RENEE R EMERY	TH EXPLORATION, LLC	1/8+	958	348	INA	INA	INA	NA	Inv	las.	line	1000

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10*21951	к	5-23-4	CHARLES DOUGLAS LANE	TH EXPLORATION, LLC	1/8+	960	77	NA	NA	NA	NA	NA	NA	NA	NA
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10*21994	К	5-23-4	MELISSA L DARROW	TH EXPLORATION, LLC	1/8+	954	328	NA	NA	NA	NA	NA	NA	NA	NA
10*22013	к	5-23-4	CHARLES J KNOX	TH EXPLORATION, LLC	1/8+	966	112	NA	NA	NA .	NA	NA	NA	NA	NA
									1						
														-	
													l		NA
10*22014	K	5-23-4	SHERMAN E KNOX JR	TH EXPLORATION, LLC	1/8+	966	108	NA	NA	NA	NA	NA	NA .	NA	INA
10*22018	к	5-23-4	KATHLEEN ROBERTSON	TH EXPLORATION, LLC	1/8+	960	539	NA	NA	NA	NA	NA	NA	NA	NA
									NA.	NA	NA .	NA	NA .	INA	NA .
10*22026	K	5-23-4	KEVIN D CHURCH	TH EXPLORATION, LLC	1/8+	957	49	NA	NA	INA .	INA	Inc.	ind.		110
														1	
10*22027	ĸ	5-23-4	STEPHEN C EMERY AND CATHY J EMERY	TH EXPLORATION, LLC	1/8+	954	310	NA	NA	NA	NA	NA	NA	NA	NA

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			TODD LEARN AND KENDA LEARN	TH EXPLORATION, LLC	1/0.	954	314	NA .	NA .	NA .	NA	NA .	NΔ	NA .	NA
10*22093		5-23-4		TH EXPLORATION, LLC	1/8+	954			NA NA	NA NA	NA NA	NA NA			NA.
10*22102	К	5-23-4			1/8+						NA	NA NA		NA NA	NA.
10*22128	K	5-23-4	VICKY STRAUSS AND	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	961 961			NA NA	NA NA	NA NA	NA NA			NA NA
10*22144 10*22165	K	5-23-4	DEBRA L LYSESKI AND GERALD A LYSESKI	TH EXPLORATION, LLC	1/8+	954			NA	NA	NA	NA			NA
10*22178	к	5-23-4	ANGELA HENTHORN AND WILLIAM R HENTHORN		1/8+	972		NA	NA	NA	NA	NA	NA	NA	NA
10*22332	к	5-23-4	DORIS WEST AND ROBERT		1/8+	962		NA	NA	NA	NA	NA	NA	NA	NA

10*22339	ĸ	5-23-4	BETTY LEE HOWARD LOY	TH EXPLORATION, LLC	1/8+	963	392	NA.	NA	INA	NA .	NA .	NA .	NA .	NA .
10*22436			TESSEAN FAMILY REVOCABLE LIVING TRUST		1/8+	963				NA NA	NA				NA NA
										NA		NA	NA	NA .	NA .
10*22443		5-23-4	GATHA CHAMBERS KENNETH R SHAW AND	TH EXPLORATION, LLC	1/8+	963				NA NA	NA NA	NA NA			NA NA
10*22503 10*22505		5-23-4	JAMES D DRAKE AND DONNA K DRAKE	TH EXPLORATION, LLC	1/8+	966 964			NA NA		NA NA	NA NA			NA
10*22594		5-23-4	JAMES A WADE SR	TH EXPLORATION, LLC	1/8+	965			NA	NA	NA	NA	NA	NA	NA
10*22594		5-23-4	KATHY JO CULLUM	TH EXPLORATION, LLC	1/8+	966			NA	NA	NA	NA NA	NA	NA	NA

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10*22613	_ к	5-23-4	JEWEL L CAMPBELL	TH EXPLORATION, LLC	1/8+	966	510	NA	NA	NA .	NA	NA .	NA	NA	NA
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10*22779	K	5-23-4	STEVEN WADE	TH EXPLORATION, LLC	1/8+	968	424	NA	NA	NA	NA	NA	NA	NA	NA
			MARGARET C MCMURRY & WILLIAM F MCMURRY	TH EXPLORATION, LLC	1/8+	972	54	NA NA	NA	NA	NA NA	NA NA	NA	NA .	NA .
10*22809	К	5-23-4	WILLIAM F MCMURRY	TH EXPLORATION, LLC	1/8+	9/2	54	INA .	INA .	No.		l l			
												NA	NA	NA .	NA NA
10*22812	K	5-23-4	JOSEPH F GOBLOWSKY	TH EXPLORATION, LLC	1/8+	968	428	NA	NA	NA	NA	INA	INA .	INA .	INA
10*22861	K	5-23-4	LAURINE C CURTIS & EDGAR A CURTIS III	TH EXPLORATION, LLC	1/8+	976	147	NA	NA	NA	NA	NA	NA	NA	NA
10-22861		3-25-4	EDUARA CORTISTI	THE CONTROL CO	1/0.	3,0									
10*23166	K	5-23-4	JAMES DAVID CRANDALL	TH EXPLORATION, LLC	1/8+	984	48	NA	NA	NA	NA	NA	NA	NA .	NA
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													No.	NA.	NA.
10*23168	K	5-23-4	JASON WADE	TH EXPLORATION, LLC	1/8+	966	506	NA	NA	NA	INA	NA	INA	INA	INA

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10*23368	К	5-23-4	ROSE MARIE CAMPBELL	TH EXPLORATION, LLC	1/8+	988	447	NA	NA	NA	NA	NA	NA	NA	NA
470															
10*23370	к	5-23-4	DENVER J TAYLOR	TH EXPLORATION, LLC	1/8+	988	454	NA	NA NA	NA	NA .	NA	NA	NA NA	NA
			JONNA MARPLE AND ERIK MARPLE	TH EXPLORATION, LLC		988		NA	NA	NA	NA	NA	NA NA	NA	NA
10*23371	К	5-23-4	MARPLE	TH EXPLORATION, LLC	1/8+	988	442	INA	INA .	INA .	NA	INA	INA .	INA.	ino.
10*23398	к	5-23-4	JON GUSTELY AND MARILYN NUE	TH EXPLORATION, LLC	1/8+	1008	12	NA	NA	NA	NA	NA	NA	NA	NA
10-23398		5-25-4	WANEIN NDE	III EAFLOIGHION, EEC	1/8*	1000		No.	, , ,						
10*23410	К	5-23-4	JENNA WADE	TH EXPLORATION, LLC	1/8+	1008	16	NA	NA	NA	NA	NA	NA	NA	NA
20 25 120															
														NA	NA
10*23505	К	5-23-4	RENEE KELLAR	TH EXPLORATION, LLC	1/8+	971	633	NA	NA	NA	NA	NA	NA	INA	INA
													NA	NA	NA
10*23647	K	5-23-4	MARILYN M ROBINSON	TH EXPLORATION, LLC	1/8+	1009	309	NA	NA	NA	NA	NA	INA	IMM	Tixe

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10*23648	К	5-23-4	PAUL D RINE JR	TH EXPLORATION, LLC	1/8+	1009	313	NA	NA	NA	NA	NA	NA	NA	NA
			LISA TUCKER AND FRANCIS						NA	NA .	NA .	NA	NA .	NA .	NA
10*23727	К	5-23-4	TUCKER	TH EXPLORATION, LLC	1/8+	1011	525	NA	NA	INA	INA	NA	NA .	INA.	
10*23756	ĸ		KAREN DRAKE AND JEFF DRAKE	TH EXPLORATION, LLC	1/8+	1012	182	NA	NA .	NA	NA	NA	NA NA	 NA	NA
10.525756		J-23-4	DIVINE	THE ECONOMIC SEC											
10*23757	к	5-23-4	DAVID DRAKE	TH EXPLORATION, LLC	1/8+	1012	187	NA	NA	NA	NA	NA	NA	NA	NA
10*23767	К	5-23-4	MARK ALAN SLATEN	TH EXPLORATION, LLC	1/8+	1014	481	NA	NA .	NA	NA	NA	NA	NA	NA
10*23792	К	5-23-4	STEVEN W SLATEN AND RHONDA SLATEN	TH EXPLORATION, LLC	1/8+	1014	488	NA .	NA	NA	NA	NA	NA	NA	NA
			NANCY C DWYER AND												
10*23826	к	5-23-4	WENDEL MARTINKOVIC	TH EXPLORATION, LLC	1/8+	1017	6	NA	NA	NA	NA	NA	NA	NA	NA

10*23838	К	5-23-4	RONALD DEAN YOHO & VICTORIA LYNN YOHO	TH EXPLORATION, LLC	1/8+	1017	1	NA	NA	NA	NA	NA	NA	NA .	NA
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10*23883	К	5-23-4	VICKI ANN WILLIAMS & WILLIAM J WILLIAMS	TH EXPLORATION, LLC	1/8+	1016	644	NA	NA	NA	NA	NA	NA .	NA	NA
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10*24274	, k	5-23-4	JO ELLEN GUSTELY	TH EXPLORATION, LLC	1/8+	1023	527	NA	NA	NA .	NA	NA	NA	INA	NA .
10-24274		3-23-4	JO ELLEN GOSTEET	III DA LOISTION, LEC	7,0.	2020									
			SUSAN ALFRED AND KEVIN												
10*24483	K	5-23-4	J ALFRED	TH EXPLORATION, LLC	1/8+	1025	401	NA							
			LEONARD LEE COULTER												
10*24551	. к	5-23-4	AND DEBRA A COULTER	TH EXPLORATION, LLC	1/8+	1025	405	NA							
10*24868	к	5-23-4	ANNE DWYER	TH EXPLORATION, LLC	1/8+	1028	95	NA	NA	NA	NA	NA .	NA	NA	NA
10*24917	К	5-23-4	WALTER W STREIGHT JR AND CONNIE JO STREIGHT	TH EXPLORATION LLC	1/8+	1027	281	NA	NA .	INA	NA	NA .	NA	NA	NA
'24868	K	5-23-4		TH EXPLORATION, LLC	1/8+	1028	95	NA .	NA .	NA .	NA .	NA	NA	NA	NA

40\$25258	K	5-23-4	ROBERT LEE MARCIANO AKA ROBERT LEE MAYER	TH EXPLORATION LLC	1/8+	1030	416	NA .	NA	NA	NA	NA .	NA	NA	NA I
10*25268	K	5-23-4		TH EXPLORATION, LLC	1/8+	1030	373	NA	NA NA	NA NA	NA	NA NA	NA		NA
10*25269			DAVID C WHITE NEISWONGER AND WHITE		1/8+	1031	476		NA NA	NA	NA	NA.	NA	NA	MA
10*25455	K	5-23-4		TH EXPLORATION, LLC	1/8+	1030	368	NA NA	NA NA	NA NA	NA	NA.	NA NA	NA	NA NA
10*25462	K	5-23-4	ROBERT LEE MARCIANO AKA ROBERT LEE MAYER		1/8+	1030	416	NA	NA NA	NA	NA	NA	NA	NA	NA
10*27715	K	5-23-4	STONE HILL MINERALS	TH EXPLORATION, LLC	1/8+	1057	332	NA	NA	NA	NA	NA	NA	NA	NA
10*27/15	K	5-23-4	STONE HILL MINERALS	TH EXPLORATION, LLC	1/8+	1063	594	NA	NA NA	NA	NA	NA	NA	NA	NA

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10*17186	ι	5-23-6	ROBERT J HENRY	CHESAPEAKE APPALACHIA LLC	1/8+	708	51	NA .	NA	29/325 Chesapeake Appalachia LLC to Statoil USA Onshore Properties	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*14847	М	5-23-5	LETHA RUCKMAN	GASTAR EXPLORATION USA INC	1/8+	806	270	NA	NA	NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14849	м	5-23-5	DAVID GUSTELY	GASTAR EXPLORATION USA INC	1/8+	806	265	NA NA	NA NA	NA.	NA NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration
10*14849	VI	3-23-3	DURWOOD WRIGHT BY	GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14853	М	5-23-5	CATHERINE HUMMEL AIF		1/8+	809	507	NA.	NA	NA .	NA .	NA .		31/184 Gastar Exploration Inc to Athum Marcellus I	Inc to TH Exploration II LLC
10*14861	М	5-23-5	NANCY WHITLATCH	GASTAR EXPLORATION USA INC	1/8+	809	526	NA	NA	NA	NA	NA	Exploration Inc merger	LLC 31/184 Gastar Exploration	Inc to TH Exploration II LLC
10*14862	М	5-23-5	ANN GUSTELY	GASTAR EXPLORATION USA INC	1/8+	809	568	NA .	NA	NA	NA	NA	USA Inc and Gastar Exploration Inc merger	LIC to Atinum Marcellus I	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14864	м	5-23-5	CAROLYN DURWAY	GASTAR EXPLORATION USA INC	1/8+	810	330	NA	NA	NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC

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10*14866	м	5-23-5	GARY CARMICHAEL	GASTAR EXPLORATION USA INC	1/8+	810	316	NA NA	NA NA	NA NA	NA NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14868	м	5-23-5	WOODROW CAMPBELL JR	GASTAR EXPLORATION	1/8+	813	454	NA	NA .	NA .	NA NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14869	м	5-23-5	RALPH VAUGHN TAYLOR	GASTAR EXPLORATION USA INC	1/8+	813	561	NA	NA .	NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14870	м	5-23-5	DAVID CARMICHAEL	GASTAR EXPLORATION USA INC	1/8+	816	16	NA	NA.	NA NA	NA NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration
			DWG OIL & GAS	GASTAR EXPLORATION						NA.		NA .	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14872	M	5-23-5	ACQUISITIONS LLC	USA INC GASTAR EXPLORATION	1/8+	817	312	NA	NA .		INA		21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14873	М	5-23-5	RAYMOND MILLER	USA INC	1/8+	821	44	NA	NA	NA NA	NA	NA NA	Exploration Inc merger 21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	
10*14874	М	5-23-5	RICHARD MILLER	GASTAR EXPLORATION USA INC	1/8+	822	260	NA	NA	NA	NA	NA	Exploration Inc merger	LLC	Inc to TH Exploration II LLC

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9				GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14876	М	5-23-5	SHIRLEY LARGENT	USA INC	1/8+	827	228	NA	NA	NA .	NA NA	NA	Exploration Inc merger	ιιc	Inc to TH Exploration II LLC
l				1											
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4											İ		21/41 Gastar Exploration	31/184 Gastar Exploration	
			GARY F OBLOY AND DENISE I OBLOY	GASTAR EXPLORATION USA INC	1/8+	836	112	NA.	NA	NA.	NA.	NA.	USA Inc and Gastar Exploration Inc merger	Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14877	М	5-23-5	DENISE TOBLOT	USA INC	1/6+	630		100	po .						
						-							21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14878	м	5-23-5	ARTHUR BRUCE COULTER	GASTAR EXPLORATION R USA INC	1/8+	839	519	NA	NA	NA	NA NA	NA .	Exploration Inc merger	пс	Inc to TH Exploration II LLC
											1		21/41 Gastar Exploration	31/184 Gastar Exploration	
1			THERESA RINE	GASTAR EXPLORATION USA INC	1/8+	840	162	NA NA	NA.	NA	NA.	NA NA	USA Inc and Gastar Exploration Inc merger		36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14879	М	5-23-5	THERESA RINE	USA INC	1/8+	840	162	INA.	lina.	INO.		No.			
				GASTAR EXPLORATION					1				21/41 Gastar Exploration USA Inc and Gastar	Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14880	м	5-23-5	IRIS LUCAS	USA INC	1/8+	849	545	NA	NA	NA	NA NA	NA NA	Exploration Inc merger	LLC	Inc to TH Exploration II LLC
													21/41 Gastar Exploration	31/184 Gastar Exploration	
10*14881	м	5-23-5	MARY WHITLATCH	GASTAR EXPLORATION USA INC	1/8+	849	548	NA	NA .	NA NA	NA.	NA.	USA Inc and Gastar Exploration Inc merger	Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10-14881	W	3-23-3	man without	OSA INC	40.										
				GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar	Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14882	М	5-23-5	GARY RINE	USA INC	1/8+	849	551	NA	NA	NA	NA	NA .	Exploration Inc merger	шс	Inc to TH Exploration II LLC

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10*14884	м	5-23-5	RENEE HAGERTY	GASTAR EXPLORATION USA INC	1/8+	852	255	NA NA	NA	, NA	NA NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus 1 LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14885	м	5-23-5	HOWARD RINE	GASTAR EXPLORATION USA INC	1/8+	854	601	NA	NA NA	NA	NA NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atlinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
			ЈОДЈ УОНО	GASTAR EXPLORATION USA INC	1/8+	854	604	NA.	No	NA NA	, NA	NA.	21/41 Gastar Exploration USA lnc and Gastar Exploration lnc merger	Inc to Atinum Marcellus I	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14886	М	5-23-5		GASTAR EXPLORATION					IVA						36/9 Gastar Exploration
10*14887	M	5-23-5	CHRISTINA ROBERTS	USA INC	1/8+	867	392	NA NA	NA NA	NA NA	NA .	NA NA	21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14888	М	5-23-5	DARLENE BUTLER	USA INC	1/8+	867	395	NA .	NA NA	NA .	NA NA	NA .	Exploration Inc merger 21/41 Gastar Exploration	31/184 Gastar Exploration	Inc to TH Exploration II LLC
10*14889	М	5-23-5	HAROLD YOHO	GASTAR EXPLORATION USA INC	1/8+	870	37	NA	NA	NA NA	NA	NA	USA Inc and Gastar Exploration Inc merger	LIC	36/9 Gastar Exploration II LLC
10*14890	М	5-23-5	HENRY MALONE JR	GASTAR EXPLORATION USA INC	1/8+	870	40	NA	NA	NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC

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10*14891	м	5-23-5	NANCY F FYE & STEPHEN M FYE	GASTAR EXPLORATION USA INC	1/8+	885	606	NA	NA .	NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*17145	м	5-23-5		CHESAPEAKE APPALACHIA	1/8+	685	458	NA .	NA	NA	23/127 Chesapeake Appalachia LLC to Statoii Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoll USA Onshore Properties Inc to SWN Exchange Titleholder LLC		41/256 SWN Production Company LLC to TH Exploration LLC
			CAROLYN CAMPBELL BRITTON AND ROBERT C. BRITTON	CHESAPEAKE APPALACHIA LLC	15	685	464	NA NA	NA NA	NA.	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder ILC		41/256 SWN Production Company LLC to TH Exploration LLC
10*17146	M	5-23-5	JOANN J PARSONS AND	CHESAPEAKE APPALACHIA	1/8+					100	23/127 Chesapeake Appalachia LLC to Statoil	33/110 Chesapeake Appalachia LLC to SWN	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder	19/624 SWN Exchange Titleholder LLC to SWN	41/256 SWN Production Company LLC to TH
10*17147	M	5-23-5	GARY D PARSONS DONALD E, CAMPBELL	LLC CHESAPEAKE APPALACHIA	1/8+	685	470	NA	NA	NA	Onshore Properties Inc 23/127 Chesapeake Appalachia LLC to Statoli	Production Company LLC 33/110 Chesapeake Appalachia LLC to SWN	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder	Titleholder LLC to SWN	41/256 SWN Production Company LLC to TH
10*17148	М	5-23-5	JUNE L CAMPBELL	IIC	1/8+	685	476	NA	NA .	NA .	Onshore Properties Inc 23/127 Chesapeake	Production Company LLC 33/110 Chesapeake	LLC 33/424 Statoil USA Onshore Properties Inc to	Production Company LLC	41/256 SWN Production
10*17149	М	5-23-5	WANDA M. BLAKE	CHESAPEAKE APPALACHIA LLC	1/8+	685	482	NA .	NA	NA	Appalachia LLC to Statoil Onshore Properties Inc	Appalachia LLC to SWN Production Company LLC	SWN Exchange Titleholder LLC 33/424 Statoil USA	Titleholder LLC to SWN Production Company LLC	Company LLC to TH Exploration LLC
10*17150	М	5-23-5	IDA L. CAMPBELL	CHESAPEAKE APPALACHIA	1/8+	685	488	NA	NA	NA	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	Onshore Properties Inc to SWN Exchange Titleholder		41/256 SWN Production Company LLC to TH Exploration LLC

10*17502	м	5-23-5	PATRICIA E GUSTELY	TH EXPLORATION, LLC	1/8+	942	334	NA	NA	NA	NA	NA	NA	NA .	NA
10 1/302															
10*17532	М	5-23-5	DONALD S BOBOVNIK AND DOLORES J BOBOVNIK		1/8+	942	346	NA .	NA	NA	NA	NA	NA	NA	NA .
			RONALD L MAYER AND									NA.	NA.	NA .	NA .
10*17535	М	5-23-5	DEBRA A MAYER	TH EXPLORATION, LLC	1/8+	929	580	NA	NA .	NA	NA	NA.	INA.	INA	, na
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10*17539	м	5-23-5	JOANN HAGERTY	TH EXPLORATION, LLC	1/8+	942	342	NA	NA	NA	NA	NA	NA	NA	NA
10*17540	М	5-23-5	MONTY ESTEL	TH EXPLORATION, LLC	1/8+	941	624	NA	NA	NA	NA	NA	NA	NA	NA
			ROBERT D STRAWN AND TAMMY J STRAWN	TH EXPLORATION, LLC	1/8+	942	21	NA .	NA .	NA NA	NA.	NA .	l NA	NA .	NA .
10*17541	М	5-23-5	NWANICTINININI	IN CAPLURATION, LLC	1/6+	344	21								
10*17542	М	5-23-5	JEFFREY G HAZEL AND SHEILA M HAZEL	TH EXPLORATION, LLC	1/8+	942	12	NA	NA	NA	NA	NA	NA	NA	NA

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10*17543	м	5-23-5	CARL EDWARD MCCOY AND CAROLYN SUE MCCOY	TH EXPLORATION, LLC	1/8+	942	15	NA .	NA .	NA	NA	NA .	NA .	NA .	NA .
			DEBORAH LYNN SCHWING		1/8+	942		NA NA	NA .	NA.	, , , , , , , , , , , , , , , , , , ,	NA NA	NA NA	NA .	NA .
10*17544	M	5-23-5								NA NA	NA	NA NA	NA	NA NA	NA .
10*17545	М	5-23-5	SAMUEL EARL FRANCIS AND ALICE L FRANCIS	TH EXPLORATION, LLC	1/8+	942						NA NA	NA.	NA NA	NA NA
10*17546	M	5-23-5		TH EXPLORATION, LLC	1/8+	942			NA NA	NA NA	NA NA	NA NA			NA NA
10*17593	M	5-23-5	REBECCA HAGERTY	TH EXPLORATION, LLC	1/8+	942		NA NA	NA NA	NA NA	NA NA	NA.	NA NA	NA.	NA NA
10*17594 10*17595	M	5-23-5	MEGAN HAGERTY THOMAS E RINE AND MARY P RINE	TH EXPLORATION, LLC	1/8+	942	362 572	INA NA	INA NA	NA NA	NA NA	NA NA	NA NA	NA	NA

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10*1764	М	5-23-5	PATRICIA A GARCAR	TH EXPLORATION, LLC	1/8+	942	8	NA	NA	NA	NA	NA	INA	INA	NA
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10*17679	м	5-23-5	NORMA J ASH	TH EXPLORATION, LLC	1/8+	944	130	NA	NA	NA	NA	NA	NA	NA	NA
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10*17680	м	5-23-5	DAVID E CHURCH	TH EXPLORATION, LLC	1/8+	932	424	NA .	NA	NA NA	NA NA	NA	NA .	NA	NA
10 17000		3-23-3	Division Control												
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			WALTER E LOSEY AND CINDY L LOSEY	1											
10*17681	М	5-23-5	CINDY L LOSEY	TH EXPLORATION, LLC	1/8+	942	338	NA	NA	NA	NA .	NA .	NA	NA	NA
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10*17682	м	5-23-5	JAMES E GARLOCH AND MARY K GARLOCH	TH EXPLORATION, LLC	1/8+	935	68	NA .	NA	NA	NA	NA	NA .	NA	NA
20 27 30 2	-														
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			PATRICK HAGERTY AND								ļ				
10*17683	М	5-23-5	DALANE HAGERTY	TH EXPLORATION, LLC	1/8+	942	358	NA .	NA	NA	NA	NA	NA	NA	NA .
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10*17684	м	5-23-5	DAVID MCCOY AND LORI MCCOY	TH EXPLORATION, LLC	1/8+	942	18	NA	NA	NA	NA	NA	NA .	NA	NA
123 27 007		12.000				• • • • • • • • • • • • • • • • • • • •								-	

10*17715	м	5-23-5	ROBERT A SANDS AND JOYCE A SANDS	TH EXPLORATION, LLC	1/8+	942	354	NA	NA	NA	NA	NA	NA	NA	NA
10*17719	М	5-23-5	ROBERT R DARROW	TH EXPLORATION, LLC	1/8+	942	380	NA	NA	NA	NA	NA .	NA	NA	NA
10*17720	м	5-23-5	WILLIAM KOTSON AND DEBRA KOTSON	TH EXPLORATION, LLC	1/8+	938	507	NA	NA	NA	NA	NA	NA	NA	NA
10*17775	м	5-23-5	HAROLD H HAGERTY AND DEBORAH M HAGERTY	TH EXPLORATION LLC	1/8+	942	370	NA	NA	NA .	NA	NA	NA	NA	NA .
10 17773	, wi	3-23-3	DESCRIPTION TO SERVI		2/0-	342									
			JAMES GARCAR AND												NA .
10*17776	М	5-23-5	MELISSA GARCAR	TH EXPLORATION, LLC	1/8+	941	627	NA	NA	NA	NA	NA	NA	NA	INA
10*17824	м	5-23-5	SARA FULTON	TH EXPLORATION, LLC	1/8+	942	384	NA	NA	NA	NA	NA	NA	NA	NA
10*17901	M	5-23-5	ROBYN HAGERTY	TH EXPLORATION, LLC	1/8+	924	602	NA	NA	NA	NA	NA	NA	NA	NA

			ROBERT DAVID BARNES AND RHONDA BARNES	TH EVELOPATION LLC	1/8+	942	366	NA NA	NA .	NA.	NA.	NA.	NA .	NA .	l _{NA}
10*17965	М	5-23-5		TH EXPLORATION, LLC	1/8+	942				NA NA	NA NA	NA.	NA.	NA NA	NA NA
10*18042	м	5-23-5	JAMES M ONORE AND CINDY L ONORE	TH EXPLORATION, LLC	1/8+	927				NA NA	NA.	NA.	NA.	NA	NA.
10*18043			TRACEY ESTEL	TH EXPLORATION, LLC	1/8+	927				NA NA	NA NA		NA	NA.	NA
10*18044	M M	5-23-5 5-23-5	CRYSTAL M HOOKER AND JAMES HOOKER		1/8+	929				NA NA	NA NA	NA NA	NA	NA	NA
10*18329	M	5-23-5	COLLEEN HAGERTY	TH EXPLORATION, LLC	1/8+	929	560	NA NA	NA .	NA .	NA NA	NA	NA	NA	NA
10*18367		5-23-5	WALTER C SCHUBERT AND BARBARA A SCHUBERT		1/8+	931	377	NA .	NA.	NA .	NA	NA	NA	NA	NA

10*18368	M	5-23-5	ROBERTA K MILLER	TH EXPLORATION, LLC	1/8+	931	457	NA .	NA	NA	NA	NA	NA	NA .	NA
	in .														
			UEDANAN D SCET	THE EXPLORATION I.I.C.	1/0.	931	461	NA	NA NA	INA	NA .	NA .	NA .	NA .	NA .
10*18371	М	5-23-5	HERMAN D ESTEL	TH EXPLORATION, LLC	1/8+	931	461	NA	NA	INA.	100				
10*18386	M	5-23-5	JOSEPH R RINE AND JENNIFER M RINE	TH EXPLORATION, LLC	1/8+	932	492	NA	NA	NA	NA	NA	NA	NA	NA .
10*18598	М	5-23-5	MARK E GUSTELY	TH EXPLORATION, LLC	1/8+	935	52	NA	NA	NA .	NA	NA	NA .	NA	NA .
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			GASTON FAMILY	TH EXPLORATION, LLC	1/8+	959	502	NA .	NA .	NA	NA .	NA .	NA	NA	 NA
10*18795	М	5-23-5	INVESTIMENTS LLC	TH EXPLORATION, LLC	1/67	335	302	100							
10*18994	M	5-23-5	SHIRLEY ANN DRAKE	TH EXPLORATION, LLC	1/8+	940	137	NA	NA	NA	NA	NA	NA	NA	NA
10*19656	М	5-23-5	DEBRA ROUDEBUSH	TH EXPLORATION, LLC	1/8+	944	105	NA	NA	NA	NA	NA	NA	NA	NA

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10*19786	М	5-23-5	DOROTHY HLINKA DUKE	TH EXPLORATION, LLC	1/8+	944	571	NA	NA .	NA	NA	NA	NA	NA	NA
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			MELISSA ANN BRAUN AND												
10*19999	М	5-23-5	RAYMOND BRAUN	TH EXPLORATION, LLC	1/8+	951	627	NA	NA	NA	NA	NA	NA	NA	NA
			RANDALL C ROGERSON &												
10*21084	М	5-23-5	TRACY LYNN ROGERSON	TH EXPLORATION, LLC	1/8+	949	368	NA	NA	NA	NA	NA	NA	NA	NA
10*21217	М	5-23-5	KEITH JAY FISCHER AND DAWN M FISCHER	TH EXPLORATION, LLC	1/8+	952	643	NA	NA	NA	NA	NA	NA	NA	NA
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10*21222	м	5-23-5	PATRICIA J SHAW KELLER	TH EXPLORATION, LLC	1/8+	946	43	NA	NA	NA	NA	NA	NA	NA	NA
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10*21425	М	5-23-5	ORIE N YOUNG AND BERNIE A YOUNG	TH EXPLORATION, LLC	1/8+	957	29	NA .	NA .	NA	NA	NA	NA .	NA	NA
10 21425	IVI	3-43-3	DEMINE A TOOMS	DAT CONSTITUTE, ELC	1/01					,,					
				1								-			
. 1			FRANCIS R SMITH AND		- 10						NA.	MA	l _{NA}	NA .	
10*21428	M	5-23-5	ANNA M SMITH	TH EXPLORATION, LLC	1/8+	957	37	NA	INA	INA	INA	INA	INA	IMM	luo

10*21434	М	5-23-5	CATHERINE HUMMEL	TH EXPLORATION, LLC	1/8+	957	33	NA .	NA	NA	NA	NA	NA .	NA	NA .
10*21451	м	5-23-5	RICHARD RICH AND KAREN	TH EXPLORATION, LLC	1/8+	954	254	NA	NA	NA	NA	NA	NA	NA	NA
20 22432	·														
													NA	NA .	l _{NA}
10*21452	M	5-23-5	KIMBERLY COX	TH EXPLORATION, LLC	1/8+	954	262	NA	NA	NA	NA	NA	NA .	INA	INA
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10*21457	М	5-23-5	WARREN L COULTER AND ROSLINA A COULTER	TH EXPLORATION, LLC	1/8+	954	249	NA	NA	NA	NA	NA	NA .	NA	NA
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10*21458	м	5-23-5	HUSTON A SMITH JR AND ANN C SMITH	TH EXPLORATION, LLC	1/8+	957	45	NA .	NA	NA	NA	NA	NA	NA	NA
												NA NA	NA.	NA	NA
10*21459	M	5-23-5	JAMES L CHURCH	TH EXPLORATION, LLC	1/8+	957	41	NA	NA	NA	NA	INA	INA	INA	INA
			MABEL SHILLINGBURG AND CLIFFORD												
10*21498	М	5-23-5	SHILLINGBURG	TH EXPLORATION, LLC	1/8+	954	258	NA	NA	NA	NA	NA	NA	NA	NA

			MATTHEW COULTER AND												
10*21500 10*21501	м	S-23-5 5-23-5	SIMONE COULTER	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	954 954	245	NA NA		NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
10*21502	M	5-23-5		TH EXPLORATION, LLC	1/8+	954		NA		NA.	NA	NA	NA .	NA	NA .
10*21503	M	5-23-5		TH EXPLORATION, LLC	1/8+	954		NA .	NA	NA	NA	NA	NA NA	NA	NA .
10*21562	м	5-23-5	MARY ETTA TAYLOR AND	TH EXPLORATION, LLC	1/8+	958		NA .	NA	NA	NA	NA	NA	NA	NA
10*21563	M	5-23-5	DAVID R TAYLOR AND MARIA TAYLOR	TH EXPLORATION, LLC	1/8+	958	422	NA	NA NA	NA	NA	NA	NA NA	NA	NA
10*21565	M	5-23-5		TH EXPLORATION, LLC	1/8+	957	462	NA	NA	NA	NA	NA	NA	NA	NA

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			HERBERT M TAYLOR AND		46.	0.50	410	NA	NA NA	NA.	NA .	NA NA	NA	NΔ	NA .
10*21566	M	5-23-5	LENORA E TAYLOR	TH EXPLORATION, LLC	1/8+	958	418	NA .	NA	NA .	NA .	NA .	No.		
10*21615	М		GARY PARSONS AND JOANN J PARSONS	TH EXPLORATION, LLC	1/8+	959	347	NA	NA	NA	NA	NA	NA	NA	NA .
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			CLARENCE RANDALL												
10*21626	М	5-23-5	EMERY AND PAULA JEAN EMERY	TH EXPLORATION, LLC	1/8+	958	344	NA	NA	NA	NA	NA	NA .	NA	NA
10*21632	М	5-23-5	JOHN ARLES EMERY	TH EXPLORATION, LLC	1/8+	959	339	NA .	NA	NA	NA	NA	NA	NA	NA
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												NA NA	NA .	NA.	NA
10*21655	M	5-23-5	STANLEY GUSTELY	TH EXPLORATION, LLC	1/8+	965	206	NA	NA	NA	NA	INA .	INA .	INA .	NA .
10*21656	м	5-23-5	JOHN OBLOY AND JANET L	TH EXPLORATION, LLC	1/8+	959	331	NA	NA	NA .	, NA	NA	NA .	NA .	NA
10 21030	IVI				43.	-									
10*21657	м	5-23-5	RONALD J SALKOVICK II & SANDRA SALKOVICK	TH EXPLORATION, LLC	1/8+	958	373	NA	NA	NA	NA	NA	NA	NA	NA

10*21774	м	5-23-5	JOYCE KAY BURTON AND SAMUEL C BURTON	TH EXPLORATION, LLC	1/8+	957	467	NA	NA	NA	NA	NA .	NA	NA	NA
			STUART WHITE AND BETTY												
10*21813	М	5-23-5	WHITE	TH EXPLORATION, LLC	1/8+	958	352	NA	NA	NA	NA	NA	NA	NA .	NA
			JAMES NEAL EMERY AND										NA		NA .
10*21815	M	5-23-5	RENEE R EMERY	TH EXPLORATION, LLC	1/8+	958	348	NA .	NA	NA	NA	NA	NA .	INA	TVA
			CINDY GREEN AND LARRY	TH EXPLORATION, LLC		958	356	NA	NA	NA NA	NA .	NA .	NA NA	NA	NA
10*21816	M	5-23-5	GREEN	TH EXPLORATION, LLC	1/8+	958	356	NA 	NA	INA	NA .	IVA	IVA	No.	
			MARY LOU HLINKA AND RICHARD G HLINKA SR												NA .
10*21817	М	5-23-5	RICHARD G HLINKA SR	TH EXPLORATION, LLC	1/8+	959	514	NA	NA	NA	NA	NA	NA	NA	IVA
			MARY CATHERINE THOMS												
10*21819	M	5-23-5	отт	TH EXPLORATION, LLC	1/8+	958	360	NA	NA	NA	NA	NA	NA .	NA	NA
10*21820	М	5-23-5	MARION DAVID OTT & JANICE L OTT	TH EXPLORATION, LLC	1/8+	959	506	NA	NA	NA	NA	NA	NA	NA	NA

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M	5-23-5	MARQUITA CLYBURN	TH EXPLORATION, LLC	1/8+	959	510	NA	NA	NA	NA	NA	NA	NA .	NA
М	5-23-5	BARBARA H COAKLEY	TH EXPLORATION, LLC	1/8+	960	66	NA	NA	NA	NA	NA .	NA	NA	NA
		ROBIN ADAIR GUMP AND	TH EVELOPATION 11C	1/8+	deu	70	NA.	NA.	NA NA	NA	NA	NA	NA	NA
М	5-23-5	LOUIS M GUMP	TH EXPLORATION, ELC	1/6+	300	,,								
м	5-23-5	JUDITH A TAYLOR	TH EXPLORATION, LLC	1/8+	960	74	NA	NA	NA	NA	NA	NA	NA	NA
М	5-23-5	CHARLES DOUGLAS LANE	TH EXPLORATION, LLC	1/8+	960	77	NA .	NA	NA	NA	NA	NA	NA	NA
										NA.	NA.	NA .	NA NA	lna
M	5-23-5	MELISSA L DARROW	TH EXPLORATION, LLC	1/8+	954	328	NA	NA	INA	INA	INO	100	1	
м	5-23-5	CHARLES J KNOX	TH EXPLORATION, LLC	1/8+	966	112	NA .	NA .	NA	NA NA	NA	NA	NA	NA
	M M	M 5-23-5 M 5-23-5 M 5-23-5	M 5-23-5 BARBARA H COAKLEY ROBIN ADAIR GUMP AND LOUIS M GUMP M 5-23-5 JUDITH A TAYLOR M 5-23-5 CHARLES DOUGLAS LANE M 5-23-5 MELISSA L DARROW	M 5-23-5 ROBIN ADAIR GUMP AND LOUIS M GUMP TH EXPLORATION, LLC M 5-23-5 JUDITH A TAYLOR TH EXPLORATION, LLC M 5-23-5 CHARLES DOUGLAS LANE TH EXPLORATION, LLC	M 5-23-5 BARBARA H COAKLEY TH EXPLORATION, LLC 1/8+ ROBIN ADAIR GUMP AND LOUIS M GUMP TH EXPLORATION, LLC 1/8+ M 5-23-5 CHARLES DOUGLAS LANE TH EXPLORATION, LLC 1/8+	M 5-23-5 BARBARA H COARLEY TH EXPLORATION, LLC 1/8+ 960 M 5-23-5 GHARLES DOUGLAS LANE TH EXPLORATION, LLC 1/8+ 960 M 5-23-5 CHARLES DOUGLAS LANE TH EXPLORATION, LLC 1/8+ 960 M 5-23-5 MELISSA L DARROW TH EXPLORATION, LLC 1/8+ 960	M 5-23-5 BOBIN ADAR GUMP AND LOUIS M GUMP TH EXPLORATION, LLC 1/8+ 960 70 M 5-23-5 HUDITH A TAYLOR TH EXPLORATION, LLC 1/8+ 960 70 M 5-23-5 HUDITH A TAYLOR TH EXPLORATION, LLC 1/8+ 960 72 M 5-23-5 HUDITH A TAYLOR TH EXPLORATION, LLC 1/8+ 960 72	M 5-23-5 BAIRBARA H COARLEY THE EPROBATION, LLC 1/2+ 960 66 NA. MOSIN ADAIR GLIMP AND COURS M GUMP THE EPROBATION, LLC 1/2+ 960 70 NA. M 5-23-5 JUDITH A TAYLOR THE EXPLORATION, LLC 1/2+ 960 77 NA. M 5-23-5 CHARLES COUGLAS LANE THE EXPLORATION, LLC 1/2+ 960 77 NA. M 5-23-5 CHARLES COUGLAS LANE THE EXPLORATION, LLC 1/2+ 960 77 NA.	M 5-23-5 ROBIN ADAR GUMP AND COURS MIRADER THE EPPLOBATION, LLC 1/8+ 960 70 NA NA NA NA NA NA NA NA NA S-23-5 MM 5-23-5 JUDITH A TAYLOR THE EPPLOBATION, LLC 1/8+ 960 77 NA NA NA NA NA NA NA NA NA NA NA NA NA	M 5-23-5 BARBANA R COMECY THEOTOMATON, LLC 1/8* 950 66 MA MA MA MA MA 5-23-5 COUNT MATERIAL TANIOR THEOTOMATON, LLC 1/8* 960 70 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICRE THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA MA MA MA MA MA MA MA MA MA MA	3 5-255 MAGUINA CORDINA IN TOPLOMODIA, LIC. 1/2+ 969 65 MA. 10	M 5-25 MANDET CHARLE BOUGLE MAN PRODUCTION LIC 1/2* 950 77 MA 94 MA MA MA MA MA MA MA MA MA MA MA MA MA	14 525 SARRAN COMBO PAR CO	9 5-95 NAMES AND ASSESSED FOR THE PROPERTY OF

10*22014	м	5-23-5	SHERMAN E KNOX JR	TH EXPLORATION, LLC	1/8+	966	108	NA	NA	NA	NA	NA	NA	NA	NA
10*22018	М	5-23-5	KATHLEEN ROBERTSON	TH EXPLORATION, LLC	1/8+	960	539	NA	NA	NA	NA	NA .	NA	NA	NA
10*22026	M	5-23-5	KEVIN D CHURCH	TH EXPLORATION, LLC	1/8+	957	49	NA	NA .	NA	NA	NA .	NA .	NA	NA
10*22027	м	5-23-5	STEPHEN C EMERY AND	TH EXPLORATION, LLC	1/8+	954	310	NA	NA	NA	NA	NA	NA	NA	NA .
			TODD LEARN AND KENDA												
10*22093	M	5-23-5	LEARN	TH EXPLORATION, LLC	1/8+	954	314	NA .	NA	NA	NA	NA	NA	NA	NA
10*22102	м	5-23-5	BONNIE LOU GRUBER	TH EXPLORATION, LLC	1/8+	954	302	NA NA	NA NA	NA	NA	NA	NA	NA	NA
2002	W	376379	SOMME END GROBEN	THE STREET STREET	AJ OT	Popus	-V&								
10*22128	М	5-23-5	BETTY PYSELL	TH EXPLORATION, LLC	1/8+	961	433	NA	NA	NA	NA	NA	NA	NA	NA

10*22142	М	5-23-5	CHERYL L HILL WANDA J RIDING AND GERALD R RIDING	TH EXPLORATION, LLC	1/8+	961	423	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
10*22143 10*22144	M	5-23-5 5-23-5	VICKY STRAUSS AND DENNIS A STRAUSS	TH EXPLORATION, LLC	1/8+	961	529	NA NA		NA.	NA	NA NA		NA	NA
10*22165	M	5-23-5	DEBRA L LYSESKI AND GERALD A LYSESKI	TH EXPLORATION, LLC	1/8+	954		NA NA	NA	NA	NA	NA	NA	NA	NA
10*22178	м	5-23-5	ANGELA HENTHORN AND		1/8+	972		NA NA	NA	NA	NA	NA	NA	NA	NA
10*22287	м	5-23-5	MISSY JONES AND MICHAEL JONES	TH EXPLORATION, LLC	1/8+	962	195	NA.	NA						
10*22332	м	5-23-5	DORIS WEST AND ROBERT		1/8+	962	542	NA.	NA						

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10*22339	М	5-23-5	BETTY LEE HOWARD LOY	TH EXPLORATION, LLC	1/8+	963	392	N A	NA .	NA	NA.	N A	NA.	N A	NA .
10*22354		5-23-5	LORETTA M DOUGHERTY AND DAVID DOUGHERTY	TH EXPLORATION, LLC	1/8+	964	516	N A	NA .	NA .	NA .	NA .	NA	N A	NA.
	м	5-23-5	TESSEAN FAMILY REVOCABLE LIVING TRUST		1/8+	963		N A	NA .	NA NA	N A	NA .	NA NA	N A	NA .
10*22436			SHERRY LIMRIE AND	TH EXPLORATION, LLC	1/8+	963			NA.	NA NA	NA.	N A	NA.	NA.	NA .
10*22437	М	5-23-5	EUGENE FANKHAUSER		1/8+	963									NA NA
10*22440	М	5-23-5											NA.		NA.
10*22443	М	5-23-5		TH EXPLORATION, LLC	1/8+	963				NA	rua.	1944 -	INA.	(NA)	1377
10*22450	м	5-23-5	JUDY ANN MERCER	TH EXPLORATION, LLC	1/8+	963	634	NA	NA	NA	NA .	NA	NA	NA	NA

			KENNETH R SHAW AND DONNA K SHAW	TH EXPLORATION, LLC	1/8+	966	518	NA .	NA NA	NΔ	NA.	NA.	NA NA	NA.	NA.
10*22503		5-23-5 5-23-5		TH EXPLORATION, LLC	1/8+	974			NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA .
10*22504		5-23-5	JAMES D DRAKE AND DONNA K DRAKE	TH EXPLORATION, LLC	1/8+	964		NA	NA .	NA	NA .	N A	NA NA	NA .	NA .
		5-23-5	RANDY BERISFORD AND	TH EXPLORATION, LLC	1/8+	964		N A	NA .	NA.	NA NA	N A	NA.	NA .	NA .
10*22509				TH EXPLORATION, LLC	1/8+	965				NA.			NA	NA NA	NA .
10*22560	M	5-23-5	RUSSELL W ROGERSON AND SUSAN ROGERSON		1/8+	966			NA NA	NA NA					NA.
10*22592 10*22593	M	5-23-5	RONALD E ROGERSON	TH EXPLORATION, LLC	1/8+	966		NA	NA NA	NA.	NA.	NA NA	NA.	NA.	NA.

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10*22594	M	5-23-5	JAMES A WADE SR	TH EXPLORATION, LLC	1/8+	965	481	NA	NA	NA	NA	NA	NA	NA	NA
10*22609	М	5-23-5	KATHY JO CULLUM	TH EXPLORATION, LLC	1/8+	966	514	NA .	NA	NA	NA	NA	NA	NA	NA
10*22613	М	5-23-5	JEWEL L CAMPBELL	TH EXPLORATION, LLC	1/8+	966	510	NA .	NA	NA	NA .	NA .	NA	NA	NA .
10*22644	M	5-23-5	RICHARD EUGENE KELLER	TH EXPLORATION, LLC	1/8+	968	214	NA	NA	NA	NA	NA	NA	NA	NA
					- 10			NA .	NA .	NA .	NA	NA .	NA NA	INA	NA
10*22779	M	5-23-5	STEVEN WADE	TH EXPLORATION, LLC	1/8+	968	424	INA	NA .	NA .	NA .	NA	INA	INA .	NA .
			!												
10122000	м	5-23-5	MARGARET C MCMURRY 8 WILLIAM F MCMURRY	TH EXPLORATION: LLC	1/8+	972	54	NA .	NA NA	NA .	l NA	NA .	NA	NA .	NA .
10*22809	M	J-23-3	WILLIAM I WICHORK!	chi constituti dec	¥0.										
10*22811	M	5-23-5	ROBERT E ROGERSON	TH EXPLORATION, LLC	1/8+	972	64	NA	NA	NA	NA	NA	NA	NA	NA
*22811	<u> </u>	JS-23-5	NOBERT E RUGERSON	I III EAPLURATION, LLC	1/0+	3/2	04	liio .	luo	Inc	lino	Juo			

10*22812	М	5-23-5	JOSEPH F GOBLOWSKY	TH EXPLORATION, LLC	1/8+	968	428	NA	NA	<u>NA</u>	NA	<u>NA</u>	NA	<u>NA</u>	NA
10*22861	м	5-23-5	LAURINE C CURTIS & EDGAR A CURTIS III	TH EXPLORATION, LLC	1/8+	976	147	NA	NA	NA	NA	NA	NA	NA	NA
10*23166			JAMES DAVID CRANDALL		1/8+	984		NA							NA NA
10*23168	M		JASON WADE	TH EXPLORATION, LLC	1/8+	966 988	506			NA NA	NA NA		NA NA		NA NA
10*23368	M	3-25-3	STEFANIE CIRILLI AND	The country are	AJO:	330	***								
10*23369	М	5-23-5	MATTHEW CIRILLI	TH EXPLORATION, LLC	1/8+	988	451	NA .	NA .	NA .	NA .	NA .	NA	NA .	NA
10*23370	м	5-23-5	DENVER J TAYLOR	TH EXPLORATION, LLC	1/8+	988	454	NA	NA	NA	NA	NA	NA	NA	NA

10*23371	м	5-23-5	JONNA MARPLE AND ERIK MARPLE	TH EXPLORATION, LLC	1/8+	988	442	NA	NA .	NA	NA	NA .	NA	NA	NA .
10*23398	м	5-23-5	JON GUSTELY AND	TH EXPLORATION, LLC	1/8+	1008		NA .	NA.	NA	NA.	NA NA	NA NA	NA NA	NA .
				TH EXPLORATION, LLC	1/8+	1008			NA	NA	NA	NA	NA.	NA NA	NA .
10*23410	М	5-23-5													NA NA
10*23428 10*23444	M	5-23-5	JENNIFER CUICHTA AND KEVIN CUICHTA	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	1008		NA NA	NA NA	NA NA	NA NA	NA NA	NA NA		NA NA
			RENEE KELLAR	TH EXPLORATION, LLC	1/8+	971		NA NA	NA.	NA	NA	NA.	NA.		NA.
10*23505	M	5-23-5	MARILYN M ROBINSON		1/8+	1009	309	NA NA	NA.	NA NA	NA NA	NA.	NA.	NA.	NA.

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7 7 0 7 10 6	М	5-23-5	CHAD FRANCIS AND LISA	TH EXPLORATION, LLC	1/8+	1009		NA .	NA	NA.	NA	NA	NA		NA .
10*23672	М	5-23-5	LISA TUCKER AND FRANCIS	TH EXPLORATION, LLC	1/8+	1010			NA	NA	NA .	NA	NA	NA	NA
10*23727	M	5-23-5	KAREN DRAKE AND JEFF		1/8+	1011			NA .	NA .	NA NA	NA NA	NA NA		NA NA
10*23756	M	5-23-5		TH EXPLORATION, LLC	1/8+	1012			NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA.
10*23757	M	5-23-5	DAVID DRAKE	TH EXPLORATION, LLC	1/8+						NA NA	NA.	NA.	NA NA	NA.
10*23767	М	5-23-5	MARK ALAN SLATEN	TH EXPLORATION, LLC	1/8+	1014		NA .	NA	NA	PUA.	TAY.	I NA	INA.	
10*23771	M	5-23-5	ROBIN ROSE	TH EXPLORATION, LLC	1/8+	1014	485	NA	NA	INA	INA	INA	INA	INA	INA

			<u> </u>												
0*23792	м	5-23-5	STEVEN W SLATEN AND RHONDA SLATEN	TH EXPLORATION, LLC	1/8+	1014	488	NA	NA	NA	NA	NA	NA	NA	NA
			ELIZABETH BENNETT AND				400		NA .	lna	NA	NA	NA	NA NA	NA .
10*23793	М	5-23-5	DONNIE BENNETT	TH EXPLORATION, LLC	1/8+	1014	492	NA	NA .	INA.	INA.	INA.			
10*23794	М	5-23-5	PATTY JEAN LANTZ	TH EXPLORATION, LLC	1/8+	1014	495	NA	NA	NA	NA	NA	NA .	NA	NA
		5-23-5	NANCY C DWYER AND WENDEL MARTINKOVIC	TH EXPLORATION LLC	1/8+	1017	6	NA	NA .	NA	NA .	NA	NA	NA .	NA
10*23826	М	5-23-5	WENDEL MARTINKOVIC	THE ALCOHOLOGY LEC	40.										
												i			
10*23838	М	5-23-5	RONALD DEAN YOHO & VICTORIA LYNN YOHO	TH EXPLORATION, LLC	1/8+	1017	11	NA	NA	NA	NA	NA	NA	NA	NA .
										:					
10\$73993	м	5-23-5	VICKI ANN WILLIAMS & WILLIAM J WILLIAMS	TH EXPLORATION, LLC	1/8+	1016	644	NA	NA	NA	NA	NA	NA	NA	NA .
10*23883	141	3.3.3													
10*24274	м	5-23-5	JO ELLEN GUSTELY	TH EXPLORATION, LLC	1/8+	1023	527	NA	NA	NA	NA	NA	NA	NA	NA

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10*24483	М	5-23-5	SUSAN ALFRED AND KEVIN J ALFRED	TH EXPLORATION, LLC	1/8+	1025	401	NA .	NA	NA	NA	NA	NA	NA	NA
10*24551	м	5-23-5	LEONARD LEE COULTER AND DEBRA A COULTER	TH EXPLORATION, LLC	1/8+	1025	405	NA .	NA	NA	NA	NA	NA	NA	NA
			WILLIAM D TAYLOR AND KIM TAYLOR	TH EXPLORATION, LLC	1/8+	1027	315	NA	NA .	INA	NA .	NA .	NA .	INA	NA
10*24751	_M	5-23-5	KIWI TATLOR	TH EXPLORATION, ELC	1/6+	1027	313								
10*24752	M	5-23-5	PATTI KENNEDY	TH EXPLORATION, LLC	1/8+	1027	312	NA	NA	NA	NA	NA	NA	NA	NA .
11															
10*24860	M	5-23-5	DORA TAYLOR	TH EXPLORATION, LLC	1/8+	1028	92	NA	NA	NA	NA .	NA	NA	NA	NA
10*24868	М	5-23-5	ANNE DWYER	TH EXPLORATION, LLC	1/8+	1028	95	NA	NA	NA	NA .	NA	NA	NA	NA
											:				
10\$24017	м	5-23-5	WALTER W STREIGHT JR AND CONNIE JO STREIGHT	TH EXPLORATION. LLC	1/8+	1027	281	NA .	NA	NA .	NA .	NA	NA	NA	NA
10*24917	M	J-43-3	PARTO COMME TO STREIGHT	on continuity acc	-14.										

M	5-23-5	ROBERT LEE MARCIANO AKA ROBERT LEE MAYER	TH EXPLORATION, LLC	1/8+	1030	416	NA	NA	NA	NA	NA .	NA	NA	NA
M	5-23-5	RAYMOND GUSTELY JR	TH EXPLORATION, LLC	1/8+	1030	373	NA	NA	NA .	NA	NA .	NA	NA	NA .
		DAVID C WHITE NEISWONGER AND WHITE	THE TYPE OF A TION INC.	4/0	1021	476		NA.	l _{NA}	NA.	l _{NA}	lna.	NA	NA
M	5-23-5	LAW OFFICES	TH EXPLORATION, LLC	1/8+	1031	4/6	NA .	INA	INA	NA .	INA	INC.	IN .	
				- 1-									l NA	l _{NA}
M	5-23-5	JERRY HUGGINS ET AL	TH EXPLORATION, LLC	1/8+	1030	368	INA .	NA .	INA.	INA .	INA	INA.	INA	
	5 22 5	ROBERT LEE MARCIANO	TH EXPLORATION LLC	1/8+	1030	416	INA	NA	NA.	NA .	lna	NA .	NA	NA
М	5-23-5	AKA ROBERT LEE WIATER	TH EXPLORATION, LLC		1030	410	l l l	No.						
M	5-23-5	STONE HILL MINERALS	TH EXPLORATION, LLC	1/8+	1057	332	NA .	NA	NA .	NA	INA .	NA NA	NA	NA
ivi	5.255			7-										
м	5-23-5	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION, LLC	1/8+	1063	594	NA	NA	NA	NA	NA	NA	NA	NA
	м м	M 5-23-5 M 5-23-5 M 5-23-5	M 5-23-5 RAYMOND GUSTELY JR DAVID C WHITE NEISWONGER AND WHITE LAW OFFICES M 5-23-5 JERRY HUGGINS ET AL ROBERT LEE MARCIANO AKA ROBERT LEE MAYER M 5-23-5 STONE HILL MINERALS HOLDINGS LLC	M 5-23-5 RAYMOND GUSTELY JR TH EXPLORATION, LLC DAVID C WHITE NESWONSER AND WHITE LAW OFFICES M 5-23-5 JERRY HUGGINS ET AL TH EXPLORATION, LLC TH EXPLORATION, LLC TH EXPLORATION, LLC TH EXPLORATION, LLC STONE HILL MINERALS HOLDINGS LLC TH EXPLORATION, LLC	M 5-23-5 RAYMOND GUSTELY JR TH EXPLORATION, LLC 1/8+ DAVID C WHITE NEISWONDER AND WHITE LAW OFFICES M 5-23-5 JERRY HUGGINS ET AL TH EXPLORATION, LLC 1/8+ M 5-23-5 ROBERT LEE MARCIANO AKA ROBERT LEE MARCIANO AKA ROBERT LEE MAYER M 5-23-5 TH EXPLORATION, LLC 1/8+ M 5-23-5 TH EXPLORATION, LLC 1/8+	M 5-23-5 AKA ROBERT LEE MAYER TH EXPLORATION, LLC 1/8+ 1030 M 5-23-5 RAYMOND GUSTELY JR TH EXPLORATION, LLC 1/8+ 1030 DAVID C WHITE NEISWONGER AND WHITE LAW OPPICES TH EXPLORATION, LLC 1/8+ 1030 M 5-23-5 JERRY HUGGINS ET AL TH EXPLORATION, LLC 1/8+ 1030 M 5-23-5 STONE HILL MINERALS HOLDINGS LLC TH EXPLORATION, LLC 1/8+ 1030 1/8+ 1030	M 5-23-5 AXA ADDRET LEE MAYER THE EXPLORATION, LLC 1/8+ 1030 416 M 5-23-5 RAYMOND GUSTELY JR THE EXPLORATION, LLC 1/8+ 1030 373 CANID C WHITE HEAVONGER AND WHITE HE	M 5-23-5 RAYMOND GUSTELY JR TH EXPLORATION, LLC 1/8+ 1030 416 NA DAVID C WHITE RESWONDER AND WHITE THE EXPLORATION, LLC 1/8+ 1030 373 NA DAVID C WHITE RESWONDER AND WHITE THE EXPLORATION, LLC 1/8+ 1030 475 NA M 5-23-5 ARRY HUGGINS ET AL THE EXPLORATION, LLC 1/8+ 1030 416 NA M 5-23-5 TORRET LEE MANICANO ALS REPRODUCED THE EXPLORATION, LLC 1/8+ 1030 416 NA STONE HILL IMPREMALS THE EXPLORATION, LLC 1/8+ 1030 416 NA STONE HILL IMPREMALS THE EXPLORATION, LLC 1/8+ 1030 416 NA STONE HILL IMPREMALS THE EXPLORATION, LLC 1/8+ 1030 416 NA STONE HILL IMPREMALS THE EXPLORATION, LLC 1/8+ 1030 416 NA STONE HILL IMPREMALS THE EXPLORATION, LLC 1/8+ 1030 416 NA	M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 415 MA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 573 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 476 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 484 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 484 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 484 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 484 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 484 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23	M 5-23-5 AVANORIO GUSTILV ZIR 1 TH EMPLOMATION, LIC 1/2* 1699 172 NA NA NA NA NA NA NA NA NA NA NA NA NA	23-25 AN AN ORDER LE MATERIALS IN EPRODATOR, LIC 1/29- 1690 415 M. M. M. M. M. M. M. M. M. M. M. M. M.	34 525 AMORTHE MATERIAL M 5235 AMORTHE MATERI	## \$25 ## AND CONTROLOGICAL TO THE PRODUCTION LICE 1/29 1200 1415 ## AND HA MA HA MA HA MA MA MA MA MA MA MA MA MA MA MA MA MA	10 2-35 AMARON COUTLY OF PERSONNELLE 1/20 1/20 1/20 1/20 1/20 1/20 1/20 1/20

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10*17192	N	5-23-8	ROBERT J HENRY	CHESAPEAKE APPALACHIA LLC	1/8+	716	193	NA	NA	NA	NA	29/325 Chesapeake Appalachia LLC to Statoli USA Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*19722	N	5-23-8	MASTER MINERAL HOLDINGS I LP	AMERICAN PETROLEUM PARTNERS LLC	1/8+	912	105	NA	NA	NA	NA	NA	NA	40/408 American Petroleum Partners Operating LLC to TH Exploration LLC	40/418 American Petroleum Partners Operating LLC to TH Exploration LLC
			DOMINION ENERGY							NA.	NA.	NA.	NA NA	NA NA	NA NA
10*18343	0	5-23-14	TRANSMISSION INC	TH EXPLORATION, LLC CHESAPEAKE APPALACHIA	1/8+	936	79	NA	NA .			29/325 Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	41/238 Statoil Onshore Properties Inc to TH	41/256 SWN Production Company LLC to TH Exploration LLC
10*17189	P	5-23-9.3	ROBERT J HENRY	CHESAPEAKE APPALACHIA	1/8+	716	197	NA	NA .	, NA	NA	29/325 Chesapeake Appalachia LLC to Statoll USA Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	41/238 Statoil Onshore Properties Inc to TH	41/256 SWN Production Company LLC to TH Exploration LLC
10*17189	Q	5-23-9.2	ROBERT J HENRY	GASTAR EXPLORATION	1/8+	716			NA	NA .	NA .		806/1 Gastar Exploration USA Inc to Atlnum	21/41 Gastar Exploration USA Inc and Gastar	36/9 Gastar Exploration
10*14786	R	5-23-13	TWILA O WHIPKEY	USA INC	1/8+	799	61	NA	NA .	NA	NA NA	NA .	Marcellus I LLC 806/1 Gastar Exploration USA Inc to Atinum	Exploration Inc merger 21/41 Gastar Exploration USA Inc and Gastar	inc to TH Exploration II LLC
10*14792	R	5-23-13	тімотну уоно	USA INC	1/8+	799	536	NA	NA	NA	NA	NA	Marcellus I LLC	Exploration Inc merger	Inc to TH Exploration II LLG

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4													21/41 Gastar Exploration	35/144 Gastar Exploration	
			ONWARD E BURGE TRUST STEPHEN W BURGE AS	GASTAR EXPLORATION									USA Inc and Gastar	Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14822	R	5-23-13	TRUSTEE	USA INC	1/8+	876	463	NA	NA .	NA	NA NA	NA	Exploration Inc merger	шс	Inc to TH Exploration II LLC
0															
~															
4												1			
			SARAH L BURGE TRUST					ļ					21/41 Gastar Exploration USA Inc and Gastar	35/144 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14823	R	5-23-13	STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	459	NA	NA	NA	NA NA	NA	Exploration Inc merger	LLC	Inc to TH Exploration II LLC
10-14823	 	32323													
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	1														
				GASTAR EXPLORATION											36/9 Gastar Exploration
10*14969	R	5-23-13	REBECCA S WORD	USA INC	1/8+	872	219	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA	Inc to TH Exploration II LLC
									}						
									1						
														1	36/9 Gastar Exploration
10*14970	R	5-23-13	GRACE EXLINE	GASTAR EXPLORATION USA INC	1/8+	872	623	NA	NA	NA	NA	NA	NA	NA	Inc to TH Exploration II LLC
10 145/0	<u> </u>														
10*17822	R	5-23-13	ANTOINE E GERAUD	TH EXPLORATION, LLC	1/8+	943	560	NA	NA .	NA NA	NA NA	NA NA	NA	NA	NA
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10*18114	R	5-23-13	DARRELL NEWLAND	TH EXPLORATION, LLC	1/8+	927	66	NA	NA	NA	NA	NA	NA	NA	NA
	1		DONALD R NEWLAND AND	·						ļ	ļ		l	ļ	
10*18115	R	5-23-13	SUZANNE NEWLAND	TH EXPLORATION, LLC	1/8+	927	73	NA	NA NA	NA NA	NA NA	NA NA	INA	INA	NA

18369 R 5-23-13 CERAIG ALAN YOHO AND DONNA M YOHO TH EXPLORATION, LLC 1/8+ 931 303 NA NA NA NA NA NA NA NA NA NA NA NA NA
R 5-23-13 DONNA M YOHO TH EXPLORATION, LLC 1/8+ 931 303 NA NA NA NA NA NA NA NA NA NA NA NA NA
R 5-23-13 DONNA M YOHO TH EXPLORATION, LLC 1/8+ 931 303 NA NA NA NA NA NA NA NA NA NA NA NA NA
18370 R 5-23-13 SAMUEL D YOHO TH EXPLORATION, LLC 1/8+ 931 300 NA NA NA NA NA NA NA NA NA NA NA
18370 R 5-23-13 SAMUEL D YOHO TH EXPLORATION, LLC 1/8+ 931 300 NA NA NA NA NA NA NA NA NA NA NA NA NA
DAVID N DEVICK TRUSTEE OF THE TONI JO MASON OF THE TONI JO MASON UNING TRUST TH EXPLORATION, LLC 1/8+ 932 439 NA NA NA NA NA NA NA NA NA NA NA NA NA
R 5-23-13 LIVING TRUST TH EXPLORATION, LLC 1/8+ 932 439 NA NA NA NA NA NA NA NA NA NA NA NA NA
*18541 R 5-23-13 PATRICK P MCHENRY TH EXPLORATION, LLC 1/8+ 933 649 NA NA NA NA NA NA NA NA NA NA NA
*1851 R 5-23-13 PATRICK P MCHENRY TH EXPLORATION, LLC 1/8+ 933 649 NA NA NA NA NA NA NA NA NA NA NA NA NA
*18818 R 5-23-13 LUCILLE R MCHENRY TH EXPLORATION, LLC 1/8+ 937 624 NA NA NA NA NA NA NA NA NA NA NA NA NA
*19486 R 5-23-13 BARBARA ANN MAYNARD TH EXPLORATION, LLC 1/8+ 941 229 NA NA NA NA NA NA NA NA NA NA
*19486 R 5-23-13 BARBARA ANN MAYNARD TH EXPLORATION, LLC 1/8+ 941 229 NA NA NA NA NA NA NA NA NA NA NA NA NA
Nº 19540 R 5-23-13 ERICA M MASON TH EXPLORATION, LLC 1/8+ 942 53 NA NA NA NA NA NA NA NA NA NA NA

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10*19543	R	5-23-13	ROBERT I BONAR SR	TH EXPLORATION, LLC	1/8+	942	61	NA	NA	NA	NA	NA	NA	NA .	NA
10*19640	R	5-23-13	MARGARET F RICHMOND	TH EXPLORATION, LLC	1/8+	944	120	NA	,NA	NA	NA	NA	NA	NA	NA
10-19640															
10*19641	R	5-23-13	BRADFORD D LOWERY & DEBORAH LOWERY	TH EXPLORATION, LLC	1/8+	944	122	NA	NA	NA	NA	NA	NA	NA	NA .
10*19650	R	5-23-13	CLAUDIA LOWERY MALLOY	TH EXPLORATION, LLC	1/8+	944	99	NA	NA	NA	NA	NA	NA	NA	NA
10*19652	R	5-23-13	JACK R HAMMERS	TH EXPLORATION, LLC	1/8+	944	108	NA	NA	NA	NA	NA	NA	NA	NA .
10 13032															
10*19657	R	5-23-13	JANET LEE SPARKS	TH EXPLORATION, LLC	1/8+	964	440	NA	NA	NA	NA	NA	NA	NA .	NA
			CARL M MCHENRY AND												
10*19732	R	5-23-13	PAMELA MCHENRY	TH EXPLORATION, LLC	1/8+	944	469	NA	NA	NA	NA	NA	NA	INA	NA

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10*19858	R	5-23-13	JAMES MICHAEL YOHO	TH EXPLORATION, LLC	1/8+	960	188	NA	NA	NA	NA .	NA	NA .	NA	NA
10*19903	R	5-23-13	PAUL F HAMMERS	TH EXPLORATION, LLC	1/8+	948	236	NA	NA	NA	NA	NA	NA	NA	NA .
														1	
10*19996	R	5-23-13	CHARLES D WOOD	TH EXPLORATION, LLC	1/8+	947	589	NA .	NA	NA	NA	NA	NA	NA	NA
10, 13330		3 23 23													
	_		ARDITH R ROSE AND TOMMY E ROSE	TH EXPLORATION, LLC	1/8+	951	608	NA	lna	NA	NA	NA .	NA.	NA .	NA
10*21073	R	5-23-13	TOMMY E ROSE	TH EXPLORATION, LLC		331	000		INO						
			MALCOLM E WOOD AND												
10*21074	R	5-23-13	JOAN J WOOD	TH EXPLORATION, LLC	1/8+	951	610	NA	NA	NA	NA	NA	NA .	NA	NA
10*21174	R	5-23-13	SHAWN M WOOD	TH EXPLORATION, LLC	1/8+	952	190	NA	NA	NA	NA	NA	NA	NA	NA
10*21419	R	5-23-13	DAPHNE HUFFMAN AND CHARLES HUFFMAN	TH EXPLORATION, LLC	1/8+	957	59	NA	NA	NA	NA .	NA	NA	NA	NA

			GARY WAYNE ZESIGER & VITORINA ZESIGER	TH EXPLORATION, LLC	1/8+	957	57	NA NA	NA.	NA.	NA.	NA.	NA.	NA NA	NA .
10*21431		5-23-13 5-23-13		TH EXPLORATION, LLC	1/8+	957			NA NA	NA.	NA NA	NA NA	NA.	NA NA	NA NA
10*21436	R		M VIRGINIA & EDWARD C		1/8+	957				NA NA	NA NA	NA NA		NA NA	NA NA
10*21439	R	5-23-13	KIMBERLY S DENNY AND	TH EXPLORATION, LLC		957			NA NA	NA NA	NA.	NA NA	NA NA	NA.	NA NA
10*21469	R	5-23-13	RICHARD ROSS WILSON		1/8+	960			NA NA	NA.	NA.	NA NA		NA NA	NA.
10*21471	R	5-23-13	ROBERT CRAIG MONTGOMERY AND			950		NA NA	NA.	NA NA	NA.	NA.	NA NA	NA NA	NA NA
10*21620 10*21621	R	5-23-13	CYNTHIA R MONTGOMERY MARILYN NOEL	TH EXPLORATION, LLC	1/8+	959	496 494	NA NA	NA NA	NA NA	NA	NA .	NA	NA	NA .

10*21658	R	5-23-13	CLARENCE RICHARD ZESIGER & MARY ZESIGER	TH EXPLORATION, LLC	1/8+	959	490	NA .	NA	NA	NA	NA	NA	NA .	NA .
10*21659	R	5-23-13	DEBORAH BLOUGH	TH EXPLORATION, LLC	1/8+	958	392	NA	NA	NA	NA	NA	NA	NA	NA
			PAMELA L DRAZIC AND												
10*21660	R	5-23-13	JEFFREY DRAZIC	TH EXPLORATION, LLC	1/8+	958	390	NA .	NA .	NA	NA	NA .	NA	NA .	NA .
10*21830	R	5-23-13	MARISSA MASON	TH EXPLORATION, LLC	1/8+	960	200	NA	NA	NA	NA	NA	NA	NA	NA .
10*21831	R	5-23-13	MATTHEW MASON	TH EXPLORATION, LLC	1/8+	966	122	N A	NA .	NA NA	NA .	NA	NA .	NA	NA .
													NA.	NA.	NA .
10*21834	R	5-23-13	GEORGE DANIEL KRUGER	TH EXPLORATION, LLC	1/8+	960	204	NA .	NA.	NA .	NA	NA .	NA	NA	NA .
10*21944	R	5-23-13	JILL A BECK	TH EXPLORATION, LLC	1/8+	960	101	NA	NA	NA	NA	NA	NA	NA	NA

.0*21947	R	5-23-13	WALLACE LYNN WENDEL	TH EXPLORATION, LLC	1/8+	965	59	NA	NA	NA	NA	NA .	NA	NA	NA
			DEBORAH K KLIMASZEWSI AND FRANK												No.
10*22007	R	5-23-13	KLIMASZEWSKI	TH EXPLORATION, LLC	1/8+	959	492	NA	NA	NA	NA	NA	NA	NA .	NA
			COLIN R YOHO AND												
10*22008	R	5-23-13	NORMA L YOHO	TH EXPLORATION, LLC	1/8+	953	304	NA	NA	NA	NA	NA .	NA	NA	NA
			MARK EUGENE YOHO & MARY YOHO	TH EXPLORATION, LLC	1/8+	960	544	NA .	NA .	N A	NA	NA	NA	NA	NA.
10*22025	R	5-23-13	MARY YOHO	TH EXPLORATION, LLC	1/8+	960	344	NA	NA .	NA	No.	ian .			
10*22031	R	5-23-13	PHILLIP YOHO AND PATRICIA YOHO	TH EXPLORATION, LLC	1/8+	960	535	NA .	NA .	N A	NA	NA	NA	NA	NA
															1
4000000	R	5-23-13	JOANNE E RAY	TH EXPLORATION, LLC	1/8+	960	537	NA .	NA .	N A	NA	NA	NA	NA	NA
10*22032	n	3-23-13	POT WHILE E 1931		-10.										
10*22106	R	5-23-13	BARRY RAY MOORE	TH EXPLORATION, LLC	1/8+	954	643	NA	NA	NA	NA	NA	NA	NA	NA

10*22129	R	5-23-13	JANICE N HAUDENSCHILT	TH EXPLORATION, LLC	1/8+	961	459	NA	NA .	NA	NA	NA	NA	INA I	NA
					:										
10*22137	R	5-23-13	CONNIE L NEELY	TH EXPLORATION, LLC	1/8+	961	466	NA	NA	NA	NA	NA	NA .	NA	NA .
			DONALD JAMES WILSON		- 10	050	103	<u> </u>	NA.	NA	NA .	NA .	NA .	NA .	NA
10*22285	R	5-23-13	AND SANDY L WILSON	TH EXPLORATION, LLC	1/8+	962	193	NA .	NA	INA	INO	INO	lus.		
10*22334	R	5-23-13	JOHN BRYANT	TH EXPLORATION, LLC	1/8+	962	540	NA	NA	NA	NA	NA	NA	NA .	NA
														NA	NA
10*22434	R	5-23-13	EDWIN NELSON WOOD	TH EXPLORATION, LLC	1/8+	963	637	NA	NA	NA	NA	NA	NA	NA	NA .
			DONNA V YOHO	TH EXPLORATION, LLC	1/8+	964	432	NA	NA	NA.	NA	NA	NA NA	NA	NA NA
10*22510	R	5-23-13	DUNNA V TUHU	III EAFLURATION, LLC	1/07	304	734								
10*22561	R	5-23-13	MARY ROSE YOHO	TH EXPLORATION, LLC	1/8+	968	200	NA	NA	NA	NA	NA	NA	NA	NA

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20125	1	R	5-23-13	HAROLD C SIMMONS	TH EXPLORATION, LLC	1/8+	966	100	NA .	NA .	NA	NA .	INA .	INA	INA	NA .
272232 8 23-2-3 CONTRACTOR TO TO TO TO TO TO TO TO TO TO TO TO TO	N			Y												
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8 1-53-33 CHICAGAICAL CALCA PRICE AND AND AND AND AND AND AND AND AND AND	10*22563	R	5-23-13	KIMBERLY D STRAUCH	TH EXPLORATION, LLC	1/8+	966	522	NA	NA	NA	NA	NA	NA	NA	NA
16*727758 R 9-725-33 AND COUNTY OF REPUBLICATION LIC 1/04 965 350 NA. NA. NA. NA. NA. NA. NA. NA. NA. NA.																
16*727758 R 9-725-33 AND COUNTY OF REPUBLICATION LIC 1/04 965 350 NA. NA. NA. NA. NA. NA. NA. NA. NA. NA.																
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16*727758 R 9-725-33 AND COUNTY OF REPUBLICATION LIC 1/04 965 350 NA. NA. NA. NA. NA. NA. NA. NA. NA. NA.																
8 2-29-33 AND CONNES SECHANORO THE ESPECIALISM, LLC 1/9- 963 389 MA MA MA MA MA MA MA MA MA MA MA MA MA	10*22585	R	5-23-13	CYNTHIA L CHICK	TH EXPLORATION, LLC	1/8+	966	102	NA .	NA	NA	NA .	NA	NA	NA	NA
8 2-29-33 AND CONNES SECHANORO THE ESPECIALISM, LLC 1/9- 963 389 MA MA MA MA MA MA MA MA MA MA MA MA MA																
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10*23372 R 5-23-13 ROBIN MILICIA TH EXPLORATION, LIC 1/8+ 1008 320 NA NA NA NA NA NA NA NA NA NA NA NA NA	10*22718	R	5-23-13	AND CONNIE S RICHMOND	TH EXPLORATION, LLC	1/8+	963	389	INA.	INA .	NA .	INA .	INA	INA .	INA .	INA
10*23372 R 5-23-13 ROBIN MILICIA TH EXPLORATION, LLC 1/8+ 1008 320 NA NA NA NA NA NA NA NA NA NA NA NA NA																
10*23372 R 5-23-13 ROBIN MILICIA TH EXPLORATION, LLC 1/8+ 1008 320 NA NA NA NA NA NA NA NA NA NA NA NA NA																
10*23372 R 5-23-13 ROBIN MILICIA TH EXPLORATION, LLC 1/8+ 1008 320 NA NA NA NA NA NA NA NA NA NA NA NA NA																
10*23372 R 5-23-13 ROBIN MILICIA TH EXPLORATION, LLC 1/8+ 1008 320 NA NA NA NA NA NA NA NA NA NA NA NA NA																
10*23372 R 5-23-13 ROBIN MILICIA TH EXPLORATION, LLC 1/8+ 1008 320 NA NA NA NA NA NA NA NA NA NA NA NA NA																
DANA MILCIA 10°23373 R 5-23-13 DANA MILCIA 1/8+ 988 429 NA NA NA NA NA NA NA NA NA NA NA NA NA	10*23372	R	5-23-13	DEWEY A MILICIA AND ROBIN MILICIA	TH EXPLORATION, LLC	1/8+	1008	320	NA	NA .	NA NA	NA .	NA	NA .	NA .	NA
R 5-23-13 HUMPHREYS TH EXPLORATION, LLC 1/8+ 988 429 NA NA NA NA NA NA NA NA NA NA NA NA NA	10 23372		1 2 2													
R 5-23-13 HUMPHREYS TH EXPLORATION, LLC 1/8+ 988 429 NA NA NA NA NA NA NA NA NA NA NA NA NA																
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R 5-23-13 HUMPHREYS TH EXPLORATION, LLC 1/8+ 988 429 NA NA NA NA NA NA NA NA NA NA NA NA NA				DANA MILICIA												
NICOLETTA MILICIA	10*23373	R	5-23-13	HUMPHREYS	TH EXPLORATION, LLC	1/8+	988	429	NA	NA	NA	NA	NA	NA	NA	NA
	1															
														[
				NICOLETTA MILICIA										}]
	10*23446	R	5-23-13	BLOODWORTH	TH EXPLORATION, LLC	1/8+	1008	316	NA	NA	NA	NA	NA	NA	NA	NA

10*23669	R	5-23-13	LINDA K TOTTEN AND JERRY STEPHEN TOTTEN	TH EXPLORATION, LLC	1/8+	1010	358	NA	NA NA	NA	NA NA	NA	N A	N A	NA
10*24003	R	5-23-13	CHARLES SIBURT AND	TH EXPLORATION, LLC	1/8+	1020	193	NA	NA	NA	NA .	NA	N A	NA	NA
	R	5-23-13	MARY MARTHA BELLE DOYLE	TH EXPLORATION, LLC	1/8+	1024	285	NA.	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA
10*24291													NA NA	NA.	NA.
10*24491	R	5-23-13		TH EXPLORATION, LLC	1/8+	1008		NA .	NA	NA .	NA	NA			NA NA
10*24890	R	5-23-13	DEBRA JANE GALE	TH EXPLORATION, LLC	1/8+	1021		NA .	NA	NA .	NA	NA .	NA		
10*25065	R	5-23-13	COLBY G WOOD	TH EXPLORATION, LLC	1/8+	1027	103	NA	NA .	NA .	NA	NA .	NA	NA	NA
10*25066	R	5-23-13	RODGER A HENDERSON JR	TH EXPLORATION, LLC	1/8+	1027	97	NA	NA	NA	NA	NA	NA	NA	NA

10*27959	R	5-23-13	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION, LLC	1/8+	1063	594	NA	NA .	NA	NA	NA	NA .	NA	NA
													806/1 Gastar Exploration	21/41 Gastar Exploration	36/9 Gastar Exploration
10*14786	s	5-23-11.4	TWILA O WHIPKEY	GASTAR EXPLORATION USA INC	1/8+	799	61	NA	NA	NA	NA .	NA	USA Inc to Atinum Marcellus I LLC	USA Inc and Gastar Exploration Inc merger	Inc to TH Exploration II LL
10*14792	s	5-23-11.4	тімотну уоно	GASTAR EXPLORATION USA INC	1/8+	799	536	NA NA	NA NA	NA NA	NA NA	NA NA	806/1 Gastar Exploration USA Inc to Atinum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LI
		3-23-11,4	TIMOTH TONO	I USA INC	1/8+	/33	330	INA .		, ma					
10*14797	s	5-23-11.4	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8+	800	598	NA	NA NA	NA	NA	NA	30/136 Gastar Exploration USA Inc to Atinum Marcellus I LLC	n 21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LI
10*14822	S	5-23-11.4	ONWARD E BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	463	NA	NA	NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	35/144 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II L
1004.000			SARAH L BURGE TRUST STEPHEN W BURGE AS	GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	35/144 Gastar Exploration Inc to Atinum Marcellus I LLC	n 36/9 Gastar Exploration Inc to TH Exploration II I
<u>10*14823</u>	S	5-23-11.4	TRUSTEE	USA INC	1/8+	876	459	NA	, NA	NA	NA .	, NA	Exporation inc ineiger		36/9 Gastar Exploration
10*14969	s	5-23-11.4		USA INC	1/8+	872	219	NA	NA	NA	NA	NA	NA	NA	Inc to TH Exploration II

		T													
10*14970	S	5-23-11.4	GRACE EXLINE	GASTAR EXPLORATION USA INC	1/8+	872	623	NA	NA	NA .	NA	NA	NA	NA	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*17195	5	5-23-11.4	PATRICIA HARTMAN	GASTAR EXPLORATION USA INC	1/8+	695	317	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoll Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoll Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17196	S	5-23-11.4	DELBERT R. MONTGOMER	GASTAR EXPLORATION Y USA INC	1/8+	695	311	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17197	S	5-23-11.4	GLORIA J. SIMMONS HAROLD SIMMONS	GASTAR EXPLORATION USA INC	1/8+	695	313	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17199	S	5-23-11.4	PAMELA L DRAZIC AND JEFREY DRAZIC	GASTAR EXPLORATION USA INC	1/8+	695	315	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoii Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17200	S	5-23-11.4	STEPHANIE L BATES	GASTAR EXPLORATION USA INC	1/8+	697	156	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Athrum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17201	s	5-23-11.4	DENISE A GALE	GASTAR EXPLORATION USA INC	1/8+	697	395	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atlnum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC

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	S	5-23-11.4	JANE GALE	GASTAR EXPLORATION USA INC	1/8+	697	385	NA.	23/353 Gastar Exploration USA Inc to Atinum	LLC and Statoil Onshore	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoli USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17203	s	5-23-11.4	BARRY RAY MOORE	GASTAR EXPLORATION USA INC	1/8+	697	387	NA .	23/353 Gastar Exploration USA inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil U5A Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17204	S	5-23-11.4	CLARENCE RICHARD ZESIGER & MARY ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697	391	NA.	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoli Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17206	S	5-23-11.4	M VIRGINIA & EDWARD C MARSH	GASTAR EXPLORATION USA INC	1/8+	697	399	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17207	s	5-23-11.4	DEBORAH K. KLIMASZEWSKI FRANK KLIMASZEWSKI, SR.	GASTAR EXPLORATION USA INC	1/8+	697	389	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17210	5	5-23-11.4	MARILYN NOEL	GASTAR EXPLORATION USA INC	1/8+	697 .	393	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17211	s	5-23-11.4	GARY WAYNE ZESIGER & VITORINA ZESIGER		1/8+	697	397	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC		21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC

10*17212	5	5-23-11.4	DARRELL NEWLAND LYDIA NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697	158	NA .	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	LLC and Statoil Onshore	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17213	5	5-23-11.4	CAROL DEEN GARDNER	GASTAR EXPLORATION USA INC	1/8+	697	154	NA .	23/353 Gastar Exploration USA inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atlnum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17822	5	5-23-11.4	ANTOINE E GERAUD	TH EXPLORATION, LLC	1/8+	943	560	NA	NA .	NA	NA .	NA .	NA .	NA .	NA .
10*18114	5	5-23-11.4	DARRELL NEWLAND	TH EXPLORATION, LLC	1/8+	927	66	NA .	NA	NA .	NA	NA	NA .	NA	NA .
10*18115	s	5-23-11.4	DONALD R NEWLAND AND SUZANNE NEWLAND	TH EXPLORATION, LLC	1/8+	927	73	NA .	NA .	NA .	NA .	NA .	NA	NA .	NA
10*18275	. 5	5-23-11.4	BETTY JEAN NEELY	TH EXPLORATION, LLC	1/8+	929	60	NA	NA	NA	NA	NA	NA	NA	NA
10*18366	s	5-23-11.4	MARY LOU WILSON AND STANLEY D WILSON MICHAEL WILSON ATTORNEY IN FACT	TH EXPLORATION, LLC	1/8+	931	311	NA	NA	NA	NA	NA	NA NA	NA .	NA

		Γ	T												
			CRAIG ALAN YOHO AND												
10*18369	S	5-23-11.4	DONNA M YOHO	TH EXPLORATION, LLC	1/8+	931	303	NA	NA	NA	NA	NA	NA	NA	NA
			CRAIG ALAN YOHO AND								NA	NA NA	MA.	NA.	NA.
10*18369	S	5-23-11.4	DONNA M YOHO	TH EXPLORATION, LLC	1/8+	931	303	NA	NA	NA	NA .	INA .	NA .	100	
10*18370	S	5-23-11.4	SAMUEL D YOHO	TH EXPLORATION, LLC	1/8+	931	300	NA	NA .	NA	NA	NA	NA	NA	NA
		5-23-11.4	SAMUEL D YOHO	TH EXPLORATION, LLC		931	300	NA NA	NA NA	NA NA	NA	NA	NA NA	NA	NA
10*18370	5	5-23-11.4	SAMUEL D YOHO	TH EXPLORATION, LLC	1/8+	931	300	NA .	NA .	INA.	NA.				
10*18379	S	5-23-11.4	DAVID N DEVICK TRUSTEE OF THE TONI JO MASON LIVING TRUST	TH EXPLORATION, LLC	1/8+	932	439	NA	NA	NA	NA	NA	NA	NA	NA
10110270			DAVID N DEVICK TRUSTEE OF THE TON! JO MASON	THE COLUMN TO THE	46		420		NA NA	NA NA	NA	NA	NA	NA	NA
10*18379	S	5-23-11.4	LIVING TRUST	TH EXPLORATION, LLC	1/8+	932	439	NA	INA	THE STATE OF THE S	INA.	100			
10*18541	s	5-23-11.4	PATRICK P MCHENRY	TH EXPLORATION, LLC	1/8+	933	649	NA	NA	NA	NA	NA	NA	NA .	NA

10*18818	s	5-23-11.4	LUCILLE R MCHENRY	TH EXPLORATION, LLC	1/8+	937	624	NA	NA	NA	NA .	NA	NA	NA	NA
10*19486		5-23-11.4	BARBARA ANN MAYNARD		1/8+	941	229		NA	NA NA	NA	NA	NA.	NA NA	NA NA
	S														
10*19540	S	5-23-11.4	ERICA M MASON	TH EXPLORATION, LLC	1/8+	942	53	NA	NA	NA	NA	NA	NA	NA	NA
									NA	NA	NA	NA	MA	NA	NA NA
10*19540	\$	5-23-11.4	ERICA M MASON	TH EXPLORATION, LLC	1/8+	942	53	NA	NA	IVA		110			
10*19543	S	5-23-11.4	ROBERT I BONAR SR	TH EXPLORATION, LLC	1/8+	942	61	NA	NA	NA	NA	NA	NA	NA	NA
10*19640			MARCARET FRICHASONS	THEY CONTION US	1/0		120	NA	NA NA	NA	NA	NA.	NA	NA	NA
10-19640	S	5-23-11.4	MARGARET F RICHMOND	I H EXPLORATION, LLC	1/8+	944	120	NA .	INA	INA.					
10*19641	s	5-23-11.4	BRADFORD D LOWERY & DEBORAH LOWERY	TH EXPLORATION, LLC	1/8+	944	122	NA	NA	NA	NA	NA	NA	NA	NA

10*19650	5	5-23-11.4	CLAUDIA LOWERY MALLOY	TH EXPLORATION, LLC	1/8+	944	99	NA	NA	NA	NA	NA	NA .	NA	NA
														NA NA	NA NA
10*19652	S	5-23-11.4	JACK R HAMMERS	TH EXPLORATION, LLC	1/8+	944	108	NA	NA	NA .	NA	NA	NA .	NA	NA .
10*19652	S	5-23-11.4	JACK R HAMMERS	TH EXPLORATION, LLC	1/8+	944	108	NA .	NA .	NA	NA	NA	NA	NA	NA
10*19657	s	5-23-11.4	JANET LEE SPARKS	TH EXPLORATION, LLC	1/8+	964	440	NA .	NA	NA	NA	NA	NA	NA	NA
			CARL M MCHENRY AND												NA
10*19732	S	5-23-11.4	PAMELA MCHENRY	TH EXPLORATION, LLC	1/8+	944	469	NA	NA	NA	NA	NA	NA	NA	NA .
10*19858	S	5-23-11.4	JAMES MICHAEL YOHO	TH EXPLORATION, LLC	1/8+	960	188	NA	NA	NA	NA	NA	NA .	NA	NA
10*19903	S	5-23-11.4	PAUL F HAMMERS	TH EXPLORATION, LLC	1/8+	948	236	NA	NA	NA	NA	NA	NA	NA	NA

				,							T		<u> </u>		
40440003	s	5-23-11.4	PAUL F HAMMERS	TH EXPLORATION, LLC	1/8+	948	236	NA .	NA .	NA	NA	NA	NA	NA	NA
10*19903		5-23-11.4	PAUL F HAMINERS	TH EXPEDIATION, EEC	1/01	340									
														l _{NA}	NA.
10*19996	S	5-23-11.4	CHARLES D WOOD	TH EXPLORATION, LLC	1/8+	947	589	NA	NA	NA	NA	NA	INA	NA	INA
10*21073	S	5-23-11.4	ARDITH R ROSE AND TOMMY E ROSE	TH EXPLORATION, LLC	1/8+	951	608	NA .	NA	NA	NA	NA .	NA	NA	NA
40*04074	s	52244	MALCOLM E WOOD AND	TH EXPLORATION, LLC	1/8+	951	610	NA .	NA	NA	NA	NA	NA	NA	NA
10*21074	3	5-23-11.4	JOAN J WOOD	TH EXPLORATION, ELC	1/67	331	0.0								
														NA	NA.
10*21174	S	5-23-11.4	SHAWN M WOOD	TH EXPLORATION, LLC	1/8+	952	190	NA	NA	NA .	NA	NA	NA	NA	NA .
10*21419	s	5-23-11.4	DAPHNE HUFFMAN AND CHARLES HUFFMAN	TH EXPLORATION, LLC	1/8+	957	59	NA	NA	NA	NA	NA	NA	NA	NA
	_		GARY WAYNE ZESIGER &	TH EVELOPATION 115	1/0:	957	57	NA	NA .	NA	NA	NA	NA	NA	NA
10*21431	<u> </u>	5-23-11.4	VITORINA ZESIGER	TH EXPLORATION, LLC	1/8+	33/	1 3/	Inc	P						

													NA.	MA	NA.
10*21436	S	5-23-11.4	M VIRGINIA & EDWARD C	TH EXPLORATION, LLC	1/8+	957		NA .	NA	NA NA	NA NA	NA NA	NA NA	NA.	NA NA
10*21439	S	5-23-11.4	MARSH KIMBERLY S DENNY AND	TH EXPLORATION, LLC	1/8+	957		NA .	NA .	NA NA	NA NA	NA	NA NA	NA NA	NA NA
10*21469	S	5-23-11.4	JAMES E DENNY	TH EXPLORATION, LLC	1/8+	957		NA .	NA			NA NA	NA NA	NA NA	NA.
10*21471	S	5-23-11.4	ROBERT CRAIG MONTGOMERY AND		1/8+	960		NA .	NA	NA NA	NA .	NA NA	NA NA	NA NA	NA NA
10*21620	S	5-23-11.4	CYNTHIA R MONTGOMERY		1/8+	959		NA	NA	NA NA	NA .	IWA	INA	NA	NA NA
10*21621	<u>s</u>	5-23-11.4 5-23-11.4	MARILYN NOEL CLARENCE RICHARD ZESIGER & MARY ZESIGER	TH EXPLORATION, LLC	1/8+	959 959	494 490	NA NA	NA	NA .	NA .	NA NA	NA	NA NA	NA.

10*21659	s	5-23-11.4	DEBORAH BLOUGH	TH EXPLORATION, LLC	1/8+	958	392	NA	NA	NA	NA	NA	NA	NA	NA
10*21660	s	5-23-11.4	PAMELA L DRAZIC AND JEFFREY DRAZIC	TH EXPLORATION, LLC	1/8+	958	390	NA	NA	NA	NA	NA .	NA	NA	NA .
10*21830	S	5-23-11.4	MARISSA MASON	TH EXPLORATION, LLC	1/8+	960	200	NA	NA	NA .	NA	NA	NA .	,NA	NA .
10*21831	5	5-23-11.4	MATTHEW MASON	TH EXPLORATION, LLC	1/8+	966	122	NA NA	NA .	NA .	NA	NA	NA	NA	NA
10*21834	s	5-23-11.4	GEORGE DANIEL KRUGER	TH EXPLORATION, LLC	1/8+	960	204	NA	NA	NA	NA	NA	NA	NA	NA
10*21944	s	5-23-11.4	JILL A BECK	TH EXPLORATION, LLC	1/8+	960	101	NA	NA	NA	NA	NA	NA	NA	NA
10*21947	S	5-23-11.4	WALLACE LYNN WENDEL	TH EXPLORATION, LLC	1/8+	965	59	NA	NA	NA	NA	NA	NA	NA	NA

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			DEBORAH K KLIMASZEWSI AND FRANK	1											MA
10*22007	S	5-23-11.4	KLIMASZEWSKI	TH EXPLORATION, LLC	1/8+	959	492	NA	NA	NA	NA	NA	NA	NA .	NA .
10*22008	s	5-23-11.4	COLIN R YOHO AND NORMA L YOHO	TH EXPLORATION, LLC	1/8+	953	304	NA	NA	NA	NA	NA	NA	NA	NA
		3-23-11.4	NOMINA E TONO	THE EXPEDITION, ELE	1/6+	333	304	NA .							
			COLIN R YOHO AND										N.O.	NA	NA
10*22008	S	5-23-11.4	NORMA L YOHO	TH EXPLORATION, LLC	1/8+	953	304	NA	NA	NA	NA	NA .	INA .	NA	INA
10*22025	S	5-23-11.4	MARK EUGENE YOHO & MARY YOHO	TH EXPLORATION, LLC	1/8+	960	544	NA	NA	NA	NA	NA	NA	NA	NA
10*22025	s	5-23-11.4	MARK EUGENE YOHO & MARY YOHO	TH EXPLORATION, LLC	1/8+	960	544	NA	NA.	NA NA	NA	NA	NA	NA	NA
1		3-23-11.4	MART TORO	TH EXPEDIATION, EEC	1/6+	360		INA	NA .						
10*22031	s	5-23-11.4	PHILLIP YOHO AND PATRICIA YOHO	TH EXPLORATION, LLC	4/0	960	535	NA	NA.	NA NA	NA NA	NA.	NA .	NA	NA
10 22031	, , , ,	3-25-11.4	PATRICIA YOHO	IT EXPLORATION, LLC	1/8+	960	535	INA	INA .	INA	100	1			
10172077	_										No.	NA.	NA.	NA	NA NA
10*22032	S	5-23-11.4	JOANNE E RAY	TH EXPLORATION, LLC	1/8+	960	537	NA	INA	INA	INA	INA	1000	lian.	1:::

10*22106	S	5-23-11.4		TH EXPLORATION, LLC	1/8+	954		NA .	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
10*22129	s	5-23-11.4 5-23-11.4	JANICE N HAUDENSCHILT		1/8+	961 961		NA NA	NA NA	NA NA	NA NA	NA NA	NA NA		NA
10*22137	s	5-23-11.4		TH EXPLORATION, LLC	1/8+	961			NA NA		NA	NA	NA	NA	NA.
10*22285	s	5-23-11.4	DONALD JAMES WILSON AND SANDY L WILSON		1/8+	962	193	NA	NA	NA .	NA	NA	NA	NA NA	NA .
10*22334	S	5-23-11.4		TH EXPLORATION, LLC	1/8+	962		NA	NA	NA NA	NA	NA	NA	NA	NA .
10*22434		5-23-11.4	EDWIN NELSON WOOD		1/8+	963	637	NA	NA NA	NA	NA	NA	NA	NA	NA

10*22441	s	5-23-11.4	APRIL ROSE POSTLETHWAIT	TH EXPLORATION, LLC	1/8+	963	646	NA	NA	NA	NA	NA	NA	NA	NA
								NA	NA NA	NA	NA NA	NA.	NA	NA	NA .
10*22510	S	5-23-11.4		TH EXPLORATION, LLC	1/8+	964								NA NA	NA .
10*22510	S	5-23-11.4	DONNA V YOHO	TH EXPLORATION, LLC	1/8+	964		NA .	NA .	NA	NA .	NA	NA	NA NA	NA NA
10*22561 10*22562	S S	5-23-11.4 5-23-11.4	MARY ROSE YOHO HAROLD C SIMMONS	TH EXPLORATION, LLC	1/8+	968			NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
					1/8+					NA NA	NA	NA NA	NA NA	NA	NA
10*22563	S	5-23-11.4	KIMBERLY D STRAUCH	TH EXPLORATION, LLC	1/8+	966	522	NA .	NA	NA .	IVA	137	100		
10*22585	S	5-23-11.4	CYNTHIA L CHICK	TH EXPLORATION, LLC	1/8+	966	102	NA	NA	NA]NA	[NA	INA	INA	IIIO

			WILLIAM R RICHMOND												NA.
10*22718	S	5-23-11.4	DEWEY A MILICIA AND		1/8+	963	389	NA .	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
10*23372	s	5-23-11.4	ROBIN MILICIA DEWEY A MILICIA AND ROBIN MILICIA	TH EXPLORATION, LLC	1/8+	1008	320	NA.	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA
10*23373	s	5-23-11.4	DANA MILICIA	TH EXPLORATION, LLC	1/8+	1008	320	NA		NA NA	NA NA	NA NA	NA NA	NA	NA NA
10*23373			DANA MILICIA	TH EXPLORATION, LLC	1/8+	988	429	NA .	NA NA	NA NA	NA NA	NA	NA NA	NA	NA
10*23446	S	5-23-11.4	NICOLETTA MILICIA	TH EXPLORATION, LLC	1/8+	988	429	NA .	NA NA		NA MA	NA NA	NA	NA	NA
10°23446	s	5-23-11.4 5-23-11.4	NICOLETTA MILICIA BLOODWORTH	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	1008	316	NA NA	NA NA	NA NA	NA NA	NA.	NA	NA	NA

10*23669	s	5-23-11.4	LINDA K TOTTEN AND JERRY STEPHEN TOTTEN	TH EXPLORATION, LLC	1/8+	1010	358	NA	NA	NA	NA	NA	NA	NA	NA .
10*24003	s	5-23-11.4	CHARLES SIBURT AND PAULA SIBURT	TH EXPLORATION, LLC	1/8+	1020	193	NA NA	NA NA	NA	NA	NA	NA	NA	NA
	-			an act of y boo		and									
10*24291	S	5-23-11.4	MARY MARTHA BELLE DOYLE	TH EXPLORATION, LLC	1/8+	1024	285	NA	NA	NA	NA	NA	NA	NA	NA
10*24491									NA	NA	NA NA	NA	NA	NA	NA
10 24451	S	5-23-11.4	DENISE A GALE	TH EXPLORATION, LLC	1/8+	1008	324	NA	IVA	INA					
10*24890	S	5-23-11.4	DEBRA JANE GALE	TH EXPLORATION, LLC	1/8+	1021	122	NA	NA	NA	NA	NA	NA	NA	NA
10*25065	S	5-23-11.4	COLBY G WOOD	TH EXPLORATION, LLC	1/8+	1027	103	NA .	NA	NA	NA	NA	NA	NA .	NA
10*25066	S	5-23-11.4	RODGER A HENDERSON JR	TH EXPLORATION, LLC	1/8+	1027	97	NA	NA	NA	NA	NA	NA	NA	INA

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10233														NA NA	NA NA
0 2 4	5	5-23-11.4	CHESTNUT HOLDINGS LLC	TH EXPLORATION, LLC	1/8+	1034	548	NA	NA .	NA	NA NA	NA NA	, NA	NA	IVA
10*27714	S	5-23-11.4	CORPORATION AN OHIO CORPORATION	TH EXPLORATION, LLC	1/8+	1060	572	NA	NA	NA	NA .	NA	NA	NA	NA
10*27959	5	5-23-11.4	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION, LLC	1/8+	1063	594	NA	NA .	NA .	NA NA	NA NA	NA	NA .	NA
10*14786	Т	5-23-11.1	TWILA O WHIPKEY	GASTAR EXPLORATION USA INC	1/8+	799	61	NA	NA .	NA	NA	NA NA	806/1 Gastar Exploration USA Inc to Athum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14797	T	5-23-11.1	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8+	800	598	NA	NA	NA	NA .	NA NA	30/136 Gastar Exploration USA Inc to Atlnum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14822	T	5-23-11.1	ONWARD E BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	463	NA .	NA	NA NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	35/144 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14823	т	5-23-11.1	SARAH L BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	459	NA	NA	NA	NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	35/144 Gastar Exploration Inc to Atinum Marcellus I LLC	n 36/9 Gastar Exploration Inc to TH Exploration II LLC

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10*17195	Ţ	5-23-11.1	PATRICIA HARTMAN	GASTAR EXPLORATION USA INC	1/8+	695	317	NA .	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoli Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17196	T	5-23-11.1	DELBERT R. MONTGOMER	GASTAR EXPLORATION Y USA INC	1/8+	695	311	NA		27/311 Gastar Exploration USA Inc and Athum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Tileholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10 *1 7197	T	5-23-11.1	GLORIA J. SIMMONS HAROLD SIMMONS	GASTAR EXPLORATION USA INC	1/8+	695	313	NA		27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17199	ī	5-23-11.1	PAMELA L DRAZIC AND JEFFREY DRAZIC	GASTAR EXPLORATION USA INC	1/8+	695	315	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17200	Ţ	5-23-11.1	STEPHANIE L BATES	GASTAR EXPLORATION USA INC	1/8+	697	156	NA		27/311 Gastar Exploration USA Inc and Athurn Marcellus I LLC to Chesapeake Appalachia LLC and Statoii Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17201	T	5-23-11.1	DENISE A GALE	GASTAR EXPLORATION USA INC	1/8+	697	395	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atlnum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17202	T	5-23-11.1	JANE GALE	GASTAR EXPLORATION USA INC	1/8+	697	385	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Athum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC

10*17203	Т	5-23-11.1	BARRY RAY MOORE	GASTAR EXPLORATION USA INC	1/8+	697	387	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoli Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17204	Ţ	5-23-11.1	CLARENCE RICHARD ZESIGER & MARY ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697	391	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17206	т	5-23-11.1	M VIRGINIA & EDWARD C	GASTAR EXPLORATION USA INC	1/8+	697	399	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17207	Т	5-23-11.1	DEBORAH K. KLIMASZEWSKI FRANK KLIMASZEWSKI, SR.	GASTAR EXPLORATION USA INC	1/8+	697	389	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17210	Ţ	5-23-11.1	MARILYN NOEL	GASTAR EXPLORATION USA INC	1/8+	697	393	NA NA		27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17211	Т	5-23-11.1	GARY WAYNE ZESIGER & VITORINA ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697	397	NA .	23/353 Gastar Exploration USA Inc to Atlnum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17212	т	5-23-11.1	DARRELL NEWLAND LYDIA NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697	158	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marceilus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC

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cs.															
O					140				NA	NA .	NA	NA	NA.	NA.	NA.
10*25627	S	5-23-11.4	CHESTNUT HOLDINGS LLC	TH EXPLORATION, LLC	1/8+	1034	548	NA	,NA	NA .	NA .	INA	INA.	INA .	INA .
2															
10*27714		5-23-11.4	PIKEWOOD ENERGY CORPORATION AN OHIO CORPORATION	TH EXPLORATION, LLC	1/8+	1060	572	NA	NA	NA	NA	NA	NA	NA	NA
10 27/14															
			STONE HILL MINERALS												
10*27959	S	5-23-11.4	HOLDINGS LLC	TH EXPLORATION, LLC	1/8+	1063	594	NA	NA .	NA	NA NA	NA .	NA	NA	NA
									!						
	_	5 22 44 4	TWILA O WHIPKEY	GASTAR EXPLORATION USA INC	1/8+	799	61	NA	NA	NA	NΔ	NA	806/1 Gastar Exploration USA Inc to Atinum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration
10*14786	T T	5-23-11.1	IWIDA O WHIPKET	USA INC	1/0+	733	- 01		INO.	DG.					
													30/136 Gastar Exploration	21/41 Gastar Exploration	
10*14797	т	5-23-11.1	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8+	800	598	NA	NA	NA	NA	NA	USA Inc to Atinum Marcellus I LLC	USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC
			ONWARD E BURGE TRUST STEPHEN W BURGE AS	GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar	35/144 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14822	т	5-23-11.1	TRUSTEE	USA INC	1/8+	876	463	NA .	NA	NA	NA NA	NA	Exploration Inc merger	uc	Inc to TH Exploration II LLC
												1			
10\$14923	т	5-23-11.1	SARAH L BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	459	NA	NA NA	NA	NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	35/144 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration
10*14823		12-52-11-1	Imostee	1		1 2,0		1	1 11						

								1	1	Ι					1
10*17195	т	5-23-11.1	PATRICIA HARTMAN	GASTAR EXPLORATION USA INC	1/8+	695	317	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17196	T	5-23-11.1	DELBERT R. MONTGOMERY	GASTAR EXPLORATION USA INC	1/8+	695	311	NA .	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atlnum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17197	Ţ	5-23-11.1	GLORIA J. SIMMONS HAROLD SIMMONS	GASTAR EXPLORATION USA INC	1/8+	695	313	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoii Onshore Properties inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17199	Ţ	5-23-11.1	PAMELA L DRAZIC AND JEFFREY DRAZIC	GASTAR EXPLORATION USA INC	1/8+	695	315	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17200		5-23-11.1	STEPHANIE L BATES	GASTAR EXPLORATION USA INC	1/8+	697	156	NA	23/353 Gastar Exploration USA Inc to Athrum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
		5-23-11.1	DENISE A GALE	GASTAR EXPLORATION USA INC	1/8+	697	395	NA NA	23/353 Gastar Exploration USA Inc to Atlnum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc.	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Tileholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17201	Ţ	5-23-11.1	JANE GALE	GASTAR EXPLORATION USA INC	1/8+	697	385	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC

.l 0*1 7203	ī	5-23-11.1	BARRY RAY MOORE	GASTAR EXPLORATION USA INC	1/8+	697	387	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17204	ī	5-23-11.1	CLARENCE RICHARD ZESIGER & MARY ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697	391	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoli Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17206	Ţ	5-23-11.1	M VIRGINIA & EDWARD C MARSH	GASTAR EXPLORATION USA INC	1/8+	697	399	NA	23/353 Gastar Exploration	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17207	Ţ	5-23-11.1	DEBORAH K. KLIMASZEWSKI FRANK KLIMASZEWSKI, SR.	GASTAR EXPLORATION USA INC	1/8+	697	389	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
	,	5-23-11.1	MARILYN NOEL	GASTAR EXPLORATION USA INC	1/8+	697	393	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17210 10*17211	Ţ	5-23-11.1	GARY WAYNE ZESIGER & VITORINA ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697	397	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17212	Ţ	5-23-11.1	DARRELL NEWLAND LYDIA NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697	158	NA	23/353 Gastar Exploration	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoli Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC

10*17213	T	5-23-11.1	CAROL DEEN GARDNER	GASTAR EXPLORATION USA INC	1/8+	697	154	NA	23/353 Gastar Exploration	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	Appalachia LLC to SWN	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	Production Company LLC	Onshore Properties Inc to	41/256 SWN Production Company LLC to TH Exploration LLC
10*18275	т	5-23-11.1	BETTY JEAN NEELY	TH EXPLORATION, LLC	1/8+	929	60	NA	NA	NA .	NA	NA	NA	NA	NA .
			MARY LOU WILSON AND STANLEY D WILSON MICHAEL WILSON ATTORNEY IN FACT	TH EXPLORATION, LLC	1/8+	931	311	NA.	NA.	NA NA	NA.	NA NA	NA NA	NA NA	NA.
10*18366	T	5-23-11.1	CRAIG ALAN YOHO AND												
10*18369	Т	5-23-11.1	DONNA M YOHO	TH EXPLORATION, LLC	1/8+	931	303	NA		NA	NA	NA	NA		NA
10*18370	Т	5-23-11.1	DAVID N DEVICK TRUSTEE OF THE TONI JO MASON	1	1/8+	931	300	NA	NA	NA	NA	NA	NA .	NA	NA NA
10*18379	T	5-23-11.1	LIVING TRUST	TH EXPLORATION, LLC	1/8+	932	439	NA	NA NA	NA .	NA .	NA .	NA .	NA.	NA.

10*19652	Ţ	5-23-11.1	JACK R HAMMERS	TH EXPLORATION, LLC	1/8+	944	108	NA NA	NA.	NA.	NA	NA NA	NA	NA NA	NA
10*19652	T	5-23-11.1		TH EXPLORATION, LLC	1/8+	944	108	NA NA	NA	NA	NA	NA	NA	NA NA	NA
	т	5-23-11.1		TH EXPLORATION, LLC	1/8+	948	236	NA.	NA NA	NA NA	NA NA	NA NA	NA NA	NA	NA NA
10*19903			PAUL F HAMMERS	TH EXPLORATION, LLC		948			NA NA	NA NA	NA.	NA NA	NA.	NA.	NA.
10*19903	т	5-23-11.1	COLIN R YOHO AND		1/8+		304		NA NA	NA NA	NA.	NA NA	NA NA	NA.	NA.
10*22008	T	5-23-11.1	MARK EUGENE YOHO &	TH EXPLORATION, LLC	1/8+	953					NA.			NA.	NA NA
10*22025	T	5-23-11.1	MARY YOHO JANICE N HAUDENSCHILT	TH EXPLORATION, LLC	1/8+	960	544 459	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA

10*22334	ī	5-23-11.1	JOHN BRYANT	TH EXPLORATION, LLC	1/8+	962	540	NA NA	NA NA	NA NA	NA NA	NA .	NA NA	NA .	NA
10*22441	т	5-23-11.1	APRIL ROSE	TH EXPLORATION, LLC	1/8+	963			NA .	NA	NA	NA .	NA	NA.	NA
10*22510	т	5-23-11.1	DONNA V YOHO	TH EXPLORATION, LLC	1/8+	964	432	NA	NA NA	NA NA	NA NA	NA .	NA NA	NA	NA
10*23372	т	5-23-11.1	DEWEY A MILICIA AND ROBIN MILICIA	TH EXPLORATION, LLC	1/8+	1008		NA	NA NA	NA.	NA.	NA NA	NA NA	NA .	NA NA
	т		DANA MILICIA HUMPHREYS	TH EXPLORATION, LLC	1/8+	988			NA.	NA.	NA.	NA NA	NA NA	NA.	NA
10*23373		5-23-11.1	NICOLETTA MILICIA						NA NA	NA.	NA.	NA.	MA	NA.	NA.
10*23446 10*25627	T	5-23-11.1	BLOODWORTH CHESTNUT HOLDINGS LLC	TH EXPLORATION, LLC	1/8+ 1/8+	1008	316	NA NA	NA NA	NA.	NA NA	NA NA	NA	, NA	NA

		PIKEWOOD ENERGY												
10*27714	,	CORPORATION AN OHIO CORPORATION	TH EXPLORATION, LLC	1/8+	1060	572	NA	NA .	NA	NA	NA	NA	NA	NA



CERTIFICATE OF CONSENT AND EASEMENT

The undersigned, for valuable consideration, the receipt and sufficiency of which is hereby acknowledged, being the owner of the surface of that certain lot, tract or parcel of land located in Franklin District, Marshall County, State of West Virginia, shown on the attached plat or survey, hereby consents and grants an easement, pursuant to West Virginia Code, Section 22C-9-7(b)(4) and Operating Rule 4.4 of the Rules and Regulations of the West Virginia Oil and Gas Conservation Commission, to TH Exploration, LLC, its successors or assigns, for the drilling and operation of a deep well for the production of oil or gas at the location shown on the attached plat or survey.

Executed this 20th day of Detoter, 2019.

Robert L. Shields

Rebecca A. Shields

Warshall County
Jan Pest, Clerk
Instrument 1463767
01/29/2020 @ 10:38:15 AM
RIGHT OF WAY M/O CONSIDERATION
Book 1072 @ Page 252
Pages Recorded 2
Recording Cost # 11.00

STATE OF WEST VIRGINIA

SS:

COUNTY OF MARSHALL

On this, the Law day of October, 2019, before me, a notary public, the undersigned officer, personally appeared Robert L. Shields and Rebecca A. Shields known to me (or satisfactorily proven) to be the person(s) who's name is subscribed to the within instrument, and acknowledged that he/she/they executed the same for proposed therein contained.

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

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
S DAVID WILHARM
Reedy, Watern Ear's Roberty FLC
3200 Main Strage
Westen, West Virginia 25052
My Commission Explore Mar. 13, 2023

My Commission Expires: _ Signature/Notary Public: _

Signature/Notary Public: Share had Name/Notary Public (print): 3 David Williams

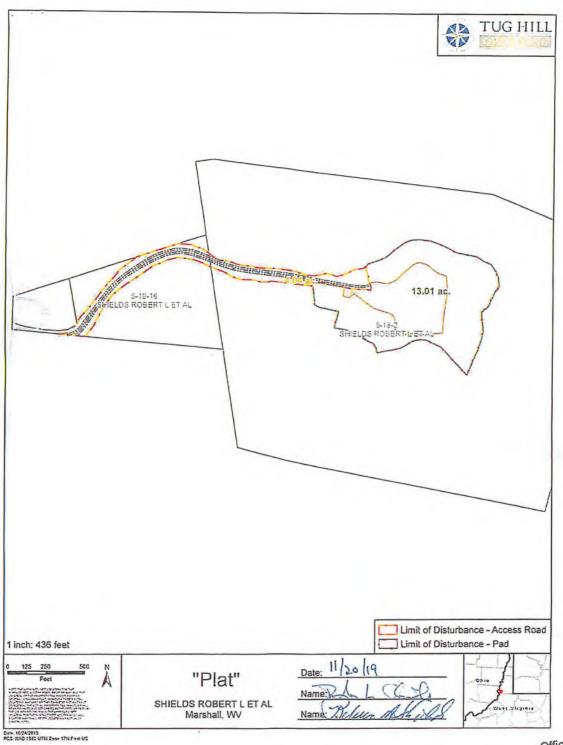
This instrument prepared by: WV Oil and Gas Conservation Commission 601 57th Street Charleston, WV 25304

4838-2618-8605v2

Office of Oil and Gas

JUL 17 2020

WV Department of Environmental Protection



RECEIVED Gas

JUL 17 2020

WV Department of Environmental Protection



CERTIFICATE OF CONSENT AND EASEMENT

The undersigned, for valuable consideration, the receipt and sufficiency of which is hereby acknowledged, being the owner of the surface of that certain lot, tract or parcel of land located in Franklin District, Marshall County, State of West Virginia, shown on the attached plat or survey, hereby consents and grants an easement, pursuant to West Virginia Code, Section 22C-9-7(b)(4) and Operating Rule 4.4 of the Rules and Regulations of the West Virginia Oil and Gas Conservation Commission, to TH Exploration, LLC, its successors or assigns, for the drilling and operation of a deep well for the production of oil or gas at the location shown on the attached plat or survey.

Executed this 20 day of October, 2019

Donald Shields

Harshall County
Jan Pest, Clerk
Instrument 1463768
01/29/2020 @ 10:38:16 AH
RIGHT OF WAY W/O CONSIDERATION
Book 1072 @ Page 254
Pages Recorded 2
Recording Cost \$ 11.00

STATE OF WEST VIRGINIA

COUNTY OF MARSHALL

SS:

Contract of the second sections

On this, the day of October, 2019, before me, a notary public, the undersigned officer, personally appeared Donald Shields known to me (or satisfactorily proven) to be the person(s) who's name is subscribed to the within instrument, and acknowledged that he/she/they executed the same for proposed therein contained.

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

OFFICIAL SEAL MOTARY PUBLIC STATE OF WEST VIRGINIA S DAVID WILLHARM S DAVID WILLHARM Revay Wann Pub Series Yello Westen, West Wengin 25062 My Commission Express Mar. 13.2025

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

Charleston, WV 25304

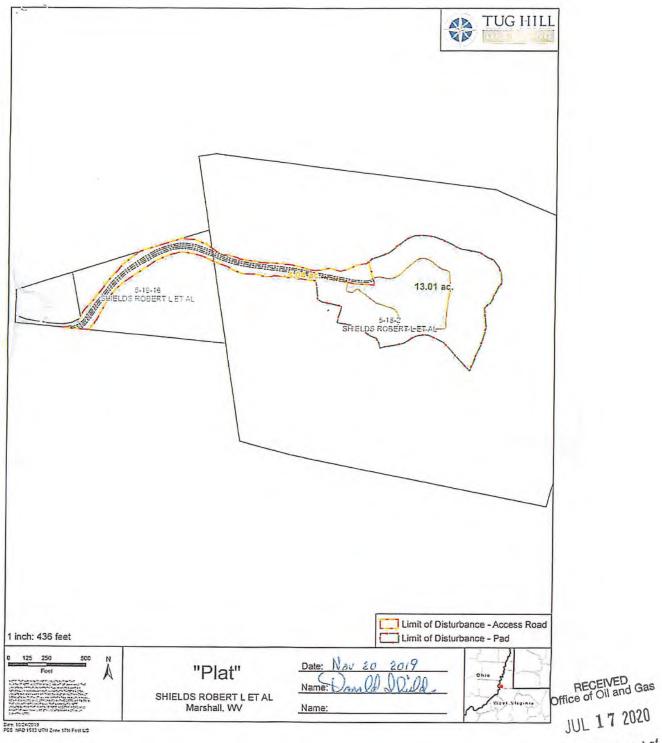
My Commission Expires: 3/13/263
Signature/Notary Public: 5/263
Name/Notary Public (print): 5/263

4838-2618-8605v2

RECEIVED Office of Oil and Gas

JUL 17 2020

WV Department of Environmental Protection



WW Department of Environmental Protection

WHEN RECORDED RETURN TO: TH Exploration II, LLC 1320 South University Drive, Suite 500 Fort Worth, Texas 76107 Attn: David Kalish

Jan Pest MARSHALL County 01:22:38 PM Instrument No 1403489 Date Recorded 04/27/2016 Document Type ASN Pages Recorded 77 Book-Page 36-9 Recording Fee \$77.00 Additional \$13.00

Execution Version

ASSIGNMENT AND BILL OF SALE

STATE OF WV δ §

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF MARSHALL §

Environmental Protection THIS ASSIGNMENT AND BILL OF SALE (this "Assignment"), dated April 7, 2016, but effective as of 7:00 A.M. Houston time on January 1, 2016 (the "Effective Time"), is between Gastar Exploration Inc., a Delaware corporation, whose address is 1331 Lamar Street, Suite 650 Houston, Texas 77010 ("Assignor"), and TH Exploration II, LLC, a Texas limited liability company, whose address is 1320 South University Drive, Suite 500, Fort Worth, Texas 76107 ("Assignee"). Assignor and Assignee are each, individually, referred to herein as a "Party" and, collectively, as the "Parties".

Capitalized terms used but not defined herein shall have the respective meanings set forth in that certain Purchase and Sale Agreement (the "Purchase Agreement"), dated as of February 19, 2016, by and between Assignor and Assignee (as successor-in-interest).

Section 1. Assignment. The conveyance and assignment herein shall be deemed effective as of the Effective Time.

For Ten Dollars (\$10.00) and other good and valuable consideration (the receipt and sufficiency of which are hereby acknowledged), Assignor does hereby forever GRANT, BARGAIN, SELL, CONVEY, ASSIGN, TRANSFER, SET OVER AND DELIVER unto Assignee, all of Assignor's right, title and interest in and to the following interests and properties (such right, title and interest described in subsections (a) through (k) of this Section 1, less and except the Excluded Assets, collectively, the "Conveyed Interests"):

- all oil, gas and/or mineral leases of Assignor, together with any and all other right, title and interest of Assignor in and to the leasehold estates created thereby, including subleases, royalties, overriding royalties, net profits interest, carried interests or similar rights or interests in such leases, and together with all rights, privileges, benefits and powers conferred upon Assignor with respect to the use and occupation of the lands covered thereby that may be necessary, convenient or incidental to the possession and enjoyment of such leases, located in Marshall, Wetzel, Doddridge, Harrison, Lewis, Marion, and Monongalia Counties, West Virginia and Greene, Butler, Fayette, Somerset, and Clearfield Counties, Pennsylvania, including those described on Exhibit A-Part 1 attached hereto (subject to any reservations, limitations or depth restrictions described on Exhibit A-Part 1), (Assignor's interest in such leases and other right, title and interest as so limited, the "Leases");
- all rights and interests in, under or derived from all unitization agreements in effect with respect to any of the Leases and the units created thereby, including those described

1 1

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 1 ASSIGNMENT OF ASSETS

Section 1.1 <u>Assignment</u>. 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 <u>Exhibit A</u> attached hereto (the "Leases") INSOFAR AND ONLY INSOFAR as they cover those lands described on <u>Exhibit A</u> (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 <u>Disclaimers of Warranties and Representations</u>.

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

Office of Oil and Gass

JUL 17 2020

WW Department of Environmental Protection

COLIN KING AMERICAN PETROLEUM PARTNERS OPERATING LLC 380 SOUTHPOINTE BOULEVARD, STE. 120 CANONSBURG PA 15317-8561

STATE OF WEST VIRGINIA S
COUNTY OF MARSHALL

Marshall County
Jan Pest, Clerk
Instrument 1431482
10/18/2017 @ 03:32:59 PM
ASSIGNMENTS
Book 40 @ Page 418
Pages Recorded 5
Recording Cost \$ 11.00

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "Assignment") is made and entered into this 16 Th day of October, 2017 (the "Effective Date"), by and between AMERICAN PETROLEUM PARTNERS OPERATING, LLC, (hereinafter "Assignor") and TH EXPLORATION, LLC (hereinafter "Assignee") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated August 4, 2017 (the "Acreage Trade Agreement"). Capitalized terms used but not defined herein and defined in the Acreage Trade Agreement shall have the meanings given to such terms in the Acreage Trade Agreement.

WITNESSETH:

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

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

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

1. <u>Assignment</u>. Assignor does hereby grant, bargain, sell, convey, deliver, assign, set over and transfer, as of the Effective Date, to Assignee, its respective successors and assigns, forever, all of Assignor's right, title and interest in and to the Leases, and the lands covered thereby, together with all rights incident thereto and appurtenances thereon.

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

2. <u>Special Warranty</u>. Assignor represents and warrants that Assignor has not conveyed or otherwise encumbered (other than Permitted Encumbrances) its interest in the

Office of Oil and Gas

JUL 17 2020

WW Department of Environmental Protection

WY-AGIR-0008



July 15, 2020

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

RE: McMasters S-17HU

Subject: Marshall County Route 29/1 Road Crossing Letter

Dear Laura:

Tug Hill Operating, LLC (THO) hereby submits this letter as confirmation that THO has obtained the right to drill, extract and produce the minerals under Marshall County Route 29/1 in the area reflected on the McMasters S-17HU well plat. THO has conducted a full title search in the relevant Court House to confirm its ownership under said County Routes and is not currently aware of any recorded document that would suggest an ownership other than THO.

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

Sincerely,

Amy Miller

Permit Specialist – Appalachia Region

Cell 304-376-0111

Email: amiller@tug-hillop.com

Office of Oil and Gas

JUL 17 2020

WW Department of Environmental Protection

WW-6AC (1/12)

Date of Notice Certification: 07/15/2020

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

API No. 47- 051

W. L.	ATT ALL	Well Pad Name	e; Shields
	been given:	22.61 1 0	distribution of the second
	tract of land as follows:	\$ 22-6A, the Operator has provided the required	d parties with the Notice Forms list
tate:	West Virginia	Lasting: 518,	200.94
ounty:	Marshall	- IIIVINAD Ka	1,175.26
istrict:	Franklin		ch Ridge Road (CR 29)
uadrangle:	Powhatan Point 7.5'		ert L. Shields, et al
Vatershed:	Lower Fish Creek		
has provide formation refigiving the equirements firginia Code of this article fursuant to that the Ope	ed the owners of the surface descrite equired by subsections (b) and (c), se surface owner notice of entry to su of subsection (b), section sixteen of § 22-6A-II(b), the applicant shall thave been completed by the applicant west Virginia Code § 22-6A, the Operator has properly served the require	erator has attached proof to this Notice Certifi	on (b), section ten of this article, ement was deemed satisfied as a re of this article six-a; or (iii) the no surface owner; and Pursuant to W the notice requirements of section
PLEASE CHI	ECK ALL THAT APPLY		ONLY
□ 1, NO	FICE OF SEISMIC ACTIVITY or	■ NOTICE NOT REQUIRED BECAUSE SEISMIC ACTIVITY WAS CONDUCTED	Part of the part o
	FICE OF ENTRY FOR PLAT SURV	TEY of D NO PLAT SURVEY WAS COND	Commo 🖂
■ 2. NO	THE OF EATTER FOR TENT SORT		UCTED RECEIVED
		NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OF	RECEIVED RECEIVED NOT REQUIRED
		NOTICE OF ENTRY FOR PLAT SURVEY	☐ RECFIVED/ NOT REQUIRED
□ 3, NO		NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OF WRITTEN WAIVER BY SURFACE OF	RECEIVED/ NOT REQUIRED WHER
□ 3. NO	ПСЕ OF INTENT TO DRILL or	NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OF WRITTEN WAIVER BY SURFACE OF	☐ RECFIVED/ NOT REQUIRED

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

WW-6AC (1/12)

Certification of Notice is hereby given:

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

 Well Operator:
 Tug Hill Operating, LLC
 Address:
 380 Southpointe Boulevard, Plaza II, Suite 200

 By:
 Amy L. Miller
 Canonsburg, PA 15317

 Its:
 Permitting Specialist - Appalachia Region
 Facsimile:
 724-338-2030

 Telephone:
 724-749-8388
 Email:
 amiller@tug-hillop.com

NOTARY SEAL

Commonwealth of Pennsylvania - Notary Seal MAUREEN A STEAD - Notary Public Washington County My Commission Expires Jan 28, 2023 Commission Number 1259926 Subscribed and sworn before me this 15 day of JVLU 2020

Notary Public

My Commission Expires 1/28/23

Oil and Gas Privacy Notice:

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

RECEIVED
Office of Oil and Gas

JUL 17 2020

WV Department of Environmental Protection

WW-6A (9-13) 470 51 02338

OPERATOR WELL NO. McMasters S-17HU

Well Pad Name: Shields

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

Noti	ce Time Requirem	ent: notice shall be provid	led no later tha	m the filing date of permit application.	
	e of Notice: 7/13/2020 ce of:	Date Permit Application	ion Filed: 7/16/	/2020	
V	PERMIT FOR AN			PROVAL FOR THE AN IMPOUNDMENT OR PIT	
Deli	very method pursi	ıant to West Virginia Coo	de § 22-6A-10	(b)	
	PERSONAL SERVICE	☐ REGISTERED MAIL		OD OF DELIVERY THAT REQUIRES A PT OR SIGNATURE CONFIRMATION	
sedin the si oil ar description operation more well impo have provi propo subse recor provi Code	nent control plan recurface of the tract or and gas leasehold being ribed in the erosion at ator or lessee, in the coal seams; (4) The work, if the surface undment or pit as de a water well, spring de water for consumpted well work activection (b) of this seed sof the sheriff requision of this article to R. § 35-8-5.7.a requirements.	quired by section seven of the which the well is or is propent developed by the propose and sediment control plan surevent the tract of land on who where so frecord of the surtract is to be used for the plan secribed in section nine of the or water supply source located aption by humans or domestify is to take place. (c)(1) If the contrary, notice to a lie using in part, that the operation of the contrary, notice to a lie using in part, that the operation of the contrary is to notice and	is article, and the cosed to be located well work, if abmitted pursuantich the well preface tract or tracement, construis article; (5) Atted within one ic animals; and more than threeds, the applicant to section each holder is not tor shall also prefaced water testing and the section of the control of the	or signature confirmation, copies of the application has well plat to each of the following persons: ated; (2) The owners of record of the surface of the surface tract is to be used for roads or of the surface tract is to be used for roads or of the surface tract is to be used for roads or of the surface tract is to be used for roads or of the surface opposed to be drilled is located [sic] is known octs overlying the oil and gas leasehold being uction, enlargement, alteration, repair, remover, surface owner or water purveyor who is known surface owner or water purveyor who is known five hundred feet of the center of the (6) The operator of any natural gas storage for the tenants in common or other co-owners of in the traction of the documents required upon the sight, article one, chapter eleven-a of this connotice to a landowner, unless the lien holder rovide the Well Site Safety Plan ("WSSP") to as provided in section 15 of this rule.	(1) The owners of record of tract or tracts overlying the ther land disturbance as icle; (3) The coal owner, in to be underlain by one or developed by the proposed val or abandonment of any known to the applicant to me well pad which is used to field within which the interests described in the eperson described in the de. (2) Notwithstanding any is the landowner. W. Va. to the surface owner and any
SUNAMAddri Procto Nam Addri Procto SU Nam Addri Procto Nam Addri Procto Nam Addri SU Nam Addri Nam Addri Nam	IRFACE OWNER() e: Donald Shields (Flad a ress: 231 Lonesome Ln. r, WV 26055 e: Robert and Rebecca Seess: 2756 Burch Ridge lar, WV 26055 IRFACE OWNER() e: Mark A. Yoho ress: 6701 Burch Ridge lar, WV 26055 e: Mark E. Yoho ress: 3998 Burch Ridge lar, WV 26055 r, WV 26055 r, WV 26055 ress: 3998 Burch Ridge lar, WV 26055	s) nd Access Road) chields (Pad and Access Road) Road Road Road Road S) (Road and/or Other Districted Road Road Road		☐ Well Plat Notice is hereby provided ☐ COAL OWNER OR LESSEE Name: CONSOL Energy Address: 1000 Consol Drive Canonsburg, PA 15317 ☐ COAL OPERATOR Name: CONSOL Energy Address: 1000 Consol Drive Canonsburg, PA 15317 ☐ SURFACE OWNER OF WATER WEI AND OR WATER PURVEYOR(s) Name: Nikki L. & Jonathan Stevens Address: 757 Weeping Willow Lane Proctor, WV 26055 ☐ OPERATOR OF ANY NATURAL GA Name: n/a Address:	Office of Oil and Gas JUL 17 2020 LL W Department of Environmental Protection AS STORAGE FIELD
Addr	ess:			*Please attach additional forms if necessa	

OPERATOR WELL NO. McMasters S-17HU Well Pad Name: Shields

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 and Gas Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wylgov/pi and-gas/pages/default.aspx.

Well Location Restrictions

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

Well Pad Name: Shields

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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.

Office of Oil and Gas

JUL 17 2020

WW-6A (8-13) API NO. 47-051 4-70 Masters 2413 38
Well Pad Name: Shields

Notice is hereby given	by:
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Well Operator: Tug Hill Operating, LLC

Telephone: 724-749-8388

Email: amiller@tug-hillop.com

any Stille

Address: 380 Southpointe Boulevard, Plaza II, Suite 200

Canonsburg, PA 15317

Facsimile: 724-338-2030

Oil and Gas Privacy Notice:

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

Commonwealth of Pennsylvania - Notary Seal Chester Arthur West IV, Notary Public Washington County My commission expires February 10, 2024 Commission number 1267179

Member, Pennsylvania Association of Notaries

Subscribed and sworn before me this 13th day of July, 2020

Notary Public

My Commission Expires

2-10-2024

Office of Oil and Gas

JUL 17 2020

WV Department of Environmental Protection

WW-6A

Supplement Pg. 1A

Tug Hill Operating, LLC 380 Southpointe BLVD, Suite 200 Canonsburg, PA 15317

WATER WELL REPORT

Well: MCMASTERS S-20HU

District: Franklin County: Marshall State: WV

There appears to be One (1) possible water source within 2,000 feet of the above referenced well location.

Topo Spot # 1	
(House/Cabin)	
TM 5-18-3.1	
Nikki L. & Jonathan Stevens	
757 Weeping Willow Ln.	
Proctor, WV 26055	
304-771-0630 ©	
740-255-3620 ©	
336-239-2605 ©	
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Office of Oil and Gas

JUL 17 2020

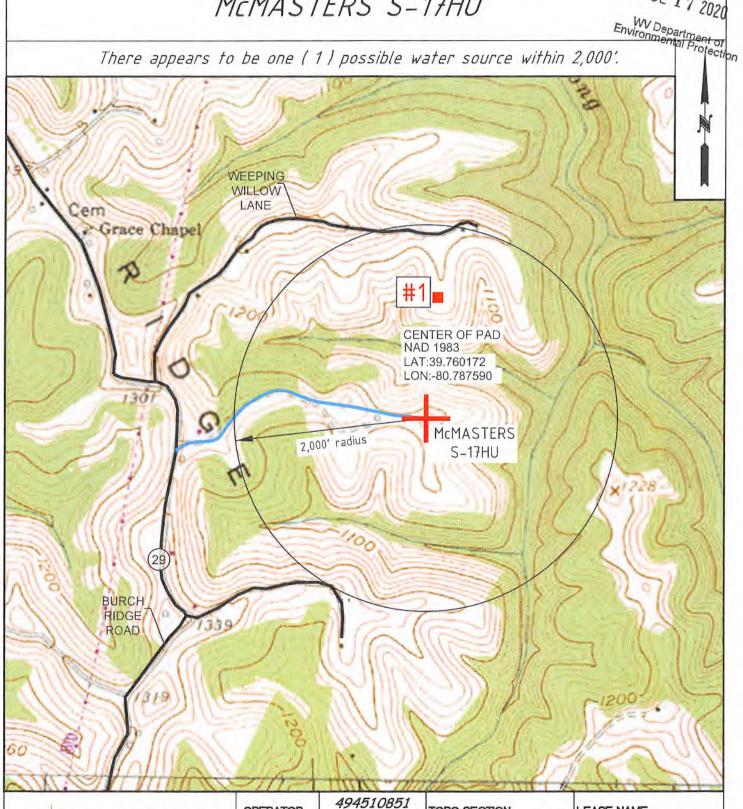
WW-6A

PROPOSED McMASTERS S-17HU

SUPPLEMENTICE OF OIL and Gas

JUL 17 2020

There appears to be one (1) possible water source within 2,000'.





OPERATOR TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317

TOPO SECTION LEASE NAME POWHATAN POINT 7.5' **McMASTERS** SCALE: DATE: 1'' = 1000'DATE: 6-4-2020

Operator Well No. McMasters S-17HU

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE OF ENTRY FOR PLAT SURVEY

	Requirement: No	tice shall be prov	ided at least SEVEN (7) day	s but no more than	FORTY-FIVE (45	i) days prior to	To.
entry Date of Noti	ce: 6/23/2020	Date of Plan	ned Entry: 6/30/2020				
Delivery me	thod pursuant to V	West Virginia Co	ode § 22-6A-10a				
☐ PERSO	NAL 🗆 RI	EGISTERED	■ METHOD OF DEL	IVERY THAT RE	OUIRES A		
			RECEIPT OR SIGN				
on to the surf but no more to beneath such owner of min and Sedimen Secretary, who	face tract to conducthan forty-five days tract that has filed nerals underlying sut Control Manual a	t any plat surveys sprior to such ent a declaration purs ich tract in the con nd the statutes and include contact i	rior to filing a permit applic required pursuant to this ar- ry to: (1) The surface owner suant to section thirty-six, ar- unty tax records. The notice d rules related to oil and gas information, including the ac- e secretary.	ticle. Such notice s of such tract; (2) t ticle six, chapter to shall include a sta exploration and pr	hall be provided at le o any owner or lesse venty-two of this coc tement that copies of roduction may be obt	east seven day e of coal seam de; and (3) any f the state Eros tained from the	s s sion
Notice is her	reby provided to:	1					
SURFA	CE OWNER(s)		■ colai	OWNER OR LES	SSEE		
Name: Mark A.		I_{λ}	Name: CON				
Address: 670	1 Burch Ridge Rd.		Address: 1				
Practor, WV 2605		1	Canonsburg, P	Canonsburg, PA 15317			
Name: Mark E.	. Yaho			A TALL SALES AND A STATE OF THE SALES			
Address: 399	8 Burch Ridge Rd.		MINE	RAL OWNER(s)			
Practor, WV 2605			Name: Rob	Name: Robert & Rebecca Shields			
Name: Donald				756 Burch Ridge Rd.			
Address: 231 Proctor, WV 2605				Proctor, WV 26055			
110ctor, VV 2003	<u> </u>		*please anacr	additional forms if nec	essary		
Pursuant to V	on the tract of land West Virginia Marshall Franklin		otice is hereby given that the Approx. Latitu Public Road A Watershed: Generally used	ide & Longitude; ccess:	operator is planning 39,760262; -80.788083 Burch Ridge Road (County Lower Fish Creek Donald L. Shields, et al.		uct
may be obtain Charleston, Vobtained from	ned from the Secret WV 25304 (304-92 in the Secretary by vereby given by:	tary, at the WV D 6-0450). Copies visiting <u>www.dep</u>	Manual and the statutes and epartment of Environmental of such documents or additions.wv.gov/oil-and-gas/pages/d	I rules related to oi I Protection headqu onal information re efault.aspx. 380 Southpointe Boulev Canonsburg, PA 15317	narters, located at 60 clated to horizontal d	1 57 th Street, S Irilling may be	EE, ECEIVED of Oil and Ga 17 2020
Email:	amiller@tug-hillop.co	ımı	Facsimile:	724-338-2030			refectio
72.72.00							

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.

ADDITIONAL PARTIES TO NOTICE McMasters Pad WW-6A3

Additional Surface Owner:

Robert and Rebecca Shields 2756 Burch Ridge Road Proctor, WV 26055

Additional Mineral Owner: Donald Shields 231 Lonesome Ln. Proctor, WV 26055

Office of Oil and Gas

JUL 17 2020

WV Department of Environmental Protection

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

Date of Noti	ce: 07/14/2020 Date Permit A			
Delivery me	hod pursuant to West Virginia Code §	22-6A-16(c)		
CERTI	FIED MAIL	HAND		
	RN RECEIPT REQUESTED	DELIVERY		
Pursuant to V return receipt the planned of required to be drilling of a damages to the (d) The notice of notice.	V. Va. Code § 22-6A-16(c), no later that requested or hand delivery, give the surfaperation. The notice required by this seprovided by subsection (b), section ten observation well; and (3) A proposed surface affected by oil and gas operations required by this section shall be given the surface affected to the SURFACE OWNE.	n the date for filing the ace owner whose land wubsection shall include; if this article to a surface ace use and compensations to the extent the dama to the surface owner at the R(s)	(1) A copy cowner whose on agreement ages are comp	cation, an operator shall, by certified mail or the drilling of a horizontal well notice of of this code section; (2) The information see land will be used in conjunction with the at containing an offer of compensation for pensable under article six-b of this chapter, sted in the records of the sheriff at the time
Name: Donald S Address: 2311 Proctor, WV 2600 Notice is her Pursuant to Woperation on	eby given: Vest Virginia Code § 22-6A-16(c), notice the surface owner's land for the purpose of	Name: Robi Address: 2 Proctor, WV	undersigned vell on the tra	well operator has developed a planned ct of land as follows:
Name: Donald S Address: 2311 Proctor, WV 2609 Notice is her Pursuant to W operation on State:	conesome Ln. Seby given: Vest Virginia Code § 22-6A-16(c), notice the surface owner's land for the purpose of West Virginia	Name: Robi Address: 2 Proctor, WV	2756 Burch Ridge 26055 undersigned vell on the tra Easting:	well operator has developed a planned ct of land as follows: 518,200.94
Name: Donald S Address: 2311 Proctor, WV 2603 Notice is her Pursuant to W operation on State: County:	chields conesome Ln. Seby given: Vest Virginia Code § 22-6A-16(c), notice the surface owner's land for the purpose of West Virginia Marshall	Name: Robe Address: 2 Proctor, WV : is hereby given that the to f drilling a horizontal w UTM NAD 83	2756 Burch Ridge 26055 undersigned v vell on the tra Easting: Northing:	well operator has developed a planned ct of land as follows: 518,200.94 4,401,175.26
Name: Donald S Address: 2311 Proctor, WV 2603 Notice is her Pursuant to W operation on State: County: District:	chields conesome Ln. sis eby given: /est Virginia Code § 22-6A-16(c), notice the surface owner's land for the purpose of West Virginia Marshall Franklin	Name: Robin Address: 2 Proctor, W. 2 is hereby given that the up of drilling a horizontal way and the second seco	2756 Burch Ridge 26055 undersigned vell on the tra Easting: Northing:	well operator has developed a planned ct of land as follows: 518,200.94 4,401,175.26 Burch Ridge Road (CR 29)
Name: Donald S Address: 2311 Proctor, WV 2603 Notice is her Pursuant to W	chields conesome Ln. Seby given: Vest Virginia Code § 22-6A-16(c), notice the surface owner's land for the purpose of West Virginia Marshall	Name: Robe Address: 2 Proctor, WV : is hereby given that the to f drilling a horizontal w UTM NAD 83	2756 Burch Ridge 26055 undersigned vell on the tra Easting: Northing:	well operator has developed a planned ct of land as follows: 518,200.94 4,401,175.26
Name: Donald S Address: 2311 Proctor, WV 2602 Notice is her Pursuant to W operation on State: County: District: Quadrangle: Watershed: This Notice S Pursuant to W to be provide horizontal we surface affect information r headquarters, gas/pages/def	chields conesome Ln. deby given: Vest Virginia Code § 22-6A-16(c), notice of the surface owner's land for the purpose of the west Virginia Marshall Franklin Powhatan Point 7.5' Fish Creek (HUC 10) Chall Include: Vest Virginia Code § 22-6A-16(c), this not do by W. Va. Code § 22-6A-10(b) to a sell; and (3) A proposed surface use and coded by oil and gas operations to the external code do do do do do do do do do do do do do	Name: Robi Address: 2 Proctor, WV: 3 is hereby given that the to of drilling a horizontal w UTM NAD 83 Public Road Acc Generally used for the surface owner whose last the damages are compined from the Secretary eston, WV 25304 (30)	undersigned vell on the tra Easting: Northing: cess: farm name:	well operator has developed a planned ct of land as follows: 518,200.94 4,401,175.26 Burch Ridge Road (CR 29)
Name: Donald S Address: 2311 Proctor, WV 2603 Notice is her Pursuant to W operation on State: County: District: Quadrangle: Watershed: This Notice S Pursuant to W to be provide horizontal we surface affect information r headquarters, gas/pages/def	chields conesome Ln. deby given: Vest Virginia Code § 22-6A-16(c), notice of the surface owner's land for the purpose of the west Virginia Marshall Franklin Powhatan Point 7.5' Fish Creek (HUC 10) Chall Include: Vest Virginia Code § 22-6A-16(c), this not do by W. Va. Code § 22-6A-10(b) to a sell; and (3) A proposed surface use and coded by oil and gas operations to the external code do do do do do do do do do do do do do	Name: Robi Address: 2 Proctor, WV is hereby given that the u of drilling a horizontal w UTM NAD 83 Public Road Acc Generally used f surface owner whose la impensation agreement of the damages are comp ined from the Secretary eston, WV 25304 (30)	andersigned vell on the transcess: farm name: copy of this conducting an pensable und at the WV 4-926-0450)	well operator has developed a planned ct of land as follows: 518,200.94 4,401,175.26 Burch Ridge Road (CR 29) Robert L. Shields, et al code section; (2) The information required ised in conjunction with the drilling of a offer of compensation for damages to the er article six-b of this chapter. Additional Department of Environmental Protection
Name: Donald S Address: 2311 Proctor, WV 2602 Notice is her Pursuant to W operation on State: County: District: Quadrangle: Watershed: This Notice S Pursuant to W to be provide horizontal we surface affect information r headquarters,	chields conesome Ln. deby given: Vest Virginia Code § 22-6A-16(c), notice of the surface owner's land for the purpose of the west Virginia Marshall Franklin Powhatan Point 7.5' Fish Creek (HUC 10) Chall Include: Vest Virginia Code § 22-6A-16(c), this not do by W. Va. Code § 22-6A-10(b) to a sell; and (3) A proposed surface use and coded by oil and gas operations to the external code do do do do do do do do do do do do do	Name: Robi Address: 2 Proctor, WV is hereby given that the to of drilling a horizontal w UTM NAD 83 Public Road Acc Generally used f surface owner whose la mpensation agreement of the damages are comp ined from the Secretary eston, WV 25304 (30) Address: 38	andersigned vell on the transcess: farm name: copy of this conducting an pensable und at the WV 4-926-0450)	well operator has developed a planned ct of land as follows: 518,200.94 4,401,175.26 Burch Ridge Road (CR 29) Robert L. Shields, et al code section; (2) The information required used in conjunction with the drilling of a offer of compensation for damages to the er article six-b of this chapter. Additional Department of Environmental Protection or by visiting www.dep.wv.gov/oil-and-ulevard , Plaza II, Suite 200

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



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

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

January 28, 2020

Byrd E. White, III Secretary of Transportation/ Commissioner of Highways

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

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

Subject: DOH Permit for the Shields Pad, Marshall County

McMasters N-11HU McMasters N-12HU McMasters N-13HU McMasters N-14HU McMasters N-15HU McMasters S-16HU McMasters S-17HU McMasters S-18HU McMasters S-19HU

McMasters S-20HU

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2012-0250 which has been transferred to Tug Hill Operating for access to the State Road for a well site located off Marshall County Route 29 SLS.

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

Very Truly Yours,

Gary K. Clayton, P.E.

Regional Maintenance Engineer

Central Office O&G Coordinator

Environmental Protection

Cc: Amy Miller

Tug Hill Operating

CH, OM, D-6

File

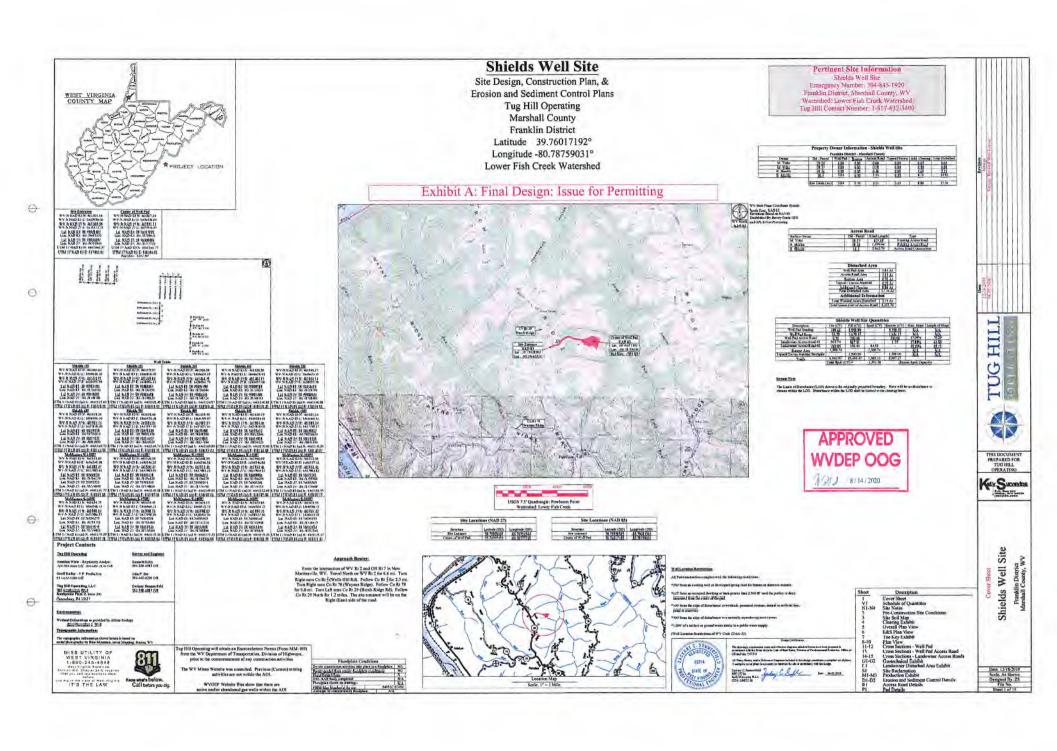


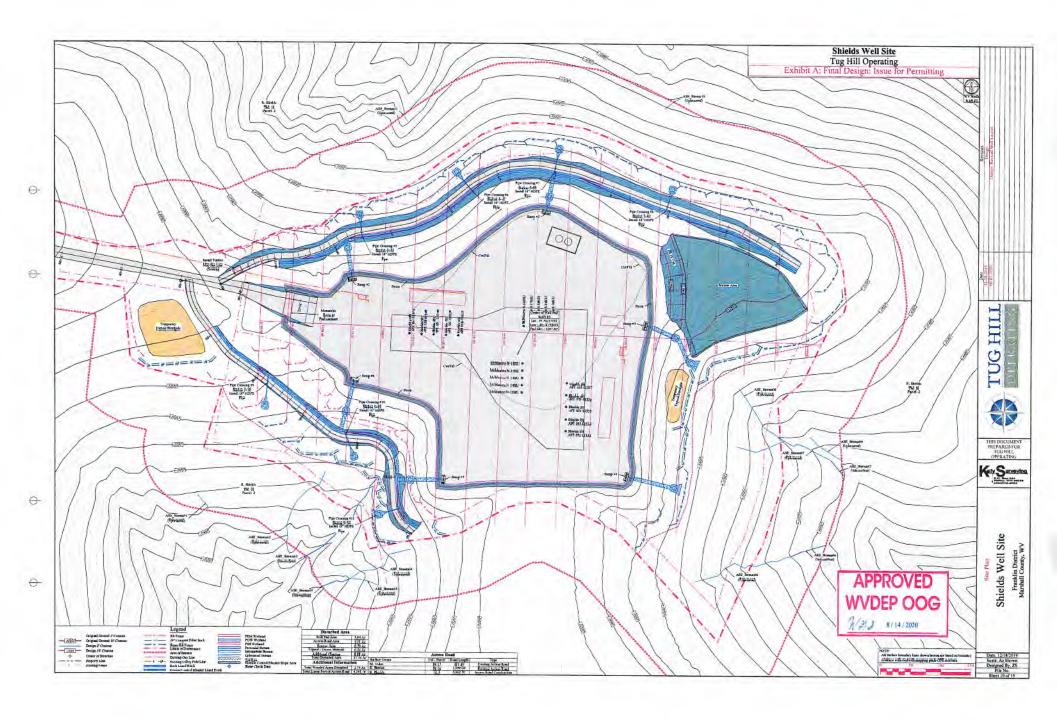
PLANNED ADDITIVES TO BE USED IN FRACTURING OR STIMULATION

Well No. McMasters S-17HU

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









west virginia department of environmental protection

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

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

Monday, September 21, 2020 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 MCMASTERS S-17HU 47-051-02338-00-00

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: MCMASTERS S-17HU

Farm Name: ROBERT L. SHIELDS, ET AL

U.S. WELL NUMBER: 47-051-02338-00-00

Horizontal 6A New Drill Date Issued: 9/21/2020



west virginia department of environmental protection

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

Randall M. Albert, Chairman dep.wv.gov

August 5, 2020

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

RE: Application for Deep Well Permit – API #47-051-02338

COMPANY: Tug Hill Operating, LLC

Robert L. Shields, et al FARM:

McMasters S-17HU

COUNTY:

Marshall

DISTRICT: Franklin

QUAD: Powhatan Point

The deep well review of the application for the above company is Approved to drill to Trenton for Point Pleasant completion.

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

- 1. Comments to Notice of Deviation filed? No.
- 2. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners? Yes
- 3. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells: **yes
- 4. Provided a plat showing that the productive interval of the well meets the requirements of the Rules of the Commission W. Va. C.S.R. § 39-1-4.2.

Sincerely,

Susan Rose Administrator

^{**}Corley N-9HU 47-051-01983; Corley N-10HU 47-051-01998; Burch Ridge S-7HU 47-051-02194; Burch Ridge S-6HU 47-051-02193; Blake N-10HU 47-051-02204; Blake N-11HU 47-051-02205; Blake N-9HU 47-051-02203; Blake U-7H 47-051-01766; McMasters N-12HU 47-051-02316; McMasters N-13HU 47-051-02332; McMasters N-14HU 47-051-02333; McMasters N-15HU 47-051-02334; McMasters S-16HU 47-051-02337; McMasters S-18HU 47-051-02339; McMasters S-19HU 47-051-02340; McMasters S-20HU 47-051-02341; Simms U-4H 47-051-01742; Hillrock S-15HU 47-051-02263; Hillrock S-13HU 47-051-02273; Hillrock S-12HU 47-051-02272; Hillrock S-14HU 47-051-02262; Armstrong 1S-12HU 47-051-02258; Simms U-5H 47-051-01731

API Number: 51-02338 Deep/HGA

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. <u>Failure to adhere to the specified permit conditions may result in enforcement action.</u>

CONDITIONS

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

API Number:	

PERMIT CONDITIONS

11. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, 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.

4705102338

API NO. 47-051

OPERATOR WELL NO. McMasters S-17HU
Well Pad Name: Shields

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS WELL WORK PERMIT APPLICATION

1) Well Operat	or: Tug H	ill Operating	, LLC	494510851	Marshall	Franklin	Powhatan Point 7
-			7,	Operator ID	County	District	Quadrangle
2) Operator's \	Vell Numbe	er: McMaster	s S-17HU	Well Pa	d Name: Shiel	ds	
3) Farm Name/	Surface Ov	vner: Robert	L. Shields,	et al Public Roa	ad Access: Bur	ch Ridge F	Road - CR 29
4) Elevation, c	urrent grout	nd: 1206'	Ele	evation, proposed	post-constructi	on: 1206'	
5) Well Type	(a) Gas Other	<u>x</u>	_ Oil	Und	erground Stora	ge	
	(b)If Gas	Shallow	****	Deep	x		
6) Existing Pac	l. Vas or Na	Horizontal	X		gi	6/6/10	20
			(s) Antici	ipated Thickness a	– and Evnacted D	raccura(c):	
				spated TITICKTIESS of spated pressure of approx. 9500 psi	iliu Expecteu i	iessure(s).	
8) Proposed To	tal Vertical	Depth: 11,4	427'				
9) Formation a		· · · · · · · · · · · · · · · · · · ·		olug back to Ree	dsville		
10) Proposed T	otal Measu	red Depth:	22,100'				
11) Proposed F	Iorizontal L	eg Length:	10,418.58	3'			
12) Approxima	te Fresh W	ater Strata De	pths:	70' ; 802'			
13) Method to	Determine 1	Fresh Water I	Depths: O	Offset well reports or n	oticeable flow at the	e flowline or w	hen need to start soaping
14) Approxima	ite Saltwate	r Depths: 2,	167'				
15) Approxima	ite Coal Sea	ım Depths: S	Sewickley	Coal - 701' ; Pitt	sburgh Coal -	796'	
16) Approxima	te Depth to	Possible Voi	d (coal mi	ne, karst, other):	none		
17) Does Propo directly overly:					No	<u> </u>	RECEIVED Office of Oil and G
(a) If Yes, pro	ovide Mine	Info: Name	, .				JUL 17 2020
(a) 11 1 cs, pro	ovide iville	Depth					WV Department of Environmental Protect
		Seam					
		Owne			A. A. A. A. A. A. A. A. A. A. A. A. A. A		

WW-6B (04/15)

API NO. 47- 04 70 5 1 0 2 3 3 8

OPERATOR WELL NO. McMasters S-17HU Well Pad Name: Shields

18)

CASING AND TUBING PROGRAM

ТҮРЕ	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	20"	NEW	J55	106.5#	900'	900'	1,463FT^3(CTS)
Coal	13 3/8"	NEW	J55	54.5#	2600'	2600'	1,842FT^3(CTS)
Intermediate	9 5/8"	NEW	HPP110	47#	10,080'	10,080'	3,286FT^3(CTS)
Production	5 1/2"	NEW	P110	23#	22,100'	22,100'	5,234'FT^3(CTS)
Tubing	2 7/8"	NEW	P110	6.5#		10,759'	
Liners							

Jul 120

ТҮРЕ	Size (in)	Wellbore Diameter (in)	<u>Wall</u> <u>Thickness</u> <u>(in)</u>	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	<u>Cement</u> <u>Yield</u> (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	1.99
Production	5 1/2"	8 1/2"	.415	16,510	10,864	SEE #24	1.18
Tubing	2 7/8"			11,385	11,624		
Liners							

PACKERS

		PACKERS	Office of Oil and Gas
Kind:	N/A		JUL 17 2020
Sizes:	N/A		Environmental Protection
Depths Set:	N/A		

16/6/2020

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 (10,259'). Drill curve and lateral per proposed well plan, run and cement production casing. Perform CBL from 60 deg to surface, make cleanout run, and stimulate.

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

Well to be completed with approximately 26,042,500 lb proppant and 402,636 bbl of water. Max rate = 80 bpm; max psi = 12.000#.

- 21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 17.76 acres
- 22) Area to be disturbed for well pad only, less access road (acres): 5.84 acres
- 23) Describe centralizer placement for each casing string:

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

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

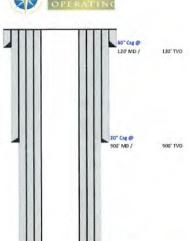
*See Attachment

Office of Oil and Gas

25) Proposed borehole conditioning procedures:

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

*Note: Attach additional sheets as needed.



13 3/8" Csg @ 2,500" MD /

95/8" Cs; @ 10,080" MD /

Pilot Hole

PH TO @

11,A27

1,600° TVD

WELL NAME:	McMasters S-17	ни	
STATE	wv	COUNTY:	Marshall
DISTRICT:	Franklin		
DF Elev:	1,206*	GL Elev:	1,206
TD:	22,100'		
TH Latitude:	39.76030238		
TH Longitude:	-80.78751484		
BH Latitude:	39.733836		
BH Longitude:	-80.771313		

Formation	Depth TVD		
Deepest Fresh Water	802		
Sewickley Coal	701		
Pittsburgh Coal	796		
Big Lime	1,955		
Berea	2,493'		
Tully	6,350"		
Marcellus	5,443		
Onondaga	6,493		
Salina	7,184		
Lockport	8,211		
Utica	10,876		
Point Pleasant	11,131		
Landing Depth	11,181		
Trenton	11,277		
PRot Hole TD	11,427		

CASING SUMMARY							
Туре	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cemen
Conductor	36	30	120'	1.20"	BW	8W	Surface
Surface	26	20	900	900	106.5	155	Surface
Intermediate 1	17 1/2	13 3/B	2,600	2,600	54.5	155	Surface
intermediate 2	12 1/4	9 5/8	10,080	10,012	47	HP110	Surface
Production	8 1/2	51/2	22,100	11,363"	23	P110	Surface

	CEMENT SUM	MARY		DRILLING DETAILS			
	Sacks	Class	Density	Fluid Type	Centralizar Notes		
Conductor	338	A	15.6	Air	None		
Surface	1,578	A	15.6	Air	3 Centralizers at equal distance		
Intermediate 1	1,995	A	15	Air	1 Centralizer every other jt		
Intermediate Z	2,796	А	14.5	Air	1 Centralizer every other it		
Production	4,634	A	15	Air / SOBM	I every other joint in lateral; I per joint in curve; I every other it to si		

10,012° TVD

Landing Point @ 11,684' MD / 11,181' TVD

Office of Oil and Ga

JUL 17 2020

MW Department of recetion

I suproco

22,100 11,363



Tug Hill Operating, LLC Casing and Cement Program

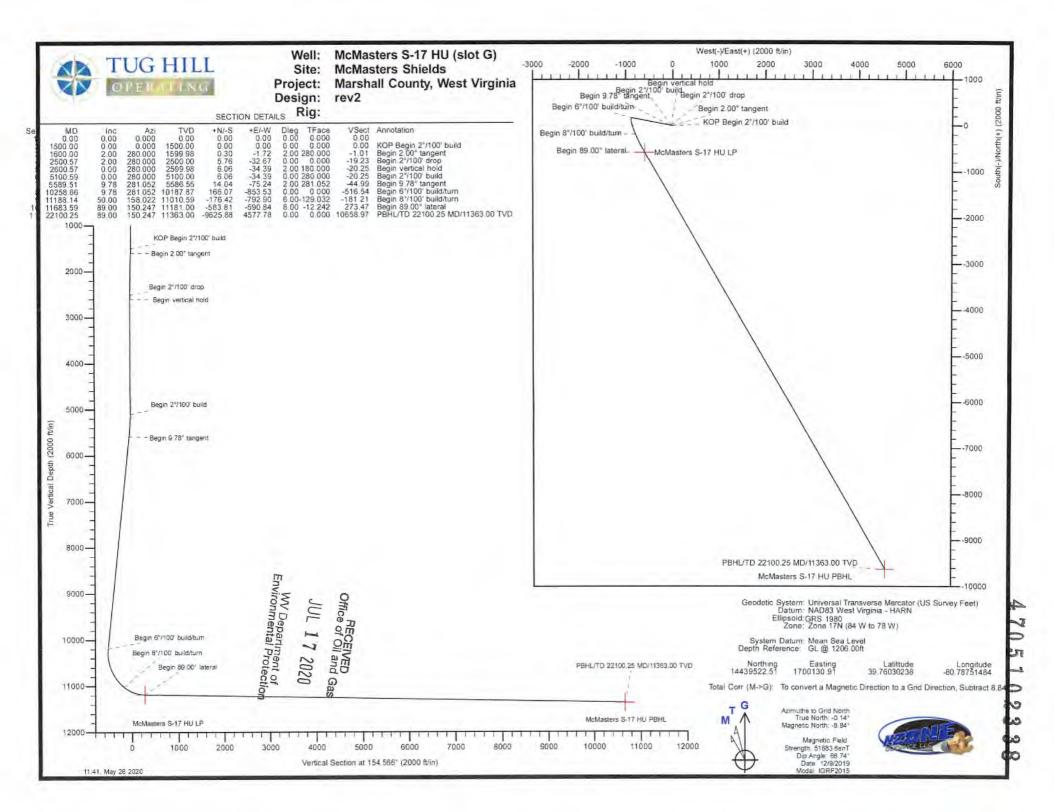
McMasters S-17HU

	Casing								
	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up				
Conductor	30"	BW	36"	120'	CTS				
Surface	20"	J55	26"	900'	CTS				
Intermediate 1	13 3/8"	J55	17 1/2"	2,600'	CTS				
Intermediate 2	9 5/8"	HP110	12 1/4"	10,080'	CTS				
Production	5 1/2"	P110	8 1/2"	22,100'	CTS				

Cement

Surface:	Premium NE-1 + 2% bwoc CaC12 + 46.5% Fresh Water – Surface Cement mixed at 15.6 ppg, Y=1.2
Intermediate 1:	Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 15.6 ppg, Y=1.2
Intermediate 2:	Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water Intermediate Cement mixed at 15.6 ppg, Y=1.99
Production:	50:50 Poz: Premium NE-1 + .1% bwoc ASA-301 + 60lb/sk ASCA-1 + .35% bwoc BA-10A + .25% bwoc MPA-170, 44 lb sack + .5% bwoc R-3 + .75 gals/100sk FP-13L - Production Cement mixed at 15.2ppg, Y = 1.18

Office of Oil and Gas JUL 17 2020





Database: Company: DB_Aug1919_v14 Tug Hill Operating LLC

Marshall County, West Virginia Project:

Site: McMasters Shields Well: McMasters S-17 HU (slot G)

Wellbore: Original Hole Design: rev2

Local Co-ordinate Reference: TVD Reference:

MD Reference: North Reference:

Survey Calculation Method:

Well McMasters S-17 HU (slot G)

GL @ 1206.00ft GL @ 1206.00ft

Grid

Minimum Curvature

Project

Marshall County, West Virginia

Map System:

Universal Transverse Mercator (US Survey Feet)

0.00 ft

0.00 ft

NAD83 West Virginia - HARN Geo Datum: Zone 17N (84 W to 78 W) Map Zone:

System Datum:

Mean Sea Level

Site

Well

McMasters Shields

Site Position: From: Position Uncertainty:

Lat/Long

Northing: Easting:

Slot Radius:

14,439,441,76 usft 1,700,145.18 usft

13-3/16 "

-8.707

Latitude:

Longitude:

Grid Convergence:

66.739

39.76008050 -80.78746471 0.136

McMasters S-17 HU (slot G)

Well Position +N/-S +E/-W 0.00 ft 0.00 ft Northing: Easting:

Wellhead Elevation:

14,439,522,52 usft Latitude: 1,700,130.90 usft

Longitude: Ground Level:

39.76030238 -80.78751484 1,206,00 ft

Position Uncertainty

Wellbore Original Hole Magnetics

Model Name IGRF2015

Sample Date

0.00

Date 5/28/2020

12/9/2019

Declination (°)

Dip Angle (°)

Field Strength (nT)

51.883.56008426

Design

rev2

Audit Notes:

Version:

Phase: Depth From (TVD) Vertical Section: (ft)

PLAN

+N/-S (ft)

0.00

Tie On Depth: +E/-W (ft)

0.00

0.00

Direction (°) 154.566

Plan Survey Tool Program

0.00

(ft)

Depth From Depth To

(ft)

Survey (Wellbore) 22,100.25 rev2 (Original Hole) **Tool Name**

MWD - Standard

MWD

Remarks

RECEIVED Office of Oil and Gas



Database: Company: Project: DB_Aug1919_v14 Tug Hill Operating LLC Marshall County, West Virginia

Site: McMasters Shields
Well: McMasters S-17 HU (slot G)

Wellbore: Original Hole
Design: rev2

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well McMasters S-17 HU (slot G)

GL @ 1206.00ft GL @ 1206.00ft

Grid

Minimum Curvature

an Sections Measured			Vertical			Dogleg	Build	Turn		
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Rate (°/100ft)	Rate (°/100ft)	Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,500.00	0.00	0.000	1,500.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,600.00	2.00	280.000	1,599.98	0.30	-1.72	2.00	2.00	0.00	280.000	
2,500.57	2.00	280.000	2,500.00	5.76	-32.67	0.00	0.00	0.00	0.000	
2,600.57	0.00	280.000	2,599.98	6.06	-34.39	2.00	-2.00	0.00	180.000	
5,100.59	0.00	280.000	5,100.00	6.06	-34.39	0.00	0.00	0.00	280.000	
5,589.51	9.78	281.052	5,586.55	14.04	-75.24	2.00	2.00	0.22	281.052	
10,258.66	9.78	281.052	10,187.87	166.07	-853.53	0.00	0.00	0.00	0.000	
11,188.14	50.00	158.022	11,010.59	-176.42	-792.90	6.00	4.33	-13.24	-129.032	
11,683.59	89.00	150.247	11,181.00	-583.81	-590.84	8.00	7.87	-1.57	-12.242	
22,100.25	89.00	150.247	11,363.00	-9,625.88	4,577.78	0.00	0.00	0.00	0.000	McMasters S-17 HL

Office of Oil and Gas

JUL 17 2020



Database: Company: Project: DB_Aug1919_v14 Tug Hill Operating LLC Marshall County, West Virginia

Site: McMasters Shields
Well: McMasters S-17 HU (slot G)

Wellbore: Original Hole Design: rev2 Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well McMasters S-17 HU (slot G)

GL @ 1206.00ft GL @ 1206.00ft

Grid

Minimum Curvature

Office of Oil and Gas

JUL 17 2020

ned Survey	1								Environ Departme
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Map Northing	Map Easting		WV Departme
(ft)	(°)	(")	(ft)	(ft)	(ft)	(usft)	(usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.7875148
100.00	0.00	0.000	100.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.7875148
200.00	0.00	0.000	200.00	0.00	0.00	14,439,522,52	1,700,130.90	39.76030238	-80.7875148
300.00	0.00	0.000	300.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
400.00	0.00	0.000	400.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
500,00		0.000	500.00	0.00	0.00	14.439,522.52	1,700,130.90	39.76030238	-80.787514
600.00		0.000	600.00	0.00	0.00	14.439.522.52	1,700,130.90	39.76030238	-80.787514
700.00		0.000	700.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
800.00		0.000	800.00	0,00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
900.00		0.000	900.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
1,000.00		0.000	1,000.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80,787514
1,100.00		0.000	1,100.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
				0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
1,200.00		0.000	1,200.00					39.76030238	-80.787514
1,300.00		0.000	1,300.00	0.00	0.00	14,439,522,52	1,700,130,90		
1,400.00		0.000	1,400.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
1,500.00		0.000	1,500.00	0.00	0.00	14,439,522.52	1,700,130.90	39.76030238	-80.787514
	gin 2°/100' bui								0.144244
1,600.00	2.00	280.000	1,599.98	0.30	-1.72	14,439,522.82	1,700,129,19	39.76030323	-80.787520
Begin 2.	.00° tangent								
1,700.00	2.00	280,000	1,699,92	0.91	-5.16	14,439,523,43	1,700,125,75	39.76030491	-80.787533
1,800.00	2.00	280,000	1,799.86	1.52	-8,59	14,439,524,03	1,700,122.31	39,76030660	-80.787545
1,900,00		280.000	1,899.80	2.12	-12.03	14,439,524.64	1,700,118.88	39.76030829	-80,787557
2,000.00		280.000	1,999.74	2.73	-15.47	14,439,525.24	1,700,115.44	39.76030997	-80,787569
2,100.00		280.000	2,099.68	3.33	-18.90	14,439,525,85	1,700,112.00	39.76031166	-80,787582
2,200.00		280.000	2,199.61	3.94	-22.34	14,439,526,46	1,700,108.56	39.76031335	-80.787594
2,300.00		280,000	2,299.55	4.55	-25.78	14,439,527.06	1,700,105.13	39,76031503	-80.787606
2,400.00		280.000	2,399.49	5.15	-29.21	14,439,527.67	1,700,101.69	39.76031672	-80.787618
2,500.00		280.000	2,499.43	5.76	-32.65	14,439,528.27	1,700,098.25	39.76031841	-80.787630
		280.000	2,500.00	5.76	-32.67	14,439,528.28	1,700,098.23	39,76031841	-80.787631
2,500.57		260,000	2,500.00	3.70	-32.07	14,455,520,20	1,700,050.20	35,75037047	00.707001
	1100, quob	Licologia.	4 444 11		21.22	14 100 500 50	1 700 000 50	20.75024025	-80.787637
2,600.00		280.000	2,599.41	6.06	-34,39	14,439,528.58	1,700,096.52	39.76031926	
2,600.57	0.00	280.000	2,599.98	6.06	-34.39	14,439,528.58	1,700,096.52	39,76031926	80.787637
Begin ve	ertical hold								
2,700.00	0.00	280.000	2,699.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
2,800.00	0.00	280.000	2,799.41	6.06	-34.39	14.439,528.58	1,700,096.52	39.76031926	-80.787637
2,900.00	0.00	280.000	2,899.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
3,000.00		280.000	2,999.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	80.787637
3,100.00		280.000	3,099,41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
3.200.00		0.000	3,199.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
3,300.00		280.000	3,299,41	6.06	-34.39	14,439,528,58	1,700,096.52	39.76031926	-80.787637
3,400.00		0.000	3,399.41	6.06	34.39	14,439,528.58	1,700,096.52	39,76031926	-80.787637
3,500.00		280.000	3,499.41	6.06	-34.39	14,439,528.58	1,700,096,52	39.76031926	-80.787637
3,600.00		280.000	3,599.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
		280.000	3,699.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80,787637
3,700.00				6.06	-34.39	14,439,528,58	1,700,096.52	39.76031926	-80.787637
3,800.00		280.000	3,799.41			14,439,528,58	1,700,096.52	39,76031926	-80.787637
3,900.00		0.000	3,899.41	6.06	-34.39				-80.787637
4,000.00		280.000	3,999.41	6.06	-34.39	14,439,528,58	1,700,096.52	39.76031926	
4,100.00		280.000	4,099.41	6.06	-34.39	14,439,528,58	1,700,096.52	39.76031926	80.787637
4,200.00		280.000	4,199.41	6.06	34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
4,300.00		280.000	4,299.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
4,400.00		280,000	4,399.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80,787637
4,500.00	0.00	0.000	4,499.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
4,600.00	0.00	280.000	4,599.41	6.06	-34.39	14,439,528.58	1,700,096.52	39,76031926	-80.787637
4,700.00	0.00	0.000	4,699.41	6.06	-34.39	14,439,528.58	1,700,096,52	39.76031926	-80.787637



Database: Company: Project:

DB_Aug1919_v14 Tug Hill Operating LLC Marshall County, West Virginia

Site: McMasters Shields Well: McMasters S-17 HU (slot G)

Wellbore: Original Hole Design: rev2

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well McMasters S-17 HU (slot G)

GL @ 1206:00ft GL@ 1206.00ff

Grid

Minimum Curvature

Office of Oil and Gas JUL 17 2020

ned Survey	ye.							h	Environmental Pr
									sinal P
Measured			Vertical			Map	Мар		
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Northing	Easting		
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)	Latitude	Longitude
4,800.00	0.00	280.000	4,799.41	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	-80.787637
4,900.00	0.00	280.000	4,899.41	6.06	-34.39	14,439,528,58	1,700,096.52	39,76031926	-80,787637
5,000.00	0,00	280.000	4,999.41	6.06	-34.39	14,439,528.58	1,700,096.52	39,76031926	-80.787637
5,100.00	0.00	280.000	5,099.41	6.06	-34.39	14,439,528,58	1,700,096.52	39.76031926	-80.787637
5,100.59	0.00	280,000	5,100.00	6.06	-34.39	14,439,528.58	1,700,096.52	39.76031926	80.787637
Begin 2°	100' build								
5,200.00	1.99	281.052	5,199.39	6.39	-36,08	14,439,528,91	1,700,094,82	39,76032018	-80,787643
5,300.00	3,99	281.052	5,299.25	7.39	-41,20	14,439,529,91	1,700,089.71	39,76032296	-8D 787661
5,400.00	5.99	281.052	5,398.87	9.06	-49.73	14,439,531.58	1,700,081.17	39,76032759	-80 787691
5,500.00	7.99	281.052	5,498.12	11.39	-61,67	14,439,533.91	1,700,069.23	39.76033407	-80.787734
5,589.51	9.78	281.052	5,586.55	14.04	-75,24	14,439,536.56	1,700,055.67	39.76034144	-80.787782
Begin 9.	78° tangent								
5,600.00	9.78	281.052	5,596.89	14.38	-76,99	14,439,536.90	1,700,053.92	39,76034239	-80,787788
5,700.00	9.78	281.052	5,695 44	17.64	-93,65	14,439,540,16	1,700,037.25	39.76035144	-80 787847
5,800.00	9.78	281.052	5,793,98	20.90	-110,32	14,439,543,41	1,700,020,58	39,76036049	-80,787907
5,900.00	9.78	281.052	5,892,53	24.15	-126,99	14,439,546.67	1,700,003.91	39.76036954	-80.787966
6,000.00	9.78	281.052	5,991.08	27.41	-143.66	14,439,549.92	1,699,987.24	39.76037859	-80.788025
6,100.00	9.78	281.052	6,089.62	30.66	-160.33	14,439,553.18	1,699,970,57	39,76038764	-80.788085
6,200.00	9.78	281.052	6,188.17	33.92	-177.00	14,439,556.44	1,699,953.91	39,76039669	-80.788144
6,300.00	9.78	281.052	6,286.72	37.18	-193,67	14,439,559.69	1,699,937.24	39.76040573	-80.788203
6,400.00	9.78	281 052	6,385.27	40.43	-210.34	14,439,562.95	1,699,920.57	39.76041478	-80.788262
6,500.00	9.78	281.052	6,483.81	43.69	-227,01	14,439,566.20	1,699,903.90	39.76042383	-80,788322
6,600.00	9.78	281.052	6,582.36	46.94	-243.68	14,439,569.46	1,699,887.23	39.76043288	-80.788381
6,700.00	9.78	281.052	6,680.91	50.20	-260.34	14,439,572.72	1,699,870.56	39,76044193	-80.788440
6,800.00	9.78	281.052	6,779.45	53.45	-277.01	14,439,575.97	1,699,853.89	39,76045098	-80.788500
6,900.00	9.78	281.052	6,878.00	56.71	-293.68	14,439,579.23	1,699,837.22	39.76046003	-80.788559
7,000.00	9,78	281.052	6,976.55	59.97	-310.35	14,439,582.48	1,699,820.55	39.76046908	-80.788618
7,100.00	9.78	281.052	7,075.10	63.22	-327.02	14,439,585,74	1,699,803.89	39.76047813	-80.788677
7,200.00	9.78	281.052	7,173.64	66.48	-343.69	14,439,588.99	1,699,787.22	39.76048718	-80.788737
7,300.00	9.78	281.052	7,272.19	69.73	-360.36	14,439,592.25	1,699,770.55	39.76049623	-80.788796
7,400.00	9.78	281.052	7,370.74	72.99	-377.03	14,439,595,51	1,699,753.88	39,76050528	-80.788855
7,500.00	9.78	281.052	7,469.28	76,25	-393.70	14,439,598.76	1,699,737.21	39.76051433	-80.788915
7,600.00	9.78	281 052	7,567.83	79.50	-410,36	14,439,602,02	1,699,720.54	39,76052338	-80.788974
7,700,00	9.78	281.052	7,666,38	82.76	-427.03	14,439,605.27	1,699,703.87	39.76053243	-80.789033
7,800.00	9.78	281.052	7,764,93	86.01	-443.70	14,439,608.53	1,699,687.20	39.76054148	-80.789092
7,900.00	9.78	281.052	7,863.47	89.27	-460.37	14,439,611.79	1,699,670.53	39.76055053	-80.789152
8,000.00	9.78	281.052	7,962.02	92.53	477.04	14,439,615.04	1,699,653.87	39.76055958	-80.78921
8,100.00	9.78	281.052	8,060.57	95.78	-493.71	14,439,618,30	1,699,637.20	39.76056863	-80.789270
8,200.00	9.78	281.052	8,159.12	99.04	-510.38	14,439,621.55	1,699,620.53	39.76057768	-80.78933
8,300.00	9.78	281.052	8,257.66	102.29	-527.05	14,439,624,81	1,699,603.86	39.76058673	-80.789389
8,400.00	9.78	281.052	8,356.21	105.55	-543.72	14,439,628.07	1,699,587.19	39.76059578	-80.789448
8,500.00	9,78	281.052	8,454.76	108,81	-560.38	14,439,631,32	1,699,570.52	39.76060482	-80,789507
8,600.00	9.78	281.052	8,553,30	112.06	-577.05	14,439,634,58	1,699,553,85	39.76061387	-80.78956
8,700.00	9.78	281.052	8,651.85	115.32	-593,72	14,439,637,83	1,699,537.18	39.76062292	-80.789626
8,800.00	9.78	281.052	8,750.40	118,57	-610.39	14,439,641,09	1,699,520.51	39.76063197	-80,789685
8,900.00	9,78	281,052	8,848,95	121.83	-627.06	14,439,644.34	1,699,503.85	39.76064102	-80.789745
9,000,00	9.78	281,052	8,947.49	125.08	-643.73	14,439,647,60	1,699,487 18	39,76065007	-80.789804
9,100.00	9.78	281.052	9,046.04	128.34	-660.40	14,439,650.86	1,699,470.51	39,76065912	-80.789863
9,200.00	9.78	281.052	9,144.59	131.60	-677.07	14.439,654.11	1,699,453.84	39.76066817	-80,789922
9,300.00	9.78	281.052	9,243 13	134.85	-693.74	14.439,657.37	1,699,437.17	39.76067722	-80.789982
9,400.00	9.78	281.052	9,341.68	138.11	-710.41	14,439,660.62	1,699,420.50	39,76068627	-80.79004
9,500,00	9.78	281.052	9,440.23	141.36	-727.07	14,439,663.88	1,699,403.83	39,76069531	-80.790100
9,600.00	9.78	281.052	9,538.78	144.62	-743,74	14,439,667,14	1,699,387.16	39.76070436	-80,790160
9,700.00	9.78	281.052	9,637,32	147.88	-760,41	14,439,670.39	1,699,370.49	39,76071341	-80.790219



Database: Company: Project:

DB_Aug1919_v14 Tug Hill Operating LLC Marshall County, West Virginia McMasters Shields

Site: Well:

Wellbore: Design:

Plant

McMasters S-17 HU (slot G) Original Hole

rev2

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well McMasters S-17 HU (slot G)

GL @ 1206.00fl GL @ 1206.00ft

Grid

Minimum Curvature

Office of Oil and Gas

ned Survey									17 202	n
Measured Depth (ft)	Inclination	Azimuth	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Environmental Prolect	
9,800.00	9.78 9.78	281.052	9,735.87	151.13	-777.08 -793.75	14,439,673.65	1,699,353.83	39.76072246	-80.79027870 -80.79033799	

Depth (ft)	Inclination	Azimuth	Vertical Depth (ft)	+N/-S (ft)	+E/-VV (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Environmental Prote
	7.0						2.7000		
9,800.00	9.78	281.052	9,735.87	151.13	-777.08	14,439,673.65	1,699,353.83	39.76072246	-80.79027870
9,900.00	9.78	281.052	9,834.42	154.39	-793.75	14,439,676,90	1,699,337.16	39.76073151	-80.79033799
10,000.00	9.78	281.052	9,932.96	157.64	-810.42	14,439,680.16	1,699,320.49	39.76074056	-80.79039727
10,100.00	9.78	281.052	10,031.51	160.90	-827.09	14,439,683.42	1,699,303.82	39.76074961	-80.79045656
10,200.00	9.78	281.052	10,130.06	164.16	-843.76	14,439,686,67	1,699,287.15	39.76075866	-80.79051585
10,258.66	9.78	281.052	10,187.87	166.07	-853.53	14,439,688,58	1,699,277.37	39.76076396	-80.79055062
Begin 6°	/100' build/tur	n							
10,300.00	8,44	267.807	10,228,69	166.62	-860.01	14,439,689.14	1,699,270.89	39.76076554	-80.79057367
10,400.00	7.92	224,774	10,327.76	161.45	-872.20	14,439,683.96	1,699,258.70	39.76075140	-80,79061710
10,500.00	11.21	193.783	10,426.42	147.10	-879.38	14,439,669.62	1,699,251.53	39.76071206	-80.79064274
10,600.00	16,14	178.999	10,523.59	123.75	-881.45	14,439,646.26	1,699,249.45	39.76064792	-80,79065032
10,700 00	21.60	171.252	10,618.19	91.63	-878.41	14,439,614.15	1,699,252.50	39.76055970	-80.79063975
10,800.00	27.28	166.565	10,709.20	51.11	-870.28	14,439,573.62	1.699,260.63	39.76044837	-80.79061115
10,900.00	33.07	163.404	10,795.62	2.63	-857.15	14,439,525.14	1,699,273.76	39.76031514	-80.79056484
11,000.00	38.92	161.098	10,876.49	-53.29	-839.16	14,439,469.23	1.699,291.74	39.76016147	-80.79050131
11,100.00	44.80	159.313	10,950.95	-116.02	-816.52	14,439,406.50	1,699,314,39	39.75998904	-80.79042127
11,188.14	50.00	158.022	11,010.59	-176.42	-792.90	14,439,346.10	1,699,338.01	39.75982301	-80.79033772
Begin 8°	/100' build/tur	n							
11,200.00	50.93	157.763	11,018.14	-184.89	789.46	14,439,337.62	1,699,341.45	39.75979972	-80.79032554
11,300.00	58.77	155 811	11,075 67	-259.94	-757.20	14,439,262.57	1,699,373,71	39,75959340	-80.79021137
11,400.00	66.63	154 161	11,121.50	-340.38	-719.61	14,439,182,13	1,699,411.29	39.75937225	-80.79007831
11,500.00	74.51	152.697	11,154,74	424.65	-677.44	14,439,097.87	1,699,453.47	39.75914057	-80.78992894
11,600.00	82.40	151.340	11,174,74	-511.09	-631.49	14,439,011.42	1,699,499.41	39.75890287	-80.78976617
11,683.59		150.247	11,181,00	-583.81	-590.84	14,438,938.71	1,699,540.07	39.75870291	-80,78962213
	0.00° lateral	(22.4)	111121122	1,500,000		10010012-001	2157-5145-7040		
11,700.00	89.00	150.247	11,181.29	-598.05	-582.70	14,438,924,47	1,699,548,21	39.75866374	-80.78959327
11,800.00	89.00	150.247	11,183.04	-684.86	-533.08	14,438,837.66	1,699,597,83	39.75842503	-80.78941744
11,900.00	89.00	150.247	11,184.78	-771.66	-483.46	14,438,750.86	1,699,647,45	39.75818632	-80.78924161
12,000.00	89.00	150.247	11,186.53	-858.46	-433.84	14,438,664.05	1,699,697.07	39.75794761	-80.78906578
12,100.00		150.247	11,188.28	-945.27	-384.22	14,438,577.25	1,699,746.68	39.75770890	-80.78888996
12,700.00		150.247	11,190.02	-1,032,07	-334.60	14,438,490,45	1,699,796.30	39.75747019	-80.78871413
12,300.00	89.00	150.247	11,191,77	1,118.88	-284.98	14,438,403.64	1,699,845.92	39.75723148	-80.78853831
12,400.00		150.247	11,193.52	-1,205.68	-235.37	14,438,316.84	1,699,895.54	39.75699277	-80.78836249
12,500.00		150.247	11,195.27	-1,292.48	-185.75	14,438,230.03	1,699,945.16	39.75675406	-80.78818666
	89.00	150.247	11,197.01	1,379.29	-136.13	14,438,143,23	1,699,994.78	39.75651535	-80.78801084
12,600.00		150.247	11,198.76	-1,466.09	-86.51	14,438,056,43	1,700,044.40	39.75627664	-80.78783502
12,700.00		150.247	11,200.51	-1,552.90	-36.89	14,437,969.62	1,700,094.01	39.75603793	-80.78765921
		150.247	11,202.26	-1,639.70	12.73	14,437,882.82	1,700,143.63	39,75579922	-80.78748339
12,900.00		150.247	11,204.00	-1.726.50	62.35	14,437,796,02	1,700,143.05	39.75556051	-80.78730757
13,000.00				-1.813.31	111.97	14,437,709.21	1,700,242.87	39.75532179	-80,78713176
13,100.00		150.247	11,205.75	-1,900.11	161,58	14,437,622.41	1,700,292.49	39,75508308	-80.78695595
13,200.00		150.247			211.20	14,437,535.60	1,700,342.11	39.75484437	-80.78678013
13,300.00		150.247	11,209.24	1,986.92		14,437,448.80	1,700,391.73	39.75460566	-80.78660432
13,400.00		150.247	11,210.99	2,073.72	260,82 310,44	14,437,362.00	1,700,441.35	39.75436694	-80.78642851
13,500.00		150.247	11,212.74	2,160.52	360.06	14,437,362.00	1,700,441.33	39.75412823	-80.78625271
13,600.00		150.247	11,214.49	-2,247.33	409.68	14,437,188.39	1.700,540.58	39.75388952	-80.78607690
13,700.00		150.247	11,216,23	-2,334.13		14,437,100.39	1,700,590.20	39.75365080	-80.78590109
13,800.00		150.247	11,217,98	2,420.94	459.30	14,437,101.59	1,700,639.82	39.75341209	-80.78572529
13,900.00		150.247	11,219.73	2,507.74	508,92				-80.78554949
14,000.00		150,247	11,221,47	-2,594.54	558.53	14,436,927.98	1.700,689.44	39,75317337	-80.78537368
14,100.00		150,247	11,223,22	-2,681.35	608.15	14,436,841.17	1,700,739.06	39,75293466	-80.78519788
14,200.00		150.247	11,224 97	-2,768.15	657.77	14,436,754.37	1,700,788.68	39,75269594	ALC: 4200 L. L. A. A. A. A. A. A. A. A. A. A. A. A. A.
14,300.00		150.247	11,226.72	-2,854.96	707.39	14,438,667.57	1,700,838.29	39.75245723	-80.78502208
14,400.00	89.00	150.247	11,228.46	2,941.76	757.01	14,436,580.76	1.700,887.91	39,75221851	-80.78484628





Database: Company: Project: DB_Aug1919_v14 Tug Hill Operating LLC Marshall County, West Virginia

Site: McMasters Shields
Well: McMasters S-17 HU (slot G)

Wellbore: Original Hole Design: rev2 Local Co-ordinate Reference: TVD Reference:

MD Reference: North Reference: Survey Calculation Method: Well McMasters S-17 HU (slot G)

GL @ 1206.00ft GL @ 1206.00ft

Grid

Minimum Curvature

Office of Oil and Gas

JUL 17 2020

Environmental Protest

Pla	nned Survey
	mica carrey

easured Depth (ft)	Inclination (*)	Azimuth	Vertical Depth (ft)	+N/+S (ft)	+E/-W (ft)	Map Northing (usπ)	Map Easting (usft)	Latitude	Longitude
14,600.00	89.00	150.247	11,231.96	-3,115.37	856.25	14,436,407.16	1,700,987.15	39.75174108	-80.784494
14,700.00	89.00	150.247	11,233.70	-3,202.17	905.87	14,436,320.35	1,701,036.77	39.75150236	-80.784318
14,800.00	89.00	150.247	11,235.45	3,288.98	955.48	14,436,233.55	1,701,086.39	39.75126365	-80.78414
14,900.00	89.00	150.247	11,237.20	-3,375.78	1,005.10	14,436,146.74	1.701.136.01	39.75102493	-80.783967
15,000.00	89.00	150.247	11,238.95	3,462.58	1,054.72	14,436,059.94	1,701,185.62	39.75078621	-80.78379
15,100.00	89.00	150 247	11,240.69	-3,549.39	1,104.34	14,435,973.14	1,701,235.24	39.75054750	-80.783615
15,200.00	89.00	150.247	11,242,44	-3,636.19	1,153.96	14,435,886.33	1,701,284.86	39.75030878	-80.78343
15,300.00	89.00	150.247	11,244.19	-3,722.99	1,203.58	14,435,799.53	1,701,334.48	39.75007006	-80,78326
15,400.00	89.00	150.247	11,245.93	-3,809.80	1,253,20	14,435,712.73	1,701,384.10	39.74983134	-80,78308
15,500.00	89,00	150.247	11,247.68	-3,896.60	1,302.82	14,435,625.92	1,701,433.72	39.74959262	-80.78291
15,600,00	89.00	150.247	11,249.43	-3,983.41	1,352.43	14,435,539.12	1.701,483.34	39,74935390	-80.78273
15,700.00	89.00	150.247	11,251.18	-4,070.21	1,402.05	14,435,452.31	1,701,532.96	39.74911518	-80.78256
15,800.00	89.00	150.247	11,252.92	-4,157.01	1,451.67	14,435,365.51	1.701,582.57	39.74887646	-80.78238
15,900.00	89.00	150.247	11,254.67	4,243.82	1,501.29	14,435,278.71	1,701,632.19	39.74863775	-80.78220
16,000.00	89.00	150.247	11,256.42	4,330.62	1,550.91	14,435,191.90	1,701,681.81	39,74839903	-80.78203
16,100.00	89.00	150.247	11,258.16	-4,417.43	1,600.53	14,435,105.10	1.701.731.43	39.74816031	-80.78185
16,200.00	89.00	150.247	11,259.91	-4,504.23	1,650.15	14,435,018.29	1.701.781.05	39.74792158	-80.78168
16,300.00	89.00	150.247	11,261.66	-4,591.03	1,699.77	14,434,931.49	1,701,830.67	39.74768286	-80.78150
16,400.00	89.00	150.247	11,263.41	4,677.84	1,749.38	14,434,844.69	1,701,880.29	39.74744414	-80.78133
16,500.00	89.00	150.247	11,265.15	4,764.64	1,799.00	14,434,757.88	1,701,929.90	39.74720542	80.78115
16,600.00	89.00	150.247	11,266.90	4,851.45	1,848.62	14,434,671.08	1,701,979.52	39.74696670	-80.78097
16,700.00	89.00	150.247	11,268.65	4,938.25	1,898.24	14,434,584.28	1,702,029.14	39.74672798	-80 78080
16,800.00	89,00	150.247	11,270.40	-5,025.05	1,947.86	14,434,497.47	1,702,078.76	39.74648926	-80.78062
16,900.00	89.00	150.247	11,272.14	-5,111.86	1,997.48	14,434,410.67	1,702,128.38	39.74625053	-80.78045
17,000.00	89.00	150.247	11,273.89	-5.198.66	2,047.10	14,434,323,86	1,702,178.00	39.74601181	-80,78027
17,100.00	89.00	150.247	11,275.64	-5,285.47	2,096.72	14,434,237.06	1,702,227.62	39.74577309	-80.78010
17,100.00	89.00	150.247	11,277.38	-5,372.27	2,146.33	14,434,150.26	1,702,277.24	39,74553436	-80.77992
17,300.00	89.00	150.247	11,279.13	-5,459.07	2,195.95	14,434,063.45	1,702,326.85	39.74529564	-80.77974
17,400.00	89.00	150.247	11,280.88	-5,545.88	2,245.57	14,433,976.65	1,702,376.47	39.74505692	-80.77957
17,500.00	89.00	150.247	11,282.63	-5,632.68	2,295.19	14,433,889,85	1,702,426,09	39.74481819	-80.77939
17,600.00	89.00	150.247	11,284.37	-5,719.49	2,344.81	14,433,803.04	1,702,475.71	39.74457947	-80.77922
17,700.00	89.00	150.247	11,286.12	-5,806.29	2,394.43	14,433,716.24	1,702,525,33	39.74434074	-80.77904
	89.00	150.247	11,287.87	-5,893.09	2,444.05	14,433,629.43	1,702,574.95	39,74410202	-80.77886
17,800.00			11,289.61	-5,979,90	2,493.67	14,433,542.63	1,702,624.57	39.74386329	-80.77869
17,900.00	89.00	150,247 150,247	11,291,36	-6,066,70	2,543.28	14,433,455.83	1,702,674 18	39.74362457	-80.77851
18,000 00	89.00	150.247	11,291,36	-6,153.51	2,592.90	14,433,369.02	1,702,723.80	39.74338584	-80 77834
18,100.00	89.00	150.247	11,294.86	-6.240.31	2,642.52	14,433,282.22	1,702,773.42	39.74314712	-80.77816
18,300.00	89.00	150.247	11,296.60	-6.327.11	2,692.14	14,433,195.42	1,702,823.04	39.74290839	-80,77799
18,400.00	89.00	150.247	11,298.35	-6,413.92	2,741.76	14,433,108.61	1,702,872.66	39.74266966	-80.77781
18,500.00	89.00	150.247	11,300.10	-6,500.72	2,791.38	14,433,021.81	1,702,922.28	39.74243094	-80.77763
18,600.00	89.00	150.247	11,301.84	-6,587.53	2,841.00	14,432,935.00	1,702,971.90	39.74219221	-80.77746
18,700.00	89.00	150,247	11,303.59	-6,674,33	2,890.62	14,432,848.20	1.703,021.51	39,74195348	-80.77728
18,800.00	89.00	150,247	11,305.34	-6,761 13	2,940.23	14,432,761.40	1.703,071.13	39.74171476	-80.77711
18,900.00		150,247	11,307.09	-6,847.94	2,989.85	14,432,674.59	1,703,120.75	39.74147603	-80,77693
	89.00	150,247	11,308 B3	6,934.74	3,039.47	14,432,587.79	1,703,170.37	39,74123730	-80.77676
19,000.00	89.00 89.00	150.247	11,310.58	-7,021.55	3,089.09	14,432,500.98	1,703,219,99	39,74099857	-80,77658
	89.00	150.247	11,312.33	-7,108.35	3,138.71	14,432,414.18	1,703,269,61	39,74075984	-80.77640
19,200.00		150.247	11,314.07	-7,100.35	3,188.33	14,432,327.38	1,703,319.23	39.74052111	-80.77623
	89.00	150.247				14,432,240.57	1,703,368.85	39.74028238	-80,77605
19,400.00	89.00		11,315,82	-7,281.96 -7,368.76	3,237.95 3,287.57	14,432,153.77	1,703,418.46	39.74004365	-80.77588
19,500.00	89.00	150,247	11,317,57		3,337.18	14,432,066.97	1.703,468.08	39.73980492	-80.77570
19,600.00	89.00	150.247	11,319.32	-7,455,57 -7,542.37	3,386,80	14,431,980.16	1,703,517.70	39.73956619	-80.77553
19,700.00 19,800.00	89.00	150.247 150.247	11,321.06	-7,629.17	3,436.42	14,431,893.36	1,703,567.32	39,73932746	80.77535
	89.00	150.247	11,322.81		3,486.04	14,431,895.56	1,703,616.94	39.73908873	80.77517
19,900.00	89.00 89.00	150.247	11,324.56	-7.715.98 -7,802.78	3,535.66	14,431,719.75	1,703,666.56	39.73885000	80.77500



Database: Company: Project: DB_Aug1919_v14 Tug Hill Operating LLC Marshall County, West Virginia

Site: McMasters Shields
Well: McMasters S-17 HU (slot G)

Wellbore: Original Hole Design: rev2 Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

North Reference: Survey Calculation Method: Well McMasters S-17 HU (slot G)

GL @ 1206.00ft GL @ 1206.00ft

Grid Minimum Curvature Office of Oil and Gas

JUL 17 2020

Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Map Northing	Map Easting	Env	WV Department of ironmental Protect
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)	Latitude	Longitude
20,100.00	89,00	150.247	11,328.05	-7,889.59	3,585.28	14,431,632.95	1,703,716.18	39.73861127	-80.77482777
20,200.00	89.00	150.247	11,329.80	-7,976.39	3,634.90	14,431,546.14	1,703,765.79	39.73837254	-80.77465204
20,300.00	89.00	150.247	11,331.55	-8,063.19	3,684.52	14,431,459,34	1,703,815.41	39.73813381	-80.77447632
20,400.00	89.00	150.247	11,333.29	-8,150.00	3.734.13	14,431,372.54	1,703,865.03	39.73789508	-80.77430059
20,500.00	89.00	150.247	11,335.04	-8,236.80	3,783.75	14,431,285.73	1,703,914.65	39,73765634	-80.77412487
20,600.00	89.00	150.247	11,336.79	-8,323.60	3,833.37	14,431,198.93	1.703,964,27	39,73741761	-80.77394914
20,700.00	89.00	150.247	11,338.54	-8,410.41	3,882.99	14,431,112.12	1,704,013.89	39.73717888	-80.77377342
20,800.00	89.00	150.247	11,340.28	-8,497.21	3,932.61	14,431,025.32	1,704,063.51	39.73694015	-80.77359770
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21,200.00	89.00	150.247	11,347.27	8,844.43	4,131,08	14,430,678.11	1.704,261.98	39.73598521	-80.77289483
21,300.00	89.00	150.247	11,349.02	-8,931.23	4,180.70	14,430,591.30	1,704,311.60	39.73574648	-80.77271911
21,400.00	89.00	150.247	11,350.77	9.018.04	4,230,32	14,430,504.50	1.704,361.22	39.73550774	-80.77254340
21,500.00	89.00	150.247	11,352.51	-9,104.84	4,279.94	14,430,417.69	1.704,410.84	39.73526901	-80.77236769
21,600.00	89.00	150.247	11,354.26	9,191.64	4,329.56	14,430,330.89	1,704,460.46	39.73503027	-80.77219197
21,700.00	89.00	150.247	11,356.01	-9,278.45	4,379.18	14,430,244.09	1.704,510.07	39.73479154	-80.77201626
21,800.00	89.00	150.247	11,357.75	-9,365.25	4,428.80	14,430,157.28	1,704,559.69	39.73455280	-80.77184055
21,900.00	89.00	150.247	11,359.50	-9,452.06	4,478.42	14,430,070.48	1,704,609.31	39.73431406	-80.77166485
22,000.00	89.00	150.247	11,361.25	-9,538.86	4.528.03	14,429,983.68	1,704,658.93	39,73407533	-80.77148914
22,100.00	89.00	150.247	11,363.00	-9,625,66	4,577.65	14,429,896.87	1,704,708.55	39,73383659	-80,77131344
22,100.25	89.00	150.247	11,363.00	-9,625,88	4,577.78	14,429,896.66	1,704,708.67	39.73383600	-80.77131300

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle	Dip Dir.	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
McMasters S-17 HU LP - plan misses larget of Point	0.00 center by 0.05		11,181.00 58ft MD (1118	-583.77 31,00 TVD, -5	-590.80 83.80 N, -590	14.438,938.74 .85 E)	1,699,540.10	39.75870300	-80.78962200
McMasters S-17 HU PBI - plan hits target cent - Point	0.00 fer	0.000	11,363.00	9,625.88	4,577.78	14.429,896,66	1,704,708.67	39.73383600	-80.77131300

lan Annotations Measured	Vertical	Local Coor	dinates		
Depth (ft)	Depth (ff)	+N/-S (ft)	+E/-W (ft)	Comment	
1,500.0	0 1,500.00	0.00	0.00	KOP Begin 2°/100' build	
1,600.0	0 1,599.98	0.30	-1.72	Begin 2,00° tangent	
2,500.5	7 2,500.00	5.76	-32.67	Begin 2°/100' drop	
2,600.5	7 2,599.98	6.06	-34.39	Begin vertical hold	
5,100.5	9 5,100,00	6.06	-34.39	Begin 2°/100' build	
5,589.5	1 5,586.55	14.04	-75.24	Begin 9.78° tangent	
10,258.6	6 10,187.87	166.07	-853.53	Begin 6°/100' build/turn	
11,188.1	4 11,010.59	-176.42	-792.90	Begin 8°/100' build/turn	
11,683.5	9 11,181,00	-583.81	-590.84	Begin 89.00° lateral	
22,100.2	5 11,363.00	-9,625.88	4,577.78	PBHL/TD 22100.25 MD/11363.00 TVD	

Area of Review

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

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

Data Sources Reviewed:

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

Contacted Devin Ducoeur 724-705-0444, <u>dducoeur@dpslandservices.com</u> DPS GIS (06/02/2020) to have him make maps of the wellbores with his information. DPS utilizes WVGES maps for their mapping seems it as the best publicly available. See attached map he provided.

Request maps for:

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

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

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

Office of Oil and Gas

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WV Department of Environmental Protection

Permit well - McMasters S-17HU
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

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
4705100234	Unknown	1289° TVD	Unknown	Unknown	Uknown but unlikley. The well likley represents an old shallow well that is too shallow to be effected by fracturing in the planned Point Pleasant well.	Well was plugged 6/18/1952.
4705100097	Fauber & Henry	1152'TVD	Unknown	Unknown	Uknown but unlikley. The well likley represents an old shallow well that is too shallow to be effected by fracturing in the planned Point Pleasant well.	Well was plugged 5/20/1949.
4705100100	Fauber & Henry	1165' TVD	Unknowa	Unknown	Uknown but unlikley. The well likley represents an old shallow well that is too shallow to be effected by fracturing in the planned Point Pleasant well.	Well was plugged 8/6/1945.
4705170361	Unknown	Unknown	Unknown	Unknown	Uknown but unlikley. The well likley represents an old shallow well that is too shallow to be effected by fracturing in the planned Point Pleasant well.	State records are incomplete.
4705101533	Tug Hill Operating, LLC	6509' TVD, 9961' MO	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101534	Tug Hill Operating, LLC	6514' TVD, 9890' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101535	Tug Hill Operating, LLC	6519' TVD, 9890' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101536	Tug Hill Operating, LLC	6526' TVD, 10185' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101537	Tug Hill Operating, LLC	6527' TVD, 10560' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent inigration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101538	Tug Hill Operating, LLC	6494' TVD, 9541' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation, Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101539	Tug Hill Operating, LLC	6488' TVD, 11480' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101540	Tug Hill Operating,	6490' TVD, 12101' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101541	Tug Hill Operating, LLC	6485' TVD, 9612' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from new wellbore to existing wellbore.	Producing Marcellus horizontal well.
4705101542	Tug Hill Operating,	6487' TVD, 11281' MD	Marcellus	Unknown	No, the well is not deep enough to be within the expected fracture propagation from a Point Pleasant stimulation. Proper casing and cement should further prevent migration of fluids from	Producing Marcellus horizontal well.

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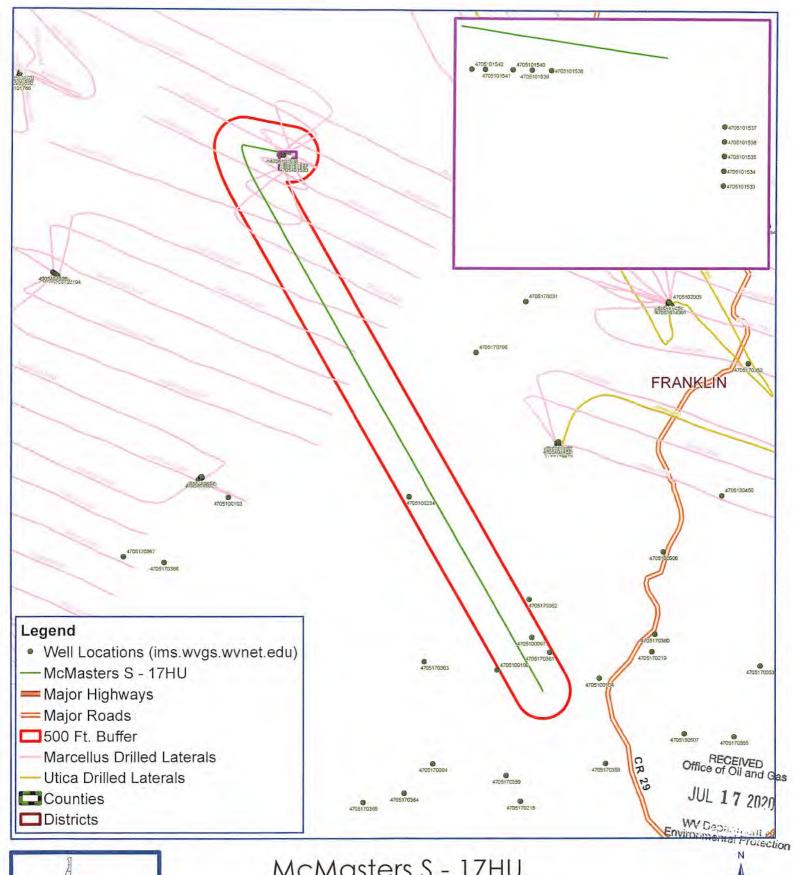
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McMasters S - 17HU Franklin District Marshall County, WV

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





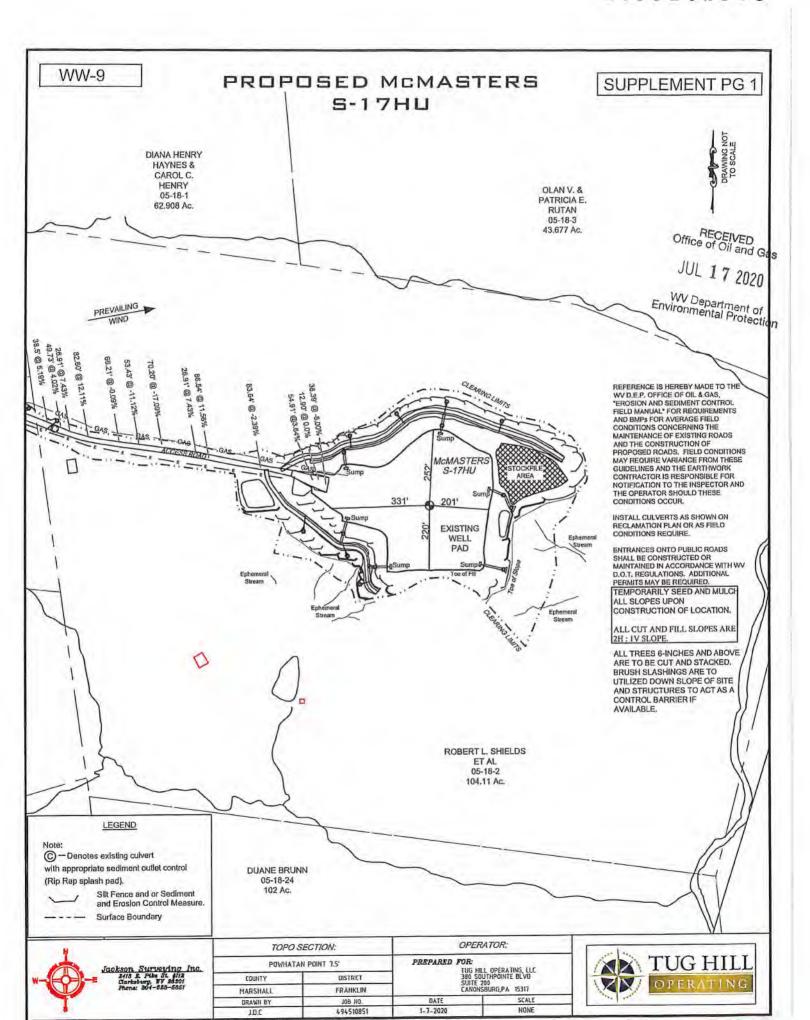
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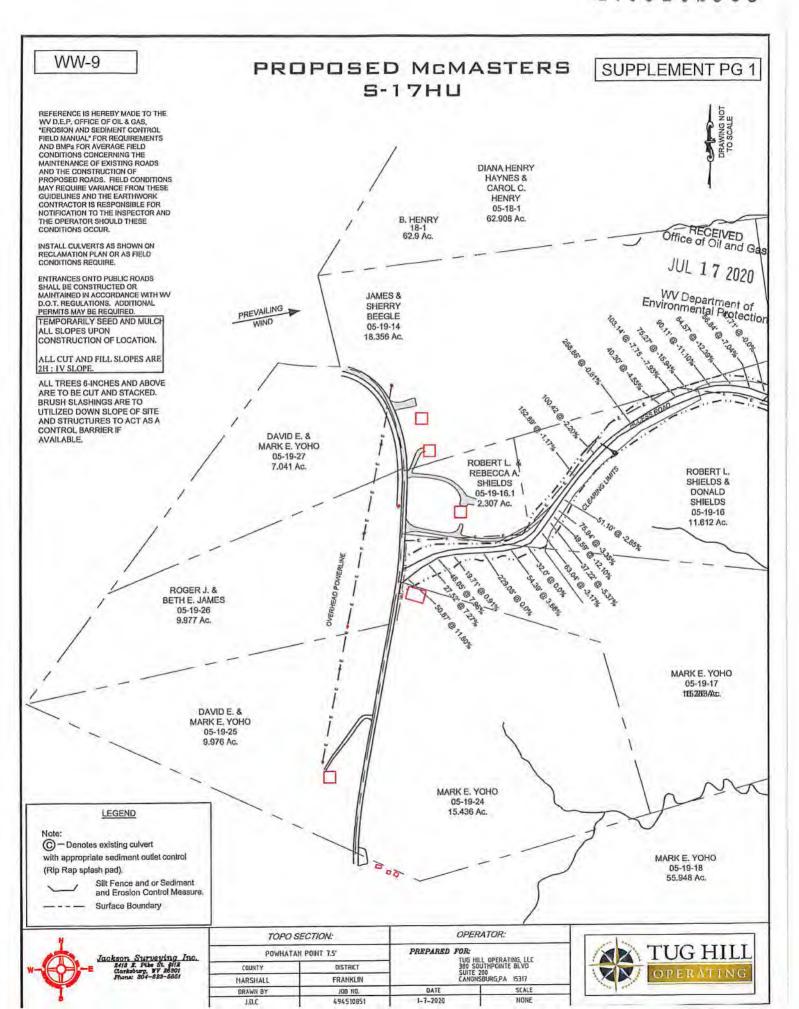
API Number 47 - 051 Operator's Well No. McMasters S-17HU

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

FLUIDS/ CUTTINGS	S DISPOSAL & RECLAI	MATION PLAN	Office of Oil and Gas
Operator Name Tug Hill Operating, LLC		OP Code 49451085	51 and Gas
Watershed (HUC 10) Fish Creek	Quadrangle	Powhatan Point 7.5	JUL 17 2020
Do you anticipate using more than 5,000 bbls of water to Will a pit be used? Yes No V			No WW Department of Environmental Protection
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Will a synthetic liner be used in the pit? Yes Proposed Disposal Method For Treated Pit Was		so, what im.	
Land Application	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Underground Injection (UIC Reuse (at API Number			00732540, UIC 2D0732523)
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Other (Explain			
Will closed loop system be used? If so, describe: Yes -	For Vertical and Horizonta	al Drilling	
Drilling medium anticipated for this well (vertical and ho			for vertical / Oil for Horizontal
-If oil based, what type? Synthetic, petroleum,	etc. Synthetic Oil Base		
Additives to be used in drilling medium? Barile for weigh	t		
Drill cuttings disposal method? Leave in pit, landfill, rer	moved offsite, etc. All dri	ill cuttings to be disposed	of in a Landfill
-If left in pit and plan to solidify what medium v			
-Landfill or offsite name/permit number?wotzel or			ill, LLC (SAN1405 / PA DEP EC#1386426)
Permittee shall provide written notice to the Office of Oil West Virginia solid waste facility. The notice shall be prowhere it was properly disposed.	l and Gas of any load of o	drill cuttings or associ f rejection and the per	ated waste rejected at any mittee shall also disclose
I certify that I understand and agree to the terms on August 1, 2005, by the Office of Oil and Gas of the W provisions of the permit are enforceable by law. Violat law or regulation can lead to enforcement action. I certify under penalty of law that I have persupplication form and all attachments thereto and that obtaining the information, I believe that the information penalties for submitting false information, including the penalties.	Vest Virginia Department tions of any term or cond sonally examined and ar , based on my inquiry on is true, accurate, and	of Environmental Pro- lition of the general p m familiar with the in of those individuals complete. I am aw	otection. I understand that the bermit and/or other applicable information submitted on this immediately responsible for
Company Official Signature Johns A. Jam	icake		
Company Official (Typed Name) Jim Pancake			
Company Official Title VP Geosciences			
Subscribed and sworn before me this day My commission expires	y OF VAHVARY	, 20_ 20c	mmonwealth of Pennsylvania - Notary Seal MAUREEN A STEAD - Notary Public Washington County My Commission Expires Jan 28, 2023 Commission Number 1259926

Proposed Revegetation Treatment	nt. Acres Disturbed 1	7.76 Prevegetation pH	6.0
Lime 3			
Fertilizer type 10-20-		стюрн	
Fertilizer amount 500		lbs/acre	
Mulch 2.5			
Muich		_Tons/acre	
		Seed Mixtures	
Тетр	orary	Perman	nent
Seed Type	lbs/acre	Seed Type	lbs/acre
Annual Ryegrass	40	Orchard Grass	12
Spring Oats	96	Ladino	3
		White Clover	2
Attach: Maps(s) of road, location, pit and rovided). If water from the pit water application a creage, of the land application a	will be land applied, inc area.	d application (unless engineered plans includ clude dimensions (L x W x D) of the pit, and	ing this info have been dimensions (L x W), ar
Maps(s) of road, location, pit and rovided). If water from the pit vareage, of the land application a chotocopied section of involved	will be land applied, incarea. 7.5' topographic sheet.	clude dimensions (L x W x D) of the pit, and	ing this info have been dimensions (L x W), ar
Maps(s) of road, location, pit and rovided). If water from the pit vareage, of the land application a chotocopied section of involved	will be land applied, inc area.	clude dimensions (L x W x D) of the pit, and	ing this info have been dimensions (L x W), ar
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Maps(s) of road, location, pit and provided). If water from the pit vecreage, of the land application a chotocopied section of involved clan Approved by:	will be land applied, incarea. 7.5' topographic sheet.	clude dimensions (L x W x D) of the pit, and	ing this info have been dimensions (L x W), ar
Maps(s) of road, location, pit and provided). If water from the pit vecreage, of the land application a chotocopied section of involved clan Approved by:	will be land applied, incarea. 7.5' topographic sheet.	clude dimensions (L x W x D) of the pit, and	ing this info have been dimensions (L x W), ar
Maps(s) of road, location, pit and provided). If water from the pit vecreage, of the land application a chotocopied section of involved clan Approved by:	will be land applied, incarea. 7.5' topographic sheet.	clude dimensions (L x W x D) of the pit, and	ing this info have been dimensions (L x W), ar
Maps(s) of road, location, pit and provided). If water from the pit vecreage, of the land application a chotocopied section of involved clan Approved by:	will be land applied, incarea. 7.5' topographic sheet.	clude dimensions (L x W x D) of the pit, and	ing this info have been dimensions (L x W), ar
Maps(s) of road, location, pit and provided). If water from the pit vecreage, of the land application a chotocopied section of involved clan Approved by:	will be land applied, incarea. 7.5' topographic sheet.	clude dimensions (L x W x D) of the pit, and	ing this info have been dimensions (L x W), ar
Maps(s) of road, location, pit and provided). If water from the pit vecreage, of the land application a chotocopied section of involved clan Approved by:	will be land applied, incarea. 7.5' topographic sheet.	clude dimensions (L x W x D) of the pit, and	ing this info have been dimensions (L x W), ar
Maps(s) of road, location, pit and provided). If water from the pit vecreage, of the land application a chotocopied section of involved clan Approved by:	will be land applied, incarea. 7.5' topographic sheet.	clude dimensions (L x W x D) of the pit, and	ing this info have been dimensions (L x W), ar







Well Site Safety Plan

Tug Hill Operating, LLC

Well Name: McMasters S-17HU

Pad Location: Shields Pad

Marshall County, West Virginia

UTM (meters), NAD83, Zone 17:

Northing: 4,401,175.26

Easting: 518,200.94

Office of Oil and Gas

JUL 17 2020

WV Department of

SUPPLEMENT PG 2 WW-9 PROPOSED McMASTERS S-17HU McHASTERS/ S-17HU NOTE: CLOSEST WATER PURVEYOR GRANDVIEW - DOOLIN PUBLIC SERVICE DISTRICT PROCTOR, WV LAT:39,7136943 LON:-80,8260157 LOCATED S 33-24 W AT 20,085' FROM McMASTERS S-17HU SURFACE LOCATION 494510851 TOPO SECTION LEASE NAME **OPERATOR** TUG HILL TUG HILL OPERATING, LLC POWHATAN POINT 7.5' **McMASTERS** 380 SOUTHPOINTE BLVD SUITE 200 **OPERATING** SCALE: DATE 1'' = 2000'DATE: 1-7-2020 CANONSBURG, PA 15317



July 15, 2020

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

RE: McMasters S-17HU

Subject: Proposed Voluntary Pooling and Unitization

Dear Susan:

Tug Hill Operating, LLC is authorized through, either lease or other agreement, to unitize and pool all lands falling within the boundaries of the proposed voluntary unit included with this submission.

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

Sincerely,

Amy L. Miller

Permitting Specialist - Appalachia Region

Tug Hill Operating

Office of Oil and Gas

JUL 17 2020

WW Department or Environmental Protection

Offset Operators within 500' McMasters S - 17HU

WELL	COUNTY	DISTRICT	PARCEL	OWNER	ADDRESS
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-18-2	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-18-2	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-2	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters	i				Suite 500
S-17HU	Marshall	Franklin	5-23-2	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-3	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters	•				Suite 500
S-17HU	Marshall	Franklin	5-23-3	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-3	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-4	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-4	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-4	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters				,	1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-5	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-5	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
					Fort Worth,TX 76107 1320 S. University Drive Office Suite 500
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-5	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters					1 Diversion Cuite 710
S-17HU	Marshall	Franklin	5-23-8	ATINUM MARCELLUS I LLC	Houston, TX 7705 In Manager 1320 S. University Drivenne
					1320 S. University Drivenne
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-8	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
				1	1320 S. University Drive
McMasters				i	Suite 500
S-17HU	Marshall	Franklin	5-23-8	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-13	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters				*	Suite 500
S-17HU	Marshall	Franklin	5-23-13	TH EXPLORATION, LLC	Fort Worth,TX 76107
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-14	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-19-16	ATINUM MARCELLUS I LLC	Houston, TX 77056
2 2.7.0					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-19-16	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
McMasters			- 20 10	2 25	1 Riverway, Suite 710
S-17HU	Marshali	Franklin	5-19-17	ATINUM MARCELLUS I LLC	Houston, TX 77056
2-1/11U	iviaisiidii	i i GIINIIII	J-13-11	INTINOISI ISIANCELEUS I EEC	[11003ton, 1X 77030

Offset Operators within 500' McMasters S - 17HU

					T
					1320 S. University Drive
McMasters	i				Suite 500
S-17HU	Marshall	Franklin	5-19-17	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-19-18	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshali	Franklin	5-19-18	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-18-22	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters				İ	Suite 500
S-17HU	Marshall	Franklin	5-18-22	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
McMasters	1				1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-18-24	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-18-24	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
McMasters					1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-11.1	ATINUM MARCELLUS I LLC	Houston, TX 77056
					1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-11.1	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
3 27110	Widistian	TTUTKIII	3 23 11.1	111 271 2010 111011 11, 220	1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-11.1	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters	.viaisiiaii		0 20 22.2		1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-11.4	ATINUM MARCELLUS I LLC	Houston, TX 77056
			0 20 22		1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-11.4	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
5 17110	Warshan	T T C T T T C T T T C T T T C T T C T T C T T C T T C T T C T T C T T C T T C T T C T T C	3 23 22	111 231 2013 111011 11, 220	1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-11.4	TH EXPLORATION, LLC	Fort Worth,TX 76107
McMasters	iviaisiiaii	TIGHKIII	3 23-11.7	THE ENTERIOR, LEC	1 Riverway, Suite 710
S-17HU	Marshall	Franklin	5-23-2.1	ATINUM MARCELLUS I LLC	Houston, TX 77056
3-1/110	IVIGI SITATI	HallKilli	J-2J-2.1	A THIO IN INVICENTION LEFT	1320 S. University Drive
McMasters					Suite 500
S-17HU	Marshall	Franklin	5-23-2.1	TH EXPLORATION II, LLC *	Fort Worth,TX 76107
2-1/110	IVIAI SIIAII	ri allKIIII	3-23-2.1	ITT EAFLORATION II, LLC	1320 S. University Drive
McMasters					Suite 500
S-17HU	Marchall	Franklin	E 22 0 2	TH EXPLORATION, LLC	Fort Worth,TX 76107
2-1/110	Marshall	ri dil Killi	5-23-9.2	ITT EAPLORATION, LLC	1320 S. University Drive
McMasters					
	Marshall	Erophlin	E 22 0 2	TH EVELOPATION LLC	Suite 500 Fort Worth,TX 76107 Office
S-17HU	Marshall	Franklin	5-23-9.3	TH EXPLORATION, LLC	Troit Worth, IX 76107

^{*} TH Exploration II, LLC is a wholly owned subsidiary of THQ Appalachia I, LLC. Tug Hill Operating, LLC provides oil and gas operation 17 2020 services to THQ Appalachia I. LLC under that certain Operating Services Agreement detect in 182 2011. services to THQ Appalachia I, LLC under that certain Operating Services Agreement dated July 23, 2014. For further info please see the W Department of Environmental Protection recorded affidavit submitted as part of the permit package.



west virginia department of environmental protection

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

Randall M. Albert, Chairman dep.wv.gov

February 28, 2020

TH Exploration, LLC 1320 S. University Dr Ste 500 Ft Worth TX 76107 9489 0090 (027 6201 4282 50

RE: Intentional Deviation of New Deep Well

Tug Hill Operating, LLC - McMasters S-17HU

Dear Sir or Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 414-1239.

Sincerely,

Susan Rose Administrator

encl:



April 13, 2020

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number: 9489 0090 0027 6201 4282 50.

Item Details

Status: Delivered, Front Desk/Reception/Mail Room

Status Date / Time: March 5, 2020, 1:35 pm

Location: FORT WORTH, TX 76107

Postal Product: First-Class Mail®
Extra Services: Certified Mail™

Return Receipt Electronic

Shipment Details

Weight: 20lb, 4.1oz

Recipient Signature

Signature of Recipient:

Address of Recipient:

1305 University

16107 500

Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely, United States Postal Service® 475 L'Enfant Plaza SW Washington, D.C. 20260-0004



west virginia department of environmental protection

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

Randall M. Albert, Chairman dep.wv.gov

February 28, 2020

Atinum Marcellus I, LLC 1 Riverway Ste 710 Houston TX 77056 7489 0090 0027 6201 4282 67

RE:

Intentional Deviation of New Deep Well

Tug Hill Operating, LLC – McMasters S-17HU

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Sincerely,

Susan Rose Administrator

encl:



April 13, 2020

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number: 9489 0090 0027 6201 4282 67.

Item Details

Status: Delivered

Status Date / Time: March 11, 2020, 3:24 pm Location: HOUSTON, TX 77057

Postal Product: First-Class Mail®
Extra Services: Certified Mail™

Return Receipt Electronic

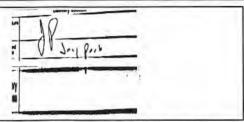
Shipment Details

Weight: 20lb, 4.1oz

Recipient Signature

Signature of Recipient:

Address of Recipient:



Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely, United States Postal Service® 475 L'Enfant Plaza SW Washington, D.C. 20260-0004



west virginia department of environmental protection

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

Randall M. Albert, Chairman dep.wv.gov

February 28, 2020

TH Exploration II, LLC 1320 S University Dr Ste 500 Fort Worth TX 76107 9489 0090 0027 6201 4282 74

RE: Intentional Deviation of New Deep Well

Tug Hill Operating, LLC – McMasters S-17HU

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encl:



April 13, 2020

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Item Details

Status: Delivered, Front Desk/Reception/Mail Room

Status Date / Time: March 5, 2020, 1:35 pm Location: FORT WORTH, TX 76107

Postal Product: First-Class Mail®
Extra Services: Certified Mail™

Return Receipt Electronic

Shipment Details

Weight: 20lb, 4.1oz

Recipient Signature

Signature of Recipient:

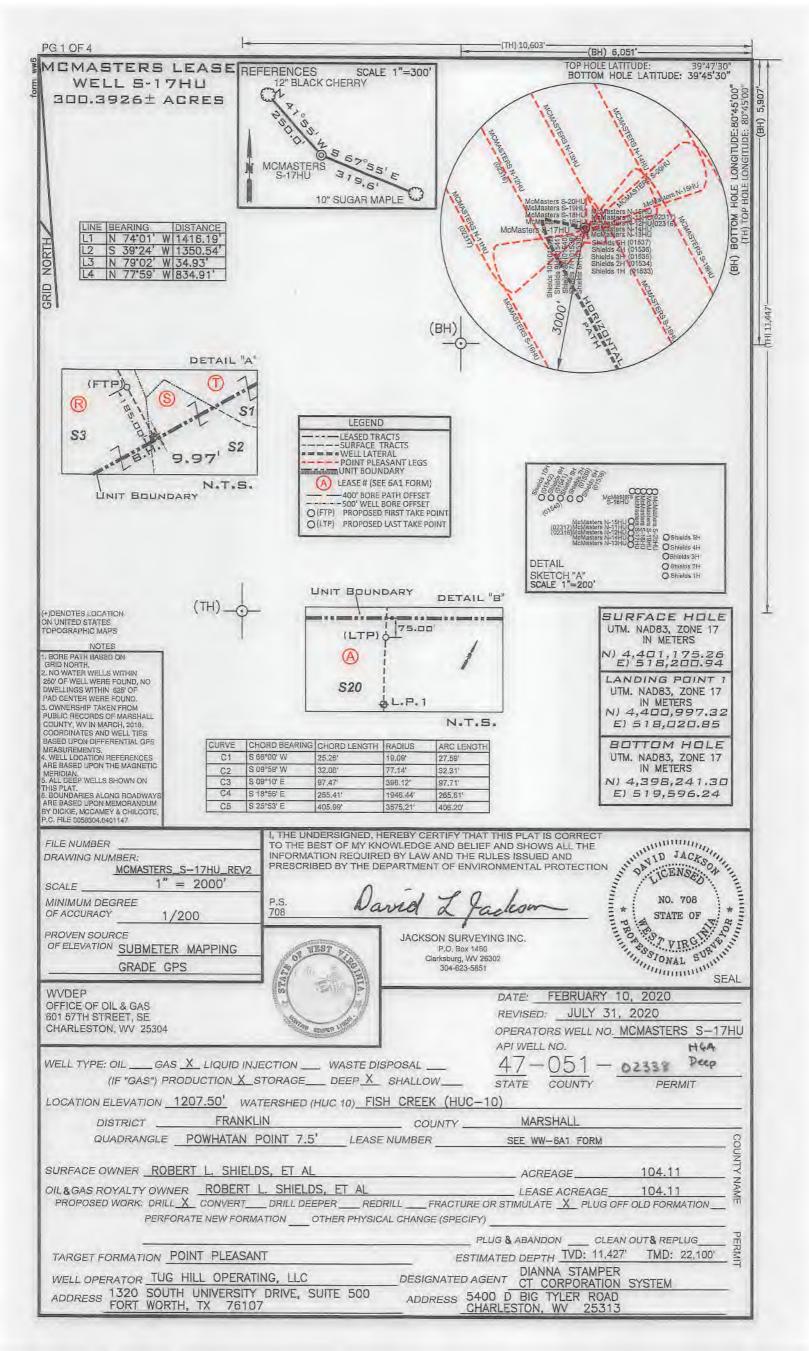
Address of Recipient:

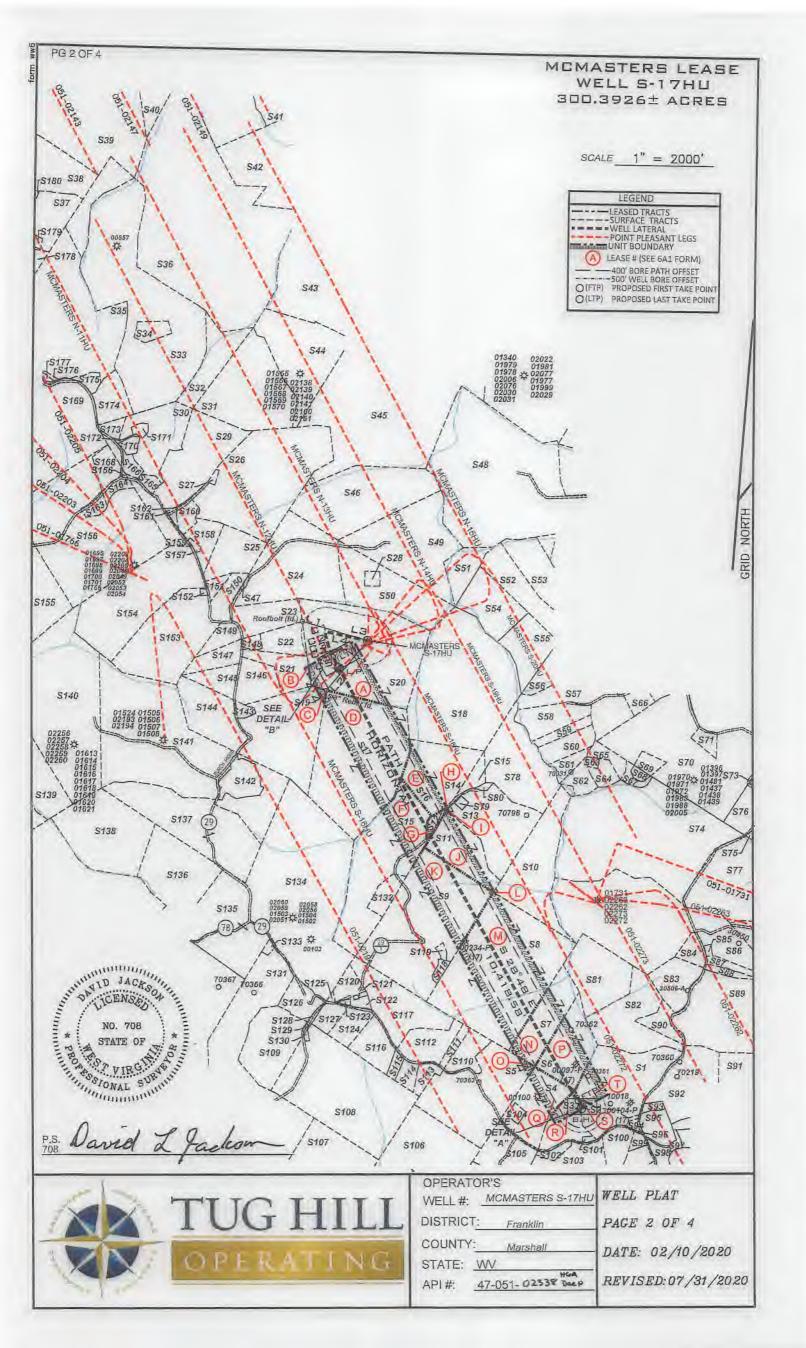
V6181 500

Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely, United States Postal Service® 475 L'Enfant Plaza SW Washington, D.C. 20260-0004





PG 3 OF 4

MCMASTERS LEASE WELL 5-17HU 300.3926± ACRES

Number	TAX MAP -PARCEL	ADJOINER OWNER	ACRES
S1 T	05-23-11.1	John H. & Sonya D. Holliday	46.482
S2 S	05-23-11.4	Kenneth L. Lemons, Trustee for Jeffrey G. Hudson	10.879
S3 R	05-23-13	Linda D. Greathouse	14.24
S4 Q	05-23-9.2	Linda D. Greathouse	25.58
S5 0	05-23-14	Dominion Transmission Inc.	59.5
S6 P	05-23-9.3	Linda D. Greathouse	17.5
S7 N	05-23-08	Carl David & Suzanne L. Guseman	29.5
S8 M	05-23-05	Daniel D. Rhyand	118.5
S9 K	05-23-04	Abe J. Hochstetler	100.7
S10 L	05-23-06	James A. Channing Et Al	48.0
S11 J	05-23-03	Abe J. Hochstetler	50.0
S12 G	05-23-2.1	William L. & Janice M. Wayne	2.364
S13	05-18-21	Curtis E. & Michelle J. Hall	43.119
S14 H	05-18-21.1	Rodney & Rhonda Jackson	5.47
S15 F	05-23-02	Danielle D. Lilley	77.636
S16 E	05-18-22	Rodney & Rhonda Jackson	30.345
S17 D	05-18-24	Duane Brunn	102.0
S18	05-18-23	XCL Midsteeam Operating LLC	110.0
S19 C	05-19-18	Mark E. Yoho Et Ux	55.948
S20 A	05-18-02	Robert L. Shields Et Al	104.11
S21 B	05-19-17	Mark A. Yoho	15.263
S22	05-19-16	Robert L. Shields & Donald Shields	11.612
S23	05-19-14	James & Sherry Beegle	18.356
S24	05-18-1	Diana Henry Haynes & Carol C. Henry	62.908
S25	05-19-30	Ernie & Tammy Anderson	19.037
S26	05-19-13	Rona Lee Rice & Charles Franklin McCardle	94.925
S27	05-19-13.1	Donald Shields	0.800
S28	05-18-3.1	Nikki L. & Jonathan Stevens	2.223
S29	05-19-8	CNX Gas Company LLC	40.0
S30	05-19-7	Olan V. Rutan Et Ux	32.4801
S31	05-14-15	Robert L. Shields Et Al	53.0
S32	05-14-14	Robert L. Shields Et Al	29.05
S33	05-14-12	Dale R, Galleher Et Al	135.100
S34	05-14-12.1	Henry Wilson Plunkert Jr.	5.0
S35	05-14-10	Wanda P. Rine, Life	126.03
S36	05-14-13	Ralph D, & Sally Jane Hoyt	222.18
S37	05-14-9.2	Maria T. Flores	25.0
S38	05-12-21	Edward L. Gibson-Life	73.436
S39	05-12-14	Linda Hamilton Et Al	117.495
S40	05-12-12.1	Linda L. Persinger Et Ux	148.09
S41	05-12-11	Wesley R. Bryan & Wesley R. Bryan II	52.478
542	05-11-15	Lionel L. Persinger Ex Ux	93.0
S43	05-15-01	Marcus Sharp & Angela R. Schlabach	121.0
S44	05-15-15	Robert L. Shields Et Al	49.02

Lease No.	Tags	Parcel	Lessor	Book	Page
10*14116	А	5-18-2	DONALD SHIELDS	669	367
10*14295	В	5-19-17	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	655	546
10*14295	С	5-19-18	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	655	546
10*14295	D	5-18-24	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	655	546
10*14022	Е	5-18-22	HOWARD N WAYNE SR AND DENISE D WAYNE	665	384
10*14022	F	5-23-2	HOWARD N WAYNE SR AND DENISE D WAYNE	665	384
10*19145	G	5-23-2.1	WILLIAM L WAYNE & JANICE M WAYNE	706	87
10*17145	Э	5-18-21.1	JAMES J. CAMPBELL AND BETTY J CAMPBELL	685	458
10*17145	T-	5-18-21	JAMES J. CAMPBELL AND BETTY J CAMPBELL	685	458
10*17145	J	5-23-3	JAMES J. CAMPBELL AND BETTY J CAMPBELL	685	458
10*14849	К	5-23-4	DAVID GUSTELY	806	265
10*17186	L	5-23-6	ROBERT J HENRY	708	51
10*14847	М	5-23-5	LETHA RUCKMAN	806	270
10*17192	N	5-23-8	ROBERT J HENRY	716	1,93
10*18343	0	5-23-14	DOMINION ENERGY TRANSMISSION INC	936	79
10*17189	Р	5-23-9.3	ROBERT J HENRY	716	197
10*17189	Q	5-23-9.2	ROBERT J HENRY	716	197
10*14786	R	5-23-13	TWILA O WHIPKEY	799	61
10*14786	S	5-23-11.4	TWILA O WHIPKEY	799	61
10*14786	T	5-23-11.1	TWILA O WHIPKEY	799	61

NO. 70B
STATE OF VIRCHMAN



OPERATOR'S

WELL #: MCMASTERS S-17HU

DISTRICT: Franklin

COUNTY: Marshall

STATE: WV

API#: 47-051-02358 Deep

WELL PLAT

PAGE 3 OF 4

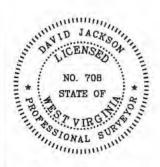
DATE: 02/10/2020

REVISED: 07/31/2020

MCMASTERS LEASE WELL S-17HU 300.3926 ACRES

Number	TAX MAP -PARCEL	ADJOINER OWNER	ACRES
S45 05-15-12		John David Petrock & Thomas Andrew Petrock	150.23
S46	05-15-11	Diana Henry Haynes & Carol Henry	65.59
S47	05-18-1.1	Charles F. & Diana L. Haynes	0.392
S48	05-15-10	Mark Stanley Ruckman	153.75
S49	05-18-04	Olan & Patricia Rutan	65.89
S50	05-18-03	Olan V. & Patricia E. Rutan	43.677
S51	05-18-05	Terry Melott	8.14
S52	05-18-15.3	Charles Yeater	26.44
S53	05-18-15.4	Edward Lee Burge, Jr.	22.34
S54	05-18-06	Charles Yeater	26.0
S55	05-18-07	Charles Yeater	24.22
S56	05-18-16	Charles Yeater	17.768
S57	05-18-13	Southern Sountry Farms Inc.	11.054
S58	05-18-59	Southern Country Farms Inc.	15.79
S59	05-18-30	Mary & Daniel Robinson	5.46
S60	05-18-13.10	Carl Berg	10.88
S61	05-18-29	Carl G. Berg	5.319
S62	05-18-31	Kenneth E. Rastell	6.94
S63	05-18-32.1	Lori D. Carpenter	5.545
S64	05-18-32	Kenneth E. Rastall	5.335
S65	05-18-13.8	Lori D. Carpenter	5.545
S66	05-18-33	Sandra & Glenn Whister	5.343
S67	05-17-12	James & Jill C. Corley	3.33
S68	05-17-12.1	Williams Ohio Valley Midstream LLC	1.67
S69	05-17-10.5	Williams Ohio Valley Midstream LLC	4.24
S70	05-17-10	James A. Corley Et Al	92.61
S71	05-17-10.1	James A. & Jill C. Corley	4.51
S72	05-17-9.1	Jeri J. White	1.0
S73	05-17-9.2	Jeri J. White	7.136
S74	05-17-11	Kenneth N. Corley Et Ux	120.0
S75	05-17-9.4	Vicki L. Bowen	60.3
S76	05-17-9.3	James A. & Corley Et Ux	12.478
S77	05-17-11.1	Randy W. Francis Et Ux	67.0
S78	05-18-20	Wayne E. Channing Et Al	75.6
S79	05-18-21.2	David P. Lassan	1.0
580	05-18-21.3	Hilda M. Gilberson-Wayt, Life	0.811
S81	05-23-8.1	William & Virginia Roupe	34.0
S82	05-24-5.4	Thomas V. Tuttle Et Ux	38.244
S83	05-24-5.5	Sonny & Linda Lou Tagg	17.194
S84	05-23.7.2	Florella Lou Weigand	6.354
S85	05-23-7.1	Florella Lou Weigand	0.549
S86	P/0 05-23-7	Terry E. Simms Et Ux	123.09
S87	05-24-5.1	James D. Watkins Et Ux	4.6
S88	05-24-5.2	James D. Watkins Et Ux	3.151
589	05-24-5	Robert C. Francis Et Ux (Life)	145.78
590	05-24-3.1	T.H. Exploration II LLC	5.50

Number	TAX MAP-PARCEL		ACRES
S91	05-24-6	Terry E. Simms Et Ux	42.84
592	05-23-10	Terry E. Simms Et Ux	38.95
593	05-23-11.7	Bryan L. Huggins	1.835
594	05-23-11.2	Evelyn Hudson	1.154
S95 S96	05-23-11	Roy F. Yoho	9.475
S97	05-23-11.6	T.H. Exploration II, LLC	0.094
S98	05-25-20.2	James M. Zambotti	1.347
599	05-25-20.3	James A. & Jo C, Estep	4.49
S100	05-23-11.5	Rey F. Yoho	2.25
S100	05-23-11.3	Colin R. Yoho	0.75
5102	05-23-13.1	James R. & Pamela J. Ferrell Mark A. Yoho	3.05
S103	05-23-12	Mark A. Yoho	89.25
5104	05-26-11	Jackson R. Davis Sr. & Deanna L. Davis	
S105	05-23-9.4 05-23-9.1	John W. Van Orden Et Ux	2.087
5106	05-26-7	Dominion Transmission, Inc.	71.0
S107	05-26-5	Michael J. Wiley Et Al	65.0
5108	05-23-26	Michael J. Wiley Et Al	101.57
5109	05-23-27	Michael J. Wiley Et Al	33.14
S110	05-23-15	Henry Virginia Ethel Estate	15.5
S111	05-23.16.1	Donald B, Henry	1.97
5112	05-23-16	Roy Friend Yoho Sr.	18.03
S113	05-23-17.3	William & Katherine Flewelling	5.018
S114	05-23-17	Tammy & Thomas E. Brown	4.62
S115	05-23-17.4	Tammy D. Meadows	2.605
S116	05-23-17.2	Dick Rowan Jr. & Carol J. Rowan	14,920
S117	05-23-18	Abe J. Hochstetler	35.38
S118	05-23-4.1	XCL Midstream Operating LLC	2.16
S119	05-23-4.2	XCL Midstream Operating LLC	1.17
S120	05-23-18.1	Mark A. Yoho	7.8
5121	05-23-19	Doty Cemetery	1.0
S122	05-23-20	Christian Church	0.19
S123	05-23-21	Mark A. & Mark E. Yoho	0.19
S124	05-23-17.1	Curtis E. Hall Et Ux	10.051
S125	05-23-29	James Wiley	0.25
S126	05-23-28.2	Mark W. & Carolyn L. Tennant	10.8
S127	05-23-22	Daniel D. Rhyand & Laurel R. Greene	6.25
S128	05-23-23	Michael J. Wiley Et Al	1.0
S129	05-23-24	Michael J. Wiley Et Al	0.25
S130	05-23-25	Arthur A. Wiley	0.43
S131	05-23-28	Gregg D. Minor	39.43
S132	05-23-2.2	Jessica N. & Andrew L. Fox	7.636
S133	05-23-28.1	Troy W. & Erin M. Thomas	1.0
5134	05-23-01	Patricia Accettolo Et Al	146.66
S135	05-22-7.1	T.H. Exploration II LLC & Atinum Marcellus I	20.68
100,000		LLC	20,00
S136	05-22-08	T.H. Exploration III LLC	48.44
S137	05-22-06	CNX Gas Company LLC	64.70
S138	05-22-10	T.H. Exploration III LLC	58.40
S139	05-22-17	CNX Gas Company LLC	37.5
S140	05-22-04	CNX Gas Company LLC	159.05
5141	05-22-05	CNX Gas Company LLC	134,425
S142	05-22-5.1	Williams Ohio Valley Midstream LLC	12.875
S143	05-19-18.1	Mark E. Yoho Et Ux	2.57
S144	05-19-18.2	Paul V. & Carol Neely	32.672
S145	05-19-25	David E. Yoho & Mark E, Yoho	9.976
S146	05-19-24	Mark E. Yoho	15.436
S147	05-19-26	Roger J. & Beth E. James	9.977
S148	05-19-16.1	Robert L. & Rebecca A. Shields	2.307
S149	05-19-27	David E. Yoho & Mark E. Yoho	7.041
S150	05-19-31	Charles F. & Diana L. Haynes	8.779
S151	05-19-30.1	Eric R.W. & Ashley A. Huggins	2.911
S152	05-19-32	Jasper N. Burch Et Al-Trustees	0.397
S153	05-19-28	David E. Yoho & Mark E. Yoho	56.899
S154	05-19-19	Russell Blake Et Ux	66.4
S155	05-19-21	Sammy E. Whitlatch Et Al	116,45
S156	05-19-20		114.989
S157	05-19-15	Carly Herran	0.72
S158	05-19-29	Ernie L. & Tammy L. Anderson	10.961
S159	05-19-09	Penny Elaine Ashcraft	10.44
S160	05-19-12	Ernie L. Anderson Et Ux	5.33
S161	05-19-10	Ernie L. Anderson Et Ux	0.8125
5162	05-19-11	Ernie L. Anderson Et Ux	0.08
S163	05-19-20.3	Sidney Harmon	3.715
S164	05-19-20.1	John J. Ebert-Life	3.848
5165	05-19-7.5	Adam T. & Jesse L. Robinson	2.64
S166	05-19-7.1	Robert L. Shields Et Ux	3.399
S168	05-19-20.2	Casandra L. Harmon	7.448
5169	05-19-05	Margirene Keefe	126.03
S170	05-19-7.2	Olan Rutan	2.783
5171	05-19-7.4	Olan V. Rutan, Et Ux	1.787
	05-19-7.3	Clan V. Rutan Et Ux	0.341
S172	05-19-06	Belinda Kay Meadows, Rebecca Ann Shields	5.1099
S172 S173		& Olan V. Rutan	
S173			12.0
S173 S174	05-14-11	Dale R. Gallaher Et Al	
S173 S174 S175	05-14-10.4	Adam R. & Jesse L. Robinson	3.343
S173 S174 S175 S176	05-14-10.4 05-14-10.2	Adam R. & Jesse L. Robinson Ida Belle Rutan-Life, Raiph R. Hoyt	3.343 0.495
\$173 \$174 \$175 \$176 \$177	05-14-10.4 05-14-10.2 05-14-10.1	Adam R. & Jesse L. Robinson Ida Belle Rutan-Life, Ralph R. Hoyt Ida Belle Rutan-Life, Ralph R. Hoyt	3.343 0.495 0.5
\$173 \$174 \$175 \$176 \$177 \$178	05-14-10.4 05-14-10.2 05-14-10.1 05-14-9.5	Adam R. & Jesse L. Robinson Ida Belle Rutan-Life, Raiph R. Hoyt Ida Belle Rutan-Life, Raiph R. Hoyt Maria T. Flores	3.343 0.495 0.5 6.024
\$173 \$174 \$175 \$176 \$177	05-14-10.4 05-14-10.2 05-14-10.1	Adam R. & Jesse L. Robinson Ida Belle Rutan-Life, Ralph R. Hoyt Ida Belle Rutan-Life, Ralph R. Hoyt	3.343 0.495 0.5



P.S. David L Jackson

XX	TUG HILL
XX	OPERATING

OPERATOR'S

STATE: WV

WELL #: MCMASTERS S-17HU

DISTRICT: Franklin

COUNTY: Marshall

API#: 47-051- 02331 Deep

WELL PLAT

PAGE 4 OF 4

DATE: 02/10/2020

REVISED: 07/31/2020

WW-6A1 (5/13)

Operator's Well No. McMasters S-17HU

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

Office of Oil and Gas

WV Department of Environmental Protection

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

Well Operator: Tug Hill Operating, LLC

By:

Amy L. Miller

Its:

Permitting Specialist - Appalachia Region

Page 1 of

WW-6A1 (5/13) Operator's Well No. McMasters S-17HU

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)

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Book/Page

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

Office of Oil and Gas

JUL 17 2020

WW Department of Environmental Protection

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Well Operator: Tug Hill Operating, LLC

By:

Amy L. Miller and Shall

Its:

Permitting Specialist - Appalachia Region

WW-6A1 Supplement

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Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
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मव						4,9 V	le totion						21/41 Gastar Exploration	23/353 Gastar Exploration	
ro.				GASTAR EXPLORATION		Office 1	Well gar		NA		l		USA Inc and Gastar Exploration Inc merger	USA Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14116	A	5-18-2	DONALD SHIELDS	USA INC	1/8+	0. 69	A A 367	NA	NA .	INA	NA	NA	exploration inc merger	Ivial cellus I LLC	inc to 111 Exploration in EEC
						3, 0	Centr								
4						Office Sept 17							21/41 Gastar Exploration	23/353 Gastar Exploration	
			ROBERT L SHIELDS AND	GASTAR EXPLORATION	- 4-				l	l		la.	USA Inc and Gastar Exploration Inc merger	USA Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14117	A	5-18-2	REBECCA A SHIELDS	USA INC	1/8+	669	360	NA	NA .	INA .	NA	NA	Exploration inc merger	IMARCERUS I LLC	inc to the exploration in LEC
10*14295	В	5-19-17	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	TRIENERGY, INC.	1/8+	655	546	19/623 TriEnergy Inc to AB Resources LLC	666/40 AB Resources LLC to Chief Exploration & Development LLC	21/148 TriEnergy Inc and AB Resources LLC to TriEnergy Holdings LLC	21/520 Chief Exploration & Development LLC and Radler 2000 Umited Partnership to Enerplus Resources USA	720/214 TriEnergy Holdings LLC to AB Resources LLC	24/39 AB Resources LLC, Chief Exploration & Development LLC, Radler 2000 Limited Partnership and Enerplus Resources USA to Gastar Exploration USA Inc and Atinum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*1429 5	с	5-19-18	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	TRIENERGY, INC.	1/8+	655	546	19/623 TriEnergy Inc to AB Resources LLC	666/40 AB Resources LLC to Chief Exploration & Development LLC	21/148 TriEnergy Inc and AB Resources LLC to TriEnergy Holdings LLC	21/520 Chief Exploration & Development LLC and Radler 2000 Limited Partnership to Enerplus Resources USA	720/214 TriEnergy Holdings LLC to AB Resources LLC	24/39 AB Resources LLC, Chief Exploration & Development LLC, Radler 2000 Limited Partnership and Enerplus Resources USA to Gastar Exploration USA Inc and Atinum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC
10 ° 14295	D	5-18-24	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	TRIENERGY, INC.	1/8+	655	546	19/623 TriEnergy Inc to AB Resources LLC	666/40 AB Resources LLC to Chief Exploration & Development LLC	21/148 TriEnergy Inc and AB Resources LLC to TriEnergy Holdings LLC	21/520 Chief Exploration & Development LLC and Radler 2000 Limited Partnership to Enerplus Resources USA	720/214 TriEnergy Holdings LLC to AB Resources LLC	24/39 AB Resources LLC, Chief Exploration & Development LLC, Radler 2000 Limited Partnership and Enerplus Resources USA to Gastar Exploration USA Inc and Atinum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC
10°14296	D	5-18-24	DUANE BRUNN	TRIENERGY HOLDINGS, LLC	1/8+	705	484	NA .	NA	NA	NA	24/29 TriEnergy Holdings LLC to AB Resources LLC	24/32 AB Resources LLC to Gastar Exploration USA Inc and Atinum Marcellus I LLC		36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14022	E	5-18-22	HOWARD N WAYNE SR AND DENISE D WAYNE	GASTAR EXPLORATION USA INC	1/8+	665	384	NA	NA	NA	NA	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC

NW-6A1	Supp	lement
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6 0 S 23/353 Gastar Exploration 21/41 Gastar Exploration USA Inc to Atinum USA Inc and Gastar 36/9 Gastar Exploration HOWARD N WAYNE SR GASTAR EXPLORATION 10*14022 Marcellus I LLC Exploration Inc merger Inc to TH Exploration II LLC 384 5-23-2 AND DENISE D WAYNE USA INC 1/8+ 665 23/353 Gastar Exploration 21/41 Gastar Exploration USA Inc to Atinum USA Inc and Gastar 36/9 Gastar Exploration WILLIAM L WAYNE & Marcellus I LLC Inc to TH Exploration II LLC Exploration Inc merger TRIENERGY HOLDINGS, LLC 706 87 10*19145 5-23-2.1 JANICE M WAYNE 1/8+ 33/424 Statoil USA Onshore Properties Inc to 19/624 SWN Exchange 41/256 SWN Production 23/127 Chesapeake 33/110 Chesapeake JAMES J. CAMPBELL AND CHESAPEAKE APPALACHIA Titleholder LLC to SWN Company LLC to TH Appalachia LLC to Statoil Appalachia LLC to SWN SWN Exchange Titleholder Production Company LLC Onshore Properties Inc Production Company LLC Exploration LLC 5-18-21.1 BETTY J CAMPBELL 1/8+ 685 458 10*17145 33/424 Statoil USA 33/110 Chesapeake Onshore Properties Inc to 19/624 SWN Exchange 41/256 SWN Production CAROLYN CAMPBELL 23/127 Chesapeake itleholder LLC to SWN Company LLC to TH BRITTON AND ROBERT C. CHESAPEAKE APPALACHIA Appalachia LLC to Statoil Appalachia LLC to SWN SWN Exchange Titleholder Onshore Properties Inc Production Company LLC Production Company LLC Exploration LLC 685 464 10*17146 5-18-21.1 1/8+ 33/424 Statoil USA Onshore Properties Inc to 19/624 SWN Exchange 41/256 SWN Production 23/127 Chesapeake 33/110 Chesapeake Appalachia LLC to Statoil Appalachia LLC to SWN SWN Exchange Titleholder Titleholder LLC to SWN Company LLC to TH CHESAPEAKE APPALACHIA JOANN J PARSONS AND Production Company LLC Production Company LLC Exploration LLC GARY D PARSONS 1/8+ 685 470 5-18-21.1 10*17147 33/424 Statoil USA 33/110 Chesapeake Onshore Properties Inc to 19/624 SWN Exchange 41/256 SWN Production 23/127 Chesapeake Appalachia LLC to SWN Company LLC to TH Appalachia LLC to Statoil SWN Exchange Titleholder Titleholder LLC to SWN DONALD E. CAMPBELL CHESAPEAKE APPALACHIA oduction Company LLC Production Company LLC Exploration LLC 476 JUNE L. CAMPBELL 685 10*17148 5-18-21.1 33/424 Statoil USA Onshore Properties Inc to 19/624 SWN Exchange 41/256 SWN Production 23/127 Chesapeake 33/110 Chesapeake Company LLC to TH Appalachia LLC to Statoil Appalachia LLC to SWN SWN Exchange Titleholder Titleholder LLC to SWN CHESAPEAKE APPALACHIA Onshore Properties Inc Production Company LLC Production Company LLC Exploration LLC 10*17149 WANDA M. BLAKE 1/8+ 685 482 5-18-21.1

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10*17150	н	5-18-21.1	IDA L. CAMPBELL	CHESAPEAKE APPALACHIA LLC	1/8+	685	488	NA	NA	NA	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC		41/256 SWN Production Company LLC to TH Exploration LLC
	н	5-18-21.1	BARBARA KITTLE	TH EXPLORATION, LLC	1/8+	954	641	NA.	NA	NA NA	NA NA	NA	NA	N A	NA
10*22169	н		JAMES J. CAMPBELL AND	CHESAPEAKE APPALACHIA							23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC to SWN Production Company LLC	41/256 SWN Production Company LLC to TH
10*17145	I	5-18-21		CHESAPEAKE APPALACHIA	1/8+	685	458	NA	NA NA	NA	23/127 Chesapeake Appalachia LLC to Statoil	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder		41/256 SWN Production Company LLC to TH
10*17146		5-18-21	JOANN J PARSONS AND	CHESAPEAKE APPALACHIA	1/8+	685	464	NA NA	NA NA	NA NA	Onshore Properties Inc 23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder	19/624 SWN Exchange	41/256 SWN Production Company LLC to TH
10*17147		5-18-21	GARY D PARSONS DONALD E. CAMPBELL JUNE L. CAMPBELL	CHESAPEAKE APPALACHIA	1/8+	685	470 476	NA NA	NA NA	NA.	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder	19/624 SWN Exchange	41/256 SWN Production Company LLC to TH
10°17148	1	5-18-21	JUNE L. CAMPBELL WANDA M. BLAKE	CHESAPEAKE APPALACHIA	1/8+	685	4/6	NA.	IMS.	NA.	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder	19/624 SWN Exchange	41/256 SWN Production Company LLC to TH
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0											23/127 Chesapeake	33/110 Chesapeake	33/424 Statoil USA Onshore Properties Inc to	19/624 SWN Exchange	41/256 SWN Production
_				CHESAPEAKE APPALACHIA	1/8+	685	488	NA.			Appalachia LLC to Statoil	Appalachia LLC to SWN Production Company LLC	SWN Exchange Titleholder		Company LLC to TH
10°17450	<u> </u>	5-18-21	IDA L. CAMPBELL	uc	1/8+	685	466	NA .	INA.	INA.	Olishore Properties inc	Production Company LLC		Production Company LCC	Exploration (EC
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4.															
10*22169	1	5-18-21	BARBARA KITTLE	TH EXPLORATION, LLC	1/8+	954	641	NA	NA	NA	NA	NA	NA	NA	NA
														:	
													33/424 Statoil USA		
			JAMES J. CAMPBELL AND	CHESAPEAKE APPALACHIA							23/127 Chesapeake Appalachia LLC to Statoil	33/110 Chesapeake Appalachia LLC to SWN	Onshore Properties Inc to SWN Exchange Titleholder	Titleholder LLC to SWN	41/256 SWN Production Company LLC to TH
10*17145	J	5-23-3	BETTY J CAMPBELL	ис	1/8+	685	458	NA	NA	NA .	Onshore Properties Inc	Production Company LLC	rrc	Production Company LLC	Exploration LLC
												İ			
			CAROLYN CAMPBELL						1		23/127 Chesapeake	33/110 Chesapeake	33/424 Statoil USA Onshore Properties Inc to	19/624 SWN Exchange	41/256 SWN Production
			BRITTON AND ROBERT C. BRITTON	CHESAPEAKE APPALACHIA	1/8+	685	464	NA.	NA.	NA .	Appalachia LLC to Statoil	Appalachia LLC to SWN Production Company LLC	SWN Exchange Titleholder		Company LLC to TH
10*17146	-	5-23-3	BRITTON	tic .	1/6+	003	404	INA.	lia .	lina.	Onshore Properties inc	Troudcaon Company LLC		Troudent Company LLC	Exploration and
						·									
													33/424 Statoil USA		
											23/127 Chesapeake	33/110 Chesapeake	Onshore Properties Inc to SWN Exchange Titleholder		41/256 SWN Production Company LLC to TH
10*17147	J	5-23-3	JOANN J PARSONS AND GARY D PARSONS	CHESAPEAKE APPALACHIA	1/8+	685	470	NA	NA	NA	Appalachia LLC to Statoil Onshore Properties Inc	Appalachia LLC to SWN Production Company LLC		Production Company LLC	Exploration LLC
													33/424 Statoil USA		
			DONALD E. CAMPBELL	CHESAPEAKE APPALACHIA							23/127 Chesapeake Appalachia LLC to Statoil	33/110 Chesapeake Appalachia LLC to SWN	Onshore Properties Inc to SWN Exchange Titleholder	Titleholder LLC to SWN	41/256 SWN Production Company LLC to TH
10*17148		5-23-3	JUNE L CAMPBELL	uc	1/8+	685	476	NA	NA	NA	Onshore Properties Inc	Production Company LLC	шс	Production Company LLC	Exploration LLC
											23/127 Chesapeake	33/110 Chesapeake	33/424 Statoil USA Onshore Properties Inc to	19/624 SWN Exchange	41/256 SWN Production
				CHESAPEAKE APPALACHIA	4.40		400	<u></u>			Appalachia LLC to Statoil	Appalachia LLC to SWN	SWN Exchange Titleholder		Company LLC to TH
10*17149		5-23-3	WANDA M. BLAKE	шс	1/8+	685	482	NA	INA	INA	Onshore Properties Inc	Production Company LLC	LLL	Production Company LLC	Exploration LLC

10*17150	J	5-23-3	IDA L CAMPBELL	CHESAPEAKE APPALACHIA	1/8+	685	488	NA	NA	NA .	23/127 Chesapeake Appalachia LLC to Statoli Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC		41/256 SWN Production Company LLC to TH Exploration LLC
			ABE J HOCHSTETLER AND												
10*21415	J	5-23-3	ANNA E HOCHSTETLER	TH EXPLORATION, LLC	1/8+	957	7	NA	NA	NA	NA	NA	NA	NA	NA
	K	5324	DAVID GUSTELY	GASTAR EXPLORATION USA INC	1/8+	806	265	NA NA	NA NA	NA NA	NA.	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration
10*14849	K K	5-23-4	DAVID GOSTELY	USA INC	1/6+	300	203	ING.	lina .	100	No.	no.	Expression memory		
10°14853	K	5-23-4	DURWOOD WRIGHT BY CATHERINE HUMMEL AIF	GASTAR EXPLORATION USA INC	1/8+	809	507	NA	NA NA	NA -	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	Inc to Atinum Marcellus I	36/9 Gastar Exploration Inc to TH Exploration II LLC
			NANCY WHITLATCH	GASTAR EXPLORATION USA INC	1/8+	809	526	NA NA	NA NA	NA NA	NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration
10*14861	К	5-23-4	NANCY WHITEATCH	USA INC	1/8+	609	326	INA .	INA.	INA .	INA.	NA .	Exploration in therger		inc to 111 Exploration in Ecc
10*14862	к	5-23-4	ANN GUSTELY	GASTAR EXPLORATION USA INC	1/8+	809	568	NA	NA I	NA	NA	NA .	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14864		5-23-4	CAROLYN DURWAY	GASTAR EXPLORATION USA INC	1/8+	810	330	NA NA	NA	NA NA	NA NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	Inc to Atinum Marcellus I	36/9 Gastar Exploration

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•				GASTAR EXPLORATION									USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14866	К	5-23-4	GARY CARMICHAEL	USA INC	1/8+	810	316	NA	NA NA	NA NA	NA	NA	Exploration Inc merger	LLC	Inc to TH Exploration II LLC
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0															
4											İ		21/41 Gastar Exploration	31/184 Gastar Exploration	
				GASTAR EXPLORATION	4.6			NA			NA.	NA	USA Inc and Gastar Exploration Inc merger		36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14868	К	5-23-4	WOODROW CAMPBELL JR	USA INC	1/8+	813	454	NA .	NA	NA NA	INA INA	NA NA	exploration inc merger	LLC .	inc to TH Exploration II LLC
				GASTAR EXPLORATION					İ				21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14869	к	5-23-4	RALPH VAUGHN TAYLOR	USA INC	1/8+	813	561	NA	NA	NA	NA	NA NA	Exploration Inc merger	ис	Inc to TH Exploration II LLC
				GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration	36/9 Gastar Exploration
10*14870	к	5-23-4	DAVID CARMICHAEL	USA INC	1/8+	816	16	NA	NA	NA	NA	NA	Exploration Inc merger	rrc	Inc to TH Exploration II LLC
													21/41 Gastar Exploration	31/184 Gastar Exploration	
10*14872	K	5-23-4	DWG OIL & GAS ACQUISITIONS LLC	GASTAR EXPLORATION USA INC	1/8+	817	312	NA .	NA NA	NA NA	NA NA	NA.	USA Inc and Gastar Exploration Inc merger	Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*148/2		3-23-4	100,000		4-2-										
														31/184 Gastar Exploration	
10#14972	к	5-23-4	RAYMOND MILLER	GASTAR EXPLORATION USA INC	1/8+	821	44	NA NA	NA	NA NA	NA NA	NA NA	USA Inc and Gastar Exploration Inc merger	Inc to Atinum Marcellus I	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14873	K	5-23-4	NATIVIONO WILLER	osa ire	2/01	022	-				100				
				CASTAR FUR									21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14874	к	5-23-4	RICHARD MILLER	GASTAR EXPLORATION USA INC	1/8+	822	260	NA	NA	NA	NA	NA	USA Inc and Gastar Exploration Inc merger	LLC	Inc to TH Exploration II LLC

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10°14876	K	5-23-4	SHIRLEY LARGENT	GASTAR EXPLORATION USA INC	1/8+	827	228	NA .	NA	NA	NA .	NA .	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LU
10*14877	K	5-23-4	GARY F OBLOY AND DENISE I OBLOY	GASTAR EXPLORATION USA INC	1/8+	836	112	NA	NA .	NA .	NA .	NA .	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LU
10*14878	K	5-23-4	ARTHUR BRUCE COULTER	GASTAR EXPLORATION USA INC	1/8+	839	519	NA	NA	NA	NA NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LU
	K	5-23-4	THERESA RINE	GASTAR EXPLORATION USA INC	1/8+	840	162	NA	NA NA	NA	NA NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LU
10*14879				GASTAR EXPLORATION				NA.	NA NA	NA	NA.	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LU
10*14880	к	5-23-4	IRIS LUCAS	USA INC	1/8+	849	545	NA	NA .	NA	NA NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14881	К	5-23-4	MARY WHITLATCH	USA INC	1/8+	849	548	NA	NA .	NA	NA NA	NA NA	Exploration Inc merger	LLC 31/184 Gastar Exploration	Inc to TH Exploration II LL
10*14882	ĸ	5-23-4	GARY RINE	USA INC	1/8+	849	551	NA	NA	NA	NA	NA	Exploration Inc merger	LLC	Inc to TH Exploration II

12/14/25 12/24 15/24/25 1	loration 31/184 Gastar Exploration ar Inc to Atinum Marcellus I	I 36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14884 K 5-23-4 REKE HAGERTY USA INC 1/8+ 852 2.55 NA AA NA NA NA NA NA NA PA Exploration Inc m 10*14885 K 5-23-4 HOWARD RINE USA INC 1/8+ 854 601 NA NA NA NA NA NA NA NA NA NA NA REploration inc m 10*14886 K 5-23-4 JODI YOHO USA INC 1/8+ 854 604 NA NA NA NA NA NA NA NA NA REploration inc m 10*14886 K 5-23-4 JODI YOHO USA INC 1/8+ 854 604 NA NA NA NA NA NA NA NA REploration inc m 10*14886 K 5-23-4 JODI YOHO USA INC 1/8+ 854 604 NA NA NA NA NA NA NA NA REploration inc m 10*14886 K 5-23-4 JODI YOHO USA INC 1/8+ 854 604 NA NA NA NA NA NA NA REPLORATION USA INC 1/8+ 854 604 NA NA NA NA NA NA NA NA NA NA NA REPLORATION USA INC 1/8+ 854 604 NA NA NA NA NA NA NA NA NA NA REPLORATION USA INC 1/8+ 854 604 NA NA NA NA NA NA NA NA NA NA NA REPLORATION USA INC NA REPLORATI	loration 31/184 Gastar Exploration ar Inc to Atinum Marcellus I	on I 36/9 Gastar Exploration
GASTAR EXPLORATION 1/8+ 854 601 NA NA NA NA NA NA Exploration inc m 10*14885 K 5-23-4 HOWARD RINE USA INC 1/8+ 854 601 NA NA NA NA NA NA NA SEPHORATION 10*14886 K 5-23-4 JODI YOHO USA INC 1/8+ 854 604 NA NA NA NA NA NA NA NA NA SEPHORATION INC m 21/41 Gastar Exp USA INC 21/41 Gastar Exp USA INC 21/41 Gastar Exp USA INC 21/41 Gastar Exp USA INC 21/41 Gastar Exp USA INC NA NA NA NA NA NA NA NA NA NA NA NA NA	ar Inc to Atinum Marcellus I	I 36/9 Gastar Exploration
21/41 Gastar Exp USA Inc and Gast 10°14886 K 5-23-4 JODI YOHO USA INC 1/8+ 854 604 NA NA NA NA NA Exploration Inc m Gastar Exp USA Inc and Gast		
GASTAR EXPLORATION USA INC 1/8+ 854 604 NA NA NA NA NA NA NA NA NA SEXPLORATION LOSA INC 1/8+ 854 604 NA NA NA NA NA NA NA NA NA NA SEXPLORATION LOSA INC 21/41 Gastar Exp USA Inc and Gast Sex Sex Sex Sex Sex Sex Sex Sex Sex Sex		
GASTAR EXPLORATION 21/41 Gastar Exp USA Inc and Gast	ar Inc to Atinum Marcellus I	
GASTAR EXPLORATION USA Inc and Gast	nger LCC	inc to the exploration in EEC
	ar Inc to Atinum Marcellus I	
GASTAR EXPLORATION USA Inc and Gast	Joration 31/184 Gastar Exploration Inc to Atlinum Marcellus I erzer LLC	I 36/9 Gastar Exploration
10*14888 K 5-23-4 DARLENE BUTLER USA INC 1/8+ 867 395 NA NA NA NA NA NA NA Exploration inc m	rger LLC	Inc to TH Exploration II LLC
21/41 Gastar Exp GASTAR EXPLORATION 10*14889 K 5-23-4 HAROLD YOHO USA INC 1/8+ 870 37 NA NA NA NA NA NA NA NA NA NA NA NA NA	Joration 31/184 Gastar Exploration ar Inc to Atinum Marcellus I	on I 36/9 Gastar Exploration Inc to TH Exploration II LLC
21/41 Gastar Exp. GASTAR EXPLORATION 10*14890 K 5-23-4 HENRY MALONE JR USA INC 1/8+ 870 40 NA NA NA NA NA NA NA NA NA Exploration Inc. m		on I 36/9 Gastar Exploration Inc to TH Exploration II LLC

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10*14891	к	5-23-4	NANCY F FYE & STEPHEN M FYE	GASTAR EXPLORATION USA INC	1/8+	885	606	NA	NA .	NA NA	NA .	NA .	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*17145	К	5-23-4		CHESAPEAKE APPALACHIA LLC	1/8+	685	458	NA	NA .	NA	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC to SWN Production Company LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17146	к	5-23-4	CAROLYN CAMPBELL BRITTON AND ROBERT C. BRITTON	CHESAPEAKE APPALACHIA LLC	1/8+	685	464	NA	NA	NA	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC		41/256 SWN Production Company LLC to TH Exploration LLC
10*17147	ĸ	5-23-4	JOANN J PARSONS AND GARY D PARSONS	CHESAPEAKE APPALACHIA LLC	1/8+	685	470	NA	NA	NA.	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	SWN Exchange Titleholder	19/624 SWN Exchange Titleholder LLC to SWN Production Company LLC	41/256 SWN Production Company LLC to TH Exploration LLC
			DONALD E. CAMPBELL	CHESAPEAKE APPALACHIA		685	476	NA	NA	NA.	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder ILC		41/256 SWN Production Company LLC to TH
10*17148	K	5-23-4	JUNE L CAMPBELL	CHESAPEAKE APPALACHIA	1/8+	993	470	IVA	IVA	NA.	23/127 Chesapeake Appalachia LLC to Statoil	33/110 Chesapeake Appalachia LLC to SWN	33/424 Statoll USA Onshore Properties Inc to SWN Exchange Titleholder	19/624 SWN Exchange	41/256 SWN Production Company LLC to TH
10*17149	K	5-23-4	WANDA M. BLAKE	LIC LICENTERING APPAINTING	1/8+	685	482	NA .	NA .	NA	Onshore Properties Inc	Production Company LLC 33/110 Chesapeake	33/424 Statoii USA Onshore Properties Inc to	Production Company LLC	Exploration LLC 41/256 SWN Production
10*17150	к	5-23-4	IDA L CAMPBELL	CHESAPEAKE APPALACHIA	1/8+	685	488	NA	NA	NA	Appalachia LLC to Statoil	Appalachia LLC to SWN Production Company LLC	SWN Exchange Titleholder		Company LLC to TH

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10*17502	к	5-23-4	PATRICIA E GUSTELY	TH EXPLORATION, LLC	1/8+	942	334	NA	NA	NA	NA	NA	NA	NA	NA
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	к	5-23-4	DONALD S BOBOVNIK AND DOLORES J BOBOVNIK	TH EXPLORATION LLC	1/8+	942	346	NA .	NA .	NA NA	NA NA	NA .	NA .	NA	NA .
10*17532		3-23-4	DOCONES 3 BOBOVIIII												
			RONALD L MAYER AND		- 15			NA .	NA .	NA	NA NA	NA .	INA	NA	INA.
10*17535	K	5-23-4	DEBRA A MAYER	TH EXPLORATION, LLC	1/8+	929	580	INA	INA .	INA .	INA .	INA.	INA	No.	100
10*17539	к	5-23-4	JOANN HAGERTY	TH EXPLORATION, LLC	1/8+	942	342	NA	NA	NA	NA	NA	NA	NA	NA
10*17593	К	5-23-4	REBECCA HAGERTY	TH EXPLORATION, LLC	1/8+	942	350	NA	NA	NA	NA	NA	NA	NA	NA
10*17594	к	5-23-4	MEGAN HAGERTY	TH EXPLORATION, LLC	1/8+	942	362	NA	NA	NA	NA	NA	NA	NA	NA
10*17505	K	5-23-4	THOMAS E RINE AND MARY P RINE	TH EXPLORATION, LLC	1/8+	929	572	NA	NA .	NA	NA	NA	NA	NA	NA
10*17595	K	15-23-4	Institute and F			·			•		-				

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0 0 10°17640	K	5-23-4	PATRICIA A GARCAR	TH EXPLORATION, LLC	1/8+	942	8	NA	NA	NA	NA .	NA .	NA	NA	NA
4 7	к	5-23-4	NORMA J ASH	TH EXPLORATION, LLC	1/8+	944	130	NA NA	NA	NA	NA	NA NA	NA	NA NA	NA .
10*17679											NA	NA	NA NA	NA NA	NA NA
10*17680		5-23-4	DAVID E CHURCH WALTER E LOSEY AND	TH EXPLORATION, LLC	1/8+	932		NA	NA	NA					NA NA
10*17681	К	5-23-4	JAMES E GARLOCH AND	TH EXPLORATION, LLC	1/8+	942				NA .			NA		NA NA
10*17682	К	5-23-4	MARY K GARLOCH PATRICK HAGERTY AND DALANE HAGERTY	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	935		NA NA	NA NA	NA NA			NA NA		NA NA
10*17683		5-23-4	ROBERT A SANDS AND JOYCE A SANDS	TH EXPLORATION, LLC	1/8+	942		NA NA	NA	NA NA	NA NA	NA	NA NA	NA	NA

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10*17719	к	5-23-4	ROBERT R DARROW	TH EXPLORATION, LLC	1/8+	942	380	N A	NA	NA	NA	NA .	NA	NA	NA
	K	5-23-4	WILLIAM KOTSON AND	TH EXPLORATION, LLC	1/8+	938	507	NA .	NA NA	NA	NA	NA .	NA	NA	, NA
10*17720			HAROLD H HAGERTY AND							NA NA	NA	NA NA	NA	NA	NA
10*17775	К	5-23-4	DEBORAH M HAGERTY JAMES GARCAR AND		1/8+	942								NA NA	NA NA
10*17776	K	5-23-4		TH EXPLORATION, LLC	1/8+	941				NA .	NA .	NA NA	NA NA	NA NA	NA NA
10*17824	К	5-23-4		TH EXPLORATION, LLC	1/8+	942				NA	NA				
10*17901	к	5-23-4		TH EXPLORATION, LLC	1/8+	924	602	NA .	NA	NA	NA .	NA	NA .	NA .	NA .
10*17965	к	5-23-4	ROBERT DAVID BARNES AND RHONDA BARNES	TH EXPLORATION, LLC	1/8+	942	366	NA	NA	NA	NA	NA	NA	NA	NA

											NA.	NA.	NA.	NA .
		JAMES M ONORE AND												NA NA
		CRYSTAL M HOOKER AND												NA .
														NA NA
														NA
														NA NA
К	5-23-4	ROBERTA K MILLER	TH EXPLORATION, LLC	1/8+	931	457	NA .	NA .	NA .	NA .	NA .	INA	INA	NA .
	к к	K 5-23-4 K 5-23-4 K 5-23-4	K 5-23-4 CINDY L ONORE K 5-23-4 CRYSTAL M HOOKER AND JAMES HOOKER K 5-23-4 COLLEEN HAGERTY K 5-23-4 WALTER C SCHUBERT AND BARBARA A SCHUBERT	K 5-23-4 CRYSTAL M HOOKER AND TH EXPLORATION, LLC CRYSTAL M HOOKER AND JAMES HOOKER TH EXPLORATION, LLC K 5-23-4 COLLEEN HAGERTY TH EXPLORATION, LLC WALTER C SCHUBERT AND BARBARA A SCHUBERT TH EXPLORATION, LLC	K 5-23-4 COLLEEN HAGERTY TH EXPLORATION, LLC 1/8+ K 5-23-4 COLLEEN HAGERTY TH EXPLORATION, LLC 1/8+ K 5-23-4 TH EXPLORATION, LLC 1/8+ K 5-23-4 TH EXPLORATION, LLC 1/8+	K 5-23-4 COLLEEN HAGERTY TH EXPLORATION, LLC 1/8+ 929 K 5-23-4 COLLEEN HAGERTY TH EXPLORATION, LLC 1/8+ 929 K 5-23-4 COLLEEN HAGERTY TH EXPLORATION, LLC 1/8+ 929	K 5-23-4 CINDYL ONORE TH EXPLORATION, LLC 3/8+ 927 105 K 5-23-4 CINDYL ONORE THE EXPLORATION, LLC 3/8+ 929 568 K 5-23-4 COLLEEN HAGERTY THE EXPLORATION, LLC 1/8+ 929 560 K 5-23-4 WALTER C SCHUBERT AND BARBARA A SCHUBERT THE EXPLORATION, LLC 1/8+ 931 377	NA NA NA NA NA NA NA	SAMES M ONORE AND CHOYL ONORE THEOPLOBATION, LLC 1/8+ 927 105 NA NA	K 5-23-4 JAMES M ORICHE AND CHIEF CONDRECT THE DEPLOPMENTAN, LLC 1/8+ 927 105 NA NA NA NA NA NA NA NA NA NA NA NA NA	E 5-23-4 DAMES MODIFIE AND CHOYLOROGE THE EXPLORATION, LLC 1/8+ 922 105 NA NA NA NA NA NA NA NA NA NA NA NA NA	K 5-23-4 CONSTALM HOORER AND THE DEPLOMENTON, LIC 1/8- 929 568 NA NA NA NA NA NA NA NA NA NA NA NA NA	K 5-23-4 DAMES MOISTER AND CHOICE	E 523-4 OMETICIONES DE DESCRIPTION D

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10*18598	κ	5-23-4	MARK E GUSTELY	TH EXPLORATION, LLC	1/8+	935	52	NA	NA	NA	NA	NA	NA	NA	NA
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•			GASTON FAMILY												
10*18795	к	5-23-4	INVESTMENTS LLC	TH EXPLORATION, LLC	1/8+	959	502	NA	NA	NA	NA	NA	NA	NA	NA
10*18994	к	5-23-4	SHIRLEY ANN DRAKE	TH EXPLORATION, LLC	1/8+	940	137	NA	NA	NA	NA	NA	NA	NA	NA
10*19736	К	5-23-4	DOROTHY HLINKA DUKE	TH EXPLORATION, LLC	1/8+	944	571	NA	NA	NA	NA	NA	NA	NA	NA
										i e					
			KEITH JAY FISCHER AND												l
10*21217	K	5-23-4	DAWN M FISCHER	TH EXPLORATION, LLC	1/8+	952	643	NA .	NA	NA	NA	NA	NA	NA .	NA
				THE STATE OF THE S	4/0.	046	42	NA	NA	NA	NA.	NA .	NA .	NA	NA
10*21222	K	5-23-4	PATRICIA J SHAW KELLER	TH EXPLORATION, LLC	1/8+	946	43	INA	INA	IIIO	net	para	100		
10*21415	, K	5-23-4	ABE J HOCHSTETLER AND ANNA E HOCHSTETLER	TH EXPLORATION LLC	1/8+	957	7	INA	NA	NA	NA	NA	NA	NA	NA
10*21415	1 K	J5-25-4	JANNA E HOCHSTETLER	III EAFLOIMITON, LLC	1/07		· · · · · · · · · · · · · · · · · · ·		1	1::: '		_t			

10*21425	к	5-23-4	ORIE N YOUNG AND BERNIE A YOUNG	TH EXPLORATION, LLC	1/8+	957	29	NA	NA	NA	NA	NA	NA	NA	NA
10*21428	К	5-23-4	FRANCIS R SMITH AND ANNA M SMITH	TH EXPLORATION, LLC	1/8+	957	37	NA	NA	NA	NA	NA	NA	NA	NA
10*21434	к	5-23-4	CATHERINE HUMMEL	TH EXPLORATION, LLC	1/8+	957	33	NA	NA	NA	NA	NA	NA	NA	NA
			RICHARD RICH AND KAREN	TH EXPLORATION, LLC	1/8+	954	254	NA	NA	NA	NA	NA	NA .	NA	NA
10*21451	K	5-23-4	RICH	IN EXPLORATION, LLC	1/8+	334	234								
														NA	INA
10*21452	K	5-23-4	KIMBERLY COX	TH EXPLORATION, LLC	1/8+	954	262	NA	NA	NA	NA	NA	NA	IVA	INO.
			WARREN L COULTER AND												
10*21457	K	5-23-4	ROSLINA A COULTER	TH EXPLORATION, LLC	1/8+	954	249	NA	NA	NA	NA	NA	NA	NA	NA
10*21458	ĸ	5-23-4	HUSTON A SMITH JR AND ANN C SMITH	TH EXPLORATION, LLC	1/8+	957	45	NA	NA	NA	NA	NA	NA	NA	NA

1972-1999 K 5-23-4 JAMES I GAILING TO EXPROMATION, LIC 1/29 954 248 240													
1971499 K 5-23-4 SMORT COULTER ATD SMORTON, LLC 1/8+ 95-4 245 NA NA NA NA NA NA NA NA NA NA NA NA NA													
AND CLEFFORD 10°21498 K 5-22-4 SHILLING BURGH THE EXPLORATION, LLC 1/8+ 954 228 NA NA NA NA NA NA NA N	*21459 K	5-23-4 JAMES L C	L CHURCH TH EXPLORATION, LLC	1/8+ 957	41	NA	NA	NA	NA	NA	NA	NA	NA .
10°21500 K 5-23-4 SIMONE COLUTER THE EPROBATION, LLC 1/8+ 954 245 NA NA NA NA NA NA NA NA NA NA NA NA NA	3°21498 K	AND CLIFF	IFFORD	1/8+ 954	258	NA	NA	NA .	NA .	N A	NA	NA .	NA .
10*21501 K 5-23-4 EUGENIA E HOUSER THEOPLORATION, LLC 1/8+ 954 241 NA NA NA NA NA NA NA NA NA NA NA NA NA		MATTHEV	EW COULTER AND				MA.	NA.	NA.	NA.	NA.	NA .	NA .
10*21501 K 5-25-4 [CUSENIA E ROUSER IN EXPLORATION, LEC 1/6* 1/6* 1/6* 1/6* 1/6* 1/6* 1/6* 1/6*	*21500 K	5-23-4 SIMONE C	E COULTER TH EXPLORATION, LLC	1/8+ 954	245	INA	INA	INA	NA	IVA	IVA .	<u> </u>	no.
		5.22.4 FIGENIA	IA F HOUSER TH EXPLORATION, IIC	1/8+ 954	241	NA	NA .	NA .	NA NA	NA	NA	NA	NA
I I I I I I I I I I I I I I I I I I I					237		NA .	NA .	N A	N A	NA NA	NA .	NA .
10-21502 K 3-22-4 DEDICEMENTAL HELD CONTROLL ALC.	*21502 K	5-23-4 DEBRA M	MURIN TH EXPLORATION, LLC	1/8+ 954	237	INA	INA	INA.					
10*21503 K 5-23-4 DARLENE M DAVIS TH EXPLORATION, LLC 1/8+ 954 233 NA NA NA NA NA NA NA NA NA NA NA NA NA)*21503 K	5-23-4 DARLENE	NE M DAVIS TH EXPLORATION, LLC	1/8+ 954	233	NA	NA	NA	NA	NA	NA	NA	NA
CLARENCE RANDALL EMERY AND PAULA JEAN EMERY AND PAULA JEAN TH EXPLORATION, LLC 1/8+ 958 344 NA NA NA NA NA NA NA NA NA NA NA NA NA		EMERY A	AND PAULA JEAN	1/8+ 958	344	NA NA	NA .	NA NA	NA .	N A	NA	NA	NA .

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10*21632	К	5-23-4	JOHN ARLES EMERY	TH EXPLORATION, LLC	1/8+	959	339	NA	NA	NA	NA	NA	NA .	NA	INA
10*21655	ĸ	5-23-4	STANLEY GUSTELY	TH EXPLORATION, LLC	1/8+	965	206	NA	NA .	NA	NA	NA	NA	NA	NA
10 21000															
10*21656	к	5-23-4	JOHN OBLOY AND JANET L OBLOY	TH EXPLORATION, LLC	1/8+	959	331	NA	NA	NA	NA	NA	NA	NA	NA
			RONALD J SALKOVICK II &											NA	NA .
10*21657	К	5-23-4	SANDRA SALKOVICK	TH EXPLORATION, LLC	1/8+	958	373	NA	NA	NA	NA	NA	NA	NA .	INA
10*21774	K	5-23-4	JOYCE KAY BURTON AND SAMUEL C BURTON	TH EXPLORATION, LLC	1/8+	957	467	NA	NA	NA	NA	NA	NA	NA	NA
			STUART WHITE AND BETTY												
10*21813	K	5-23-4	WHITE	TH EXPLORATION, LLC	1/8+	958	352	NA	NA	NA	NA	NA	NA	NA	NA
			JAMES NEAL EMERY AND								NA.	NA.	NA.	NA NA	NA.
10*21815	K	5-23-4	RENEE R EMERY	TH EXPLORATION, LLC	1/8+	958	348	INA	INA	INA	NA	Inv	las.	line	1000

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10*21951	к	5-23-4	CHARLES DOUGLAS LANE	TH EXPLORATION, LLC	1/8+	960	77	NA	NA	NA	NA	NA	NA	NA	NA
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10*21994	К	5-23-4	MELISSA L DARROW	TH EXPLORATION, LLC	1/8+	954	328	NA	NA	NA	NA	NA	NA	NA	NA
10*22013	ĸ	5-23-4	CHARLES J KNOX	TH EXPLORATION, LLC	1/8+	966	112	NA	NA	NA	NA	NA	NA	NA	NA
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10*22014	K	5-23-4	SHERMAN E KNOX JR	TH EXPLORATION, LLC	1/8+	966	108	NA	NA	NA	NA	NA	NA .	NA	INA
10*22018	к	5-23-4	KATHLEEN ROBERTSON	TH EXPLORATION, LLC	1/8+	960	539	NA	NA	NA	NA	NA	NA	NA	NA
									1						
									NA.	NA	NA .	NA	NA .	INA	NA .
10*22026	K	5-23-4	KEVIN D CHURCH	TH EXPLORATION, LLC	1/8+	957	49	NA	NA	INA .	INA	Inc.	ind.		110
														1	
10*22027	ĸ	5-23-4	STEPHEN C EMERY AND CATHY J EMERY	TH EXPLORATION, LLC	1/8+	954	310	NA	NA	NA	NA	NA	NA	NA	NA

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			TODD LEARN AND KENDA LEARN	TH EXPLORATION, LLC	1/0.	954	314	NA .	NA .	NA .	NA	NA .	NΔ	NA .	NA
10*22093		5-23-4		TH EXPLORATION, LLC	1/8+	954			NA NA	NA NA	NA NA	NA NA			NA.
10*22102	К	5-23-4			1/8+						NA	NA NA		NA NA	NA.
10*22128	K	5-23-4	VICKY STRAUSS AND	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	961 961			NA NA	NA NA	NA NA	NA NA			NA NA
10*22144 10*22165	K	5-23-4	DEBRA L LYSESKI AND GERALD A LYSESKI	TH EXPLORATION, LLC	1/8+	954			NA	NA	NA	NA			NA
10*22178	к	5-23-4	ANGELA HENTHORN AND WILLIAM R HENTHORN		1/8+	972		NA	NA	NA	NA	NA	NA	NA	NA
10*22332	к	5-23-4	DORIS WEST AND ROBERT		1/8+	962		NA	NA	NA	NA	NA	NA	NA	NA

10*22339	ĸ	5-23-4	BETTY LEE HOWARD LOY	TH EXPLORATION, LLC	1/8+	963	392	NA .	NA	INA	NA .	NA .	NA .	NA .	NA .
10*22436			TESSEAN FAMILY REVOCABLE LIVING TRUST		1/8+	963				NA NA					NA NA
			GATHA CHAMBERS	TH EXPLORATION, LLC		963		NA .	NA .	NA	NA	NA NA	NA	NA .	NA .
10*22443		5-23-4	KENNETH R SHAW AND		1/8+				NA NA	NA NA		NA NA			NA NA
10*22503		5-23-4	JAMES D DRAKE AND DONNA K DRAKE	TH EXPLORATION, LLC	1/8+	966 964			NA NA			NA			NA
10*22594		5-23-4	JAMES A WADE SR	TH EXPLORATION, LLC	1/8+	965			NA .	NA	NA	NA	NA	NA	NA
10*22609		5-23-4	KATHY JO CULLUM	TH EXPLORATION, LLC	1/8+	966			NA	NA NA	NA	NA	NA	NA	NA

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10*22613	_ к	5-23-4	JEWEL L CAMPBELL	TH EXPLORATION, LLC	1/8+	966	510	NA	NA	NA .	NA	NA .	NA	NA	NA
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10*22779	К	5-23-4	STEVEN WADE	TH EXPLORATION, LLC	1/8+	968	424	NA	NA	NA	NA	NA	NA	NA	NA
			MARGARET C MCMURRY & WILLIAM F MCMURRY	i The exploration, llc	1/8+	972	54	NA NA	NA	NA	NA NA	NA NA	NA	NA	NA .
10*22809	К	5-23-4	WILLIAM F MCMURRY	TH EXPLORATION, LLC	1/8+	9/2	54	INA .	INA .	No.		l l			
												NA	NA	NA .	NA NA
10*22812	K	5-23-4	JOSEPH F GOBLOWSKY	TH EXPLORATION, LLC	1/8+	968	428	NA	NA	NA	NA	INA	INA .	INA .	INA
10*22861	K	5-23-4	LAURINE C CURTIS & EDGAR A CURTIS III	TH EXPLORATION, LLC	1/8+	976	147	NA	NA	NA	NA	NA	NA	NA .	NA
10-22861		3-23-4	EDOAR A CORTIS III	THE CAP EDISATION, EEG	1/0.	3,0									
10*23166	K	5-23-4	JAMES DAVID CRANDALL	TH EXPLORATION, LLC	1/8+	984	48	NA	NA	NA	NA	NA	NA	NA .	NA
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													Na	NA.	NA.
10*23168	K	5-23-4	JASON WADE	TH EXPLORATION, LLC	1/8+	966	506	NA	NA	NA	INA	NA	INA	INA	INA

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10*23368	К	5-23-4	ROSE MARIE CAMPBELL	TH EXPLORATION, LLC	1/8+	988	447	NA	NA	NA	NA	NA	NA	NA	NA
470															
10*23370	к	5-23-4	DENVER J TAYLOR	TH EXPLORATION, LLC	1/8+	988	454	NA	NA NA	NA	NA .	NA	NA	NA NA	NA
			JONNA MARPLE AND ERIK MARPLE	TH EXPLORATION, LLC		988		NA	NA	NA	NA	NA	NA NA	NA	NA
10*23371	К	5-23-4	MARPLE	TH EXPLORATION, LLC	1/8+	988	442	INA	INA .	INA .	NA .	INA	INA .	INA.	ino.
10*23398	к	5-23-4	JON GUSTELY AND MARILYN NUE	TH EXPLORATION, LLC	1/8+	1008	12	NA	NA	NA	NA	NA	NA	NA	NA
10-23398		5-25-4	WANLIN NDE	III EAFLOIGHION, EEC	1/8*	1000		NA.	, , ,						
10*23410	К	5-23-4	JENNA WADE	TH EXPLORATION, LLC	1/8+	1008	16	·NA	NA	NA	NA	NA	NA	NA	NA
20 25 120															
														NA	NA
10*23505	К	5-23-4	RENEE KELLAR	TH EXPLORATION, LLC	1/8+	971	633	NA	NA	NA	NA	NA	NA	INA	INA
													NA	NA	NA
10*23647	K	5-23-4	MARILYN M ROBINSON	TH EXPLORATION, LLC	1/8+	1009	309	NA	NA	NA	NA	NA	INA	IMM	Tixv

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10*23648	К	5-23-4	PAUL D RINE JR	TH EXPLORATION, LLC	1/8+	1009	313	NA	NA	NA	NA	NA	NA	NA	NA
											,				
			LISA TUCKER AND FRANCIS						NA	NA .	NA .	NA	NA .	NA .	NA
10*23727	К	5-23-4	TUCKER	TH EXPLORATION, LLC	1/8+	1011	525	NA	NA	INA	NA .	INA .	NA .	INA.	
10*23756	ĸ		KAREN DRAKE AND JEFF DRAKE	TH EXPLORATION, LLC	1/8+	1012	182	NA	NA .	NA	NA .	INA	NA NA	 NA	NA
10.525756		J-23-4	DIVINE	THE ESTATION, EEG	40.										
10*23757	к	5-23-4	DAVID DRAKE	TH EXPLORATION, LLC	1/8+	1012	187	NA	NA	NA	NA	NA	NA	NA	NA
10*23767	К	5-23-4	MARK ALAN SLATEN	TH EXPLORATION, LLC	1/8+	1014	481	NA	NA .	NA	NA	NA	NA	NA	NA
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10*23792	К	5-23-4	STEVEN W SLATEN AND RHONDA SLATEN	TH EXPLORATION, LLC	1/8+	1014	488	NA .	NA	NA	NA	NA .	NA	NA	NA
			NANCY C DWYER AND												
10*23826	к	5-23-4	WENDEL MARTINKOVIC	TH EXPLORATION, LLC	1/8+	1017	6	NA	NA	NA	NA	NA	NA	NA	NA

			DOWN D DEALWOOD D												
10*23838	К	5-23-4	RONALD DEAN YOHO & VICTORIA LYNN YOHO	TH EXPLORATION, LLC	1/8+	1017	1	NA	NA	NA	NA	NA	NA	NA .	NA
							!								
10*23883	к	5-23-4	VICKI ANN WILLIAMS & WILLIAM J WILLIAMS	TH EXPLORATION, LLC	1/8+	1016	644	NA	NA	NA	NA	NA	NA .	NA	NA
								,							
10*24274	K	5-23-4	JO ELLEN GUSTELY	TH EXPLORATION, LLC	1/8+	1023	527	NA	NA	NA .	NA	NA	NA	INA .	NA .
10-24274		3-23-4	JO ELLEN GOSTEET	THE ALCOUNTION, LEC	7,0.	2020									
			SUSAN ALFRED AND KEVIN												
10*24483	К	5-23-4	J ALFRED	TH EXPLORATION, LLC	1/8+	1025	401	NA	NA	NA	NA	NA	NA	NA	NA
			LEONARD LEE COULTER												
10*24551	. к	5-23-4	AND DEBRA A COULTER	TH EXPLORATION, LLC	1/8+	1025	405	NA	NA	NA	NA	NA	NA	NA	NA
10*24868	к	5-23-4	ANNE DWYER	TH EXPLORATION, LLC	1/8+	1028	95	NA	NA	NA	NA	NA .	NA	NA	NA
10*24917	К	5-23-4	WALTER W STREIGHT JR AND CONNIE JO STREIGHT	TH EXPLORATION, LLC	1/8+	1027	281	NA	NA .	INA .	NA	NA .	NA	NA	NA
24868	К	5-23-4		TH EXPLORATION, LLC	1/8+	1028	95	<u>NA</u>	NA .	NA	NA .	NA .	NA .	NA	NA

40\$25258	K	5-23-4	ROBERT LEE MARCIANO AKA ROBERT LEE MAYER	TH EXPLORATION LLC	1/8+	1030	416	NA .	NA	NA	NA	NA .	NA	NA	NA I
10*25268	K	5-23-4		TH EXPLORATION, LLC	1/8+	1030	373	NA	NA NA	NA NA	NA	NA NA	NA		NA
10*25269			DAVID C WHITE NEISWONGER AND WHITE		1/8+	1031	476		NA NA	NA	NA	NA.	NA	NA	MA
10*25455	K	5-23-4		TH EXPLORATION, LLC	1/8+	1030	368	NA NA	NA NA	NA NA	NA	NA.	NA NA	NA	NA NA
10*25462	K	5-23-4	ROBERT LEE MARCIANO AKA ROBERT LEE MAYER		1/8+	1030	416	NA	NA NA	NA	NA	NA	NA	NA	NA
10*27715	K	5-23-4	STONE HILL MINERALS	TH EXPLORATION, LLC	1/8+	1057	332	NA	NA	NA	NA	NA	NA	NA	NA
10*27/15	K	5-23-4	STONE HILL MINERALS	TH EXPLORATION, LLC	1/8+	1063	594	NA	NA NA	NA	NA	NA	NA	NA	NA

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10*17186	ι	5-23-6	ROBERT J HENRY	CHESAPEAKE APPALACHIA LLC	1/8+	708	51	NA .	NA	29/325 Chesapeake Appalachia LLC to Statoil USA Onshore Properties	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*14847	М	5-23-5	LETHA RUCKMAN	GASTAR EXPLORATION USA INC	1/8+	806	270	NA	NA	NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14849	м	5-23-5	DAVID GUSTELY	GASTAR EXPLORATION USA INC	1/8+	806	265	NA NA	NA NA	NA.	NA NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration
10*14849	VI	3-23-3	DURWOOD WRIGHT BY	GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14853	М	5-23-5	CATHERINE HUMMEL AIF		1/8+	809	507	NA.	NA	NA .	NA .	NA .		31/184 Gastar Exploration Inc to Athum Marcellus I	Inc to TH Exploration II LLC
10*14861	М	5-23-5	NANCY WHITLATCH	GASTAR EXPLORATION USA INC	1/8+	809	526	NA	NA	NA	NA	NA	Exploration Inc merger	LLC 31/184 Gastar Exploration	Inc to TH Exploration II LLC
10*14862	М	5-23-5	ANN GUSTELY	GASTAR EXPLORATION USA INC	1/8+	809	568	NA .	NA	NA	NA	NA	USA Inc and Gastar Exploration Inc merger	LIC to Atinum Marcellus I	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14864	М	5-23-5	CAROLYN DURWAY	GASTAR EXPLORATION USA INC	1/8+	810	330	NA	NA	NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC

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10*14866	м	5-23-5	GARY CARMICHAEL	GASTAR EXPLORATION USA INC	1/8+	810	316	NA .	NA NA	NA NA	NA NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14868	м	5-23-5	WOODROW CAMPBELL JR	GASTAR EXPLORATION	1/8+	813	454	NA	NA .	NA .	NA NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14869	м	5-23-5	RALPH VAUGHN TAYLOR	GASTAR EXPLORATION USA INC	1/8+	813	561	NA	NA .	NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14870	м	5-23-5	DAVID CARMICHAEL	GASTAR EXPLORATION USA INC	1/8+	816	16	NA	NA.	NA NA	NA NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration
			DWG OIL & GAS	GASTAR EXPLORATION						NA.		NA .	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14872	M	5-23-5	ACQUISITIONS LLC	USA INC GASTAR EXPLORATION	1/8+	817	312	NA	NA .		TUA		21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14873	М	5-23-5	RAYMOND MILLER	USA INC	1/8+	821	44	NA	NA	NA NA	NA	NA NA	Exploration Inc merger 21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	
10*14874	М	5-23-5	RICHARD MILLER	GASTAR EXPLORATION USA INC	1/8+	822	260	NA	NA	NA	NA	NA	Exploration Inc merger	LLC	Inc to TH Exploration II LLC

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0				GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14876	М	5-23-5	SHIRLEY LARGENT	USA INC	1/8+	827	228	NA	NA	NA .	NA NA	NA	Exploration Inc merger	ιιc	Inc to TH Exploration II LLC
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10															
20													ļ		
4											İ		21/41 Gastar Exploration	31/184 Gastar Exploration	
			GARY F OBLOY AND DENISE I OBLOY	GASTAR EXPLORATION USA INC	1/8+	836	112	NA.	NA	NA.	NA.	NA.	USA Inc and Gastar Exploration Inc merger	Inc to Atinum Marcellus I	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14877	М	5-23-5	DENISE TOBLOT	USA INC	1/6+	630		100	DO.						
						-							21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14878	м	5-23-5	ARTHUR BRUCE COULTER	GASTAR EXPLORATION R USA INC	1/8+	839	519	NA	NA	NA	NA NA	NA .	Exploration Inc merger	пс	Inc to TH Exploration II LLC
											1		21/41 Gastar Exploration	31/184 Gastar Exploration	
1			THERESA RINE	GASTAR EXPLORATION USA INC	1/8+	840	162	NA NA	NA.	NA.	NA.	NA NA	USA Inc and Gastar Exploration Inc merger		36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14879	М	5-23-5	THERESA RINE	USA INC	1/8+	840	162	INA.	INA.	INO.		No.			
				GASTAR EXPLORATION					1				21/41 Gastar Exploration USA Inc and Gastar	Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14880	м	5-23-5	IRIS LUCAS	USA INC	1/8+	849	545	NA	NA	NA	NA NA	NA NA	Exploration Inc merger	LLC	Inc to TH Exploration II LLC
													21/41 Gastar Exploration	31/184 Gastar Exploration	
10*14881	м	5-23-5	MARY WHITLATCH	GASTAR EXPLORATION USA INC	1/8+	849	548	NA	NA .	NA NA	NA.	NA.	USA Inc and Gastar Exploration Inc merger	Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10-14881	W	3-23-3	man without	OSA INC	40.										
				GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar	Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14882	М	5-23-5	GARY RINE	USA INC	1/8+	849	551	NA	NA	NA	NA	NA .	Exploration Inc merger	шс	Inc to TH Exploration II LLC

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10*14884	м	5-23-5	RENEE HAGERTY	GASTAR EXPLORATION USA INC	1/8+	852	255	NA NA	NA	NA NA	NA NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus 1 LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14885	м	5-23-5	HOWARD RINE	GASTAR EXPLORATION USA INC	1/8+	854	601	NA	NA NA	NA	NA NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atlinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
			ЈОДЈ УОНО	GASTAR EXPLORATION USA INC	1/8+	854	604	NA.	No	NA NA	, NA	NA.	21/41 Gastar Exploration USA lnc and Gastar Exploration lnc merger	Inc to Atinum Marcellus I	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14886	М	5-23-5		GASTAR EXPLORATION					IVA						36/9 Gastar Exploration
10*14887	M	5-23-5	CHRISTINA ROBERTS	USA INC	1/8+	867	392	NA NA	NA NA	NA NA	NA .	NA NA	21/41 Gastar Exploration USA Inc and Gastar	31/184 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14888	М	5-23-5	DARLENE BUTLER	USA INC	1/8+	867	395	NA .	NA NA	NA .	NA NA	NA .	Exploration Inc merger 21/41 Gastar Exploration	31/184 Gastar Exploration	Inc to TH Exploration II LLC
10*14889	М	5-23-5	HAROLD YOHO	GASTAR EXPLORATION USA INC	1/8+	870	37	NA	NA	NA NA	NA	NA	USA Inc and Gastar Exploration Inc merger	LIC	36/9 Gastar Exploration II LLC
10*14890	М	5-23-5	HENRY MALONE JR	GASTAR EXPLORATION USA INC	1/8+	870	40	NA	NA	NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC

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10*14891	м	5-23-5	NANCY F FYE & STEPHEN M FYE	GASTAR EXPLORATION USA INC	1/8+	885	606	NA	NA .	NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	31/184 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*17145	м	5-23-5		CHESAPEAKE APPALACHIA	1/8+	685	458	NA .	NA	NA	23/127 Chesapeake Appalachia LLC to Statoii Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoll USA Onshore Properties Inc to SWN Exchange Titleholder LLC		41/256 SWN Production Company LLC to TH Exploration LLC
			CAROLYN CAMPBELL BRITTON AND ROBERT C. BRITTON	CHESAPEAKE APPALACHIA LLC	15	685	464	NA NA	NA NA	NA.	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder ILC		41/256 SWN Production Company LLC to TH Exploration LLC
10*17146	M	5-23-5	JOANN J PARSONS AND	CHESAPEAKE APPALACHIA	1/8+					100	23/127 Chesapeake Appalachia LLC to Statoil	33/110 Chesapeake Appalachia LLC to SWN	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder	19/624 SWN Exchange Titleholder LLC to SWN	41/256 SWN Production Company LLC to TH
10*17147	M	5-23-5	GARY D PARSONS DONALD E, CAMPBELL	LLC CHESAPEAKE APPALACHIA	1/8+	685	470	NA	NA	NA	Onshore Properties Inc 23/127 Chesapeake Appalachia LLC to Statoli	Production Company LLC 33/110 Chesapeake Appalachia LLC to SWN	33/424 Statoil USA Onshore Properties Inc to SWN Exchange Titleholder	Titleholder LLC to SWN	41/256 SWN Production Company LLC to TH
10*17148	М	5-23-5	JUNE L CAMPBELL	IIC	1/8+	685	476	NA	NA .	NA .	Onshore Properties Inc 23/127 Chesapeake	Production Company LLC 33/110 Chesapeake	LLC 33/424 Statoil USA Onshore Properties Inc to	Production Company LLC	41/256 SWN Production
10*17149	М	5-23-5	WANDA M. BLAKE	CHESAPEAKE APPALACHIA LLC	1/8+	685	482	NA .	NA	NA	Appalachia LLC to Statoil Onshore Properties Inc	Appalachia LLC to SWN Production Company LLC	SWN Exchange Titleholder LLC 33/424 Statoil USA	Titleholder LLC to SWN Production Company LLC	Company LLC to TH Exploration LLC
10*17150	М	5-23-5	IDA L. CAMPBELL	CHESAPEAKE APPALACHIA	1/8+	685	488	NA	NA	NA	23/127 Chesapeake Appalachia LLC to Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	Onshore Properties Inc to SWN Exchange Titleholder		41/256 SWN Production Company LLC to TH Exploration LLC

10*17502	м	5-23-5	PATRICIA E GUSTELY	TH EXPLORATION, LLC	1/8+	942	334	NA	NA	NA	NA	NA	NA	NA .	NA
10 1/302															
10*17532	М	5-23-5	DONALD S BOBOVNIK AND DOLORES J BOBOVNIK		1/8+	942	346	NA .	NA	NA	NA	NA	NA	NA	NA .
			RONALD L MAYER AND									NA.	NA.	NA .	NA .
10*17535	М	5-23-5	DEBRA A MAYER	TH EXPLORATION, LLC	1/8+	929	580	NA	NA .	NA	NA	NA.	INA.	INA	, na
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10*17539	м	5-23-5	JOANN HAGERTY	TH EXPLORATION, LLC	1/8+	942	342	NA	NA	NA	NA	NA	NA	NA	NA
10*17540	М	5-23-5	MONTY ESTEL	TH EXPLORATION, LLC	1/8+	941	624	NA	NA	NA	NA	NA	NA	NA	NA
			ROBERT D STRAWN AND TAMMY J STRAWN	TH EXPLORATION, LLC	1/8+	942	21	NA .	NA .	NA NA	NA.	NA .	l NA	NA .	NA .
10*17541	М	5-23-5	NWANICTINININI	IN CAPLURATION, LLC	1/6+	344	21								
10*17542	М	5-23-5	JEFFREY G HAZEL AND SHEILA M HAZEL	TH EXPLORATION, LLC	1/8+	942	12	NA	NA	NA	NA	NA	NA	NA	NA

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10*17543	м	5-23-5	CARL EDWARD MCCOY AND CAROLYN SUE MCCOY	TH EXPLORATION, LLC	1/8+	942	15	NA .	NA .	NA .	NA	NA .	NA .	NA .	NA .
			DEBORAH LYNN SCHWING		1/8+	942		NA NA	NA .	NA.	, , , , , , , , , , , , , , , , , , ,	NA NA	NA NA	NA .	NA .
10*17544	M	5-23-5								NA NA	NA	NA NA	NA	NA NA	NA .
10*17545	М	5-23-5	SAMUEL EARL FRANCIS AND ALICE L FRANCIS	TH EXPLORATION, LLC	1/8+	942						NA NA	NA.	NA NA	NA NA
10*17546	M	5-23-5		TH EXPLORATION, LLC	1/8+	942			NA NA	NA NA	NA NA	NA NA			NA NA
10*17593	M	5-23-5	REBECCA HAGERTY	TH EXPLORATION, LLC	1/8+	942		NA NA	NA NA	NA NA	NA NA	NA.	NA NA	NA.	NA NA
10*17594	M	5-23-5	MEGAN HAGERTY THOMAS E RINE AND MARY P RINE	TH EXPLORATION, LLC	1/8+	942	362 572	INA NA	INA NA	NA NA	NA NA	NA NA	NA NA	NA	NA

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10*1764	М	5-23-5	PATRICIA A GARCAR	TH EXPLORATION, LLC	1/8+	942	8	NA	NA	NA	NA	NA	INA	INA .	NA
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10*17679	м	5-23-5	NORMA J ASH	TH EXPLORATION, LLC	1/8+	944	130	NA	NA	NA	NA	NA	NA	NA	NA
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10*17680	м	5-23-5	DAVID E CHURCH	TH EXPLORATION, LLC	1/8+	932	424	NA .	NA	NA NA	NA NA	NA	NA .	NA	NA
10 17000		3-23-3	Division Controller												
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			WALTER E LOSEY AND CINDY L LOSEY	1											
10*17681	М	5-23-5	CINDY L LOSEY	TH EXPLORATION, LLC	1/8+	942	338	NA	NA	NA	NA .	NA .	NA	NA	NA
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10*17682	м	5-23-5	JAMES E GARLOCH AND MARY K GARLOCH	TH EXPLORATION, LLC	1/8+	935	68	NA .	NA	NA	NA	NA	NA .	NA	NA
20 27 30 2	-														
				1											
			PATRICK HAGERTY AND								ļ				
10*17683	М	5-23-5	DALANE HAGERTY	TH EXPLORATION, LLC	1/8+	942	358	NA .	NA	NA	NA	NA	NA	NA	NA .
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10*17684	м	5-23-5	DAVID MCCOY AND LORI MCCOY	TH EXPLORATION, LLC	1/8+	942	18	NA	NA	NA	NA	NA	NA .	NA	NA
123 27 007		12.000				• • • • • • • • • • • • • • • • • • • •								-	

10*17715	м	5-23-5	ROBERT A SANDS AND JOYCE A SANDS	TH EXPLORATION, LLC	1/8+	942	354	NA	NA	NA	NA	NA	NA	NA	NA
10*17719	м	5-23-5	ROBERT R DARROW	TH EXPLORATION, LLC	1/8+	942	380	NA	NA	NA	NA	NA	NA	NA	NA
10*17720	м	5-23-5	WILLIAM KOTSON AND DEBRA KOTSON	TH EXPLORATION, LLC	1/8+	938	507	NA	NA	NA	NA	NA	NA	NA	NA
10*17775	м	5-23-5	HAROLD H HAGERTY AND DEBORAH M HAGERTY	TH EXPLORATION LLC	1/8+	942	370	NA	NA	NA .	NA	NA	NA	NA	NA .
10 17773	, wi	3-23-3	DESCRIPTION TO SERVI		2/0-	342									
			JAMES GARCAR AND												NA .
10*17776	М	5-23-5	MELISSA GARCAR	TH EXPLORATION, LLC	1/8+	941	627	NA	NA	NA	NA	NA	NA	NA	INA
10*17824	м	5-23-5	SARA FULTON	TH EXPLORATION, LLC	1/8+	942	384	NA	NA	NA	NA	NA	NA	NA	NA
10*17901	M	5-23-5	ROBYN HAGERTY	TH EXPLORATION, LLC	1/8+	924	602	NA	NA	NA	NA	NA	NA	NA	NA

			ROBERT DAVID BARNES AND RHONDA BARNES	TH EVELOPATION LLC	1/8+	942	366	NA NA	NA.	NA.	NA.	NA.	NA .	NA .	l _{NA}
10*17965	М	5-23-5		TH EXPLORATION, LLC	1/8+	942				NA NA	NA NA	NA.	NA.	NA NA	NA NA
10*18042	м	5-23-5	JAMES M ONORE AND CINDY L ONORE	TH EXPLORATION, LLC	1/8+	927				NA NA	NA.	NA.	NA.	NA	NA.
10*18043			TRACEY ESTEL	TH EXPLORATION, LLC	1/8+	927				NA NA	NA NA		NA	NA	NA.
10*18044	M M	5-23-5 5-23-5	CRYSTAL M HOOKER AND JAMES HOOKER		1/8+	929				NA NA	NA NA	NA NA	NA	NA	NA
10*18329	M	5-23-5	COLLEEN HAGERTY	TH EXPLORATION, LLC	1/8+	929	560	NA NA	NA .	NA .	NA NA	NA	NA	NA	NA
10*18367		5-23-5	WALTER C SCHUBERT AND BARBARA A SCHUBERT		1/8+	931	377	NA .	NA.	NA .	NA	NA	NA	NA	NA

10*18368	M	5-23-5	ROBERTA K MILLER	TH EXPLORATION, LLC	1/8+	931	457	NA .	NA	NA	NA	NA	NA	NA .	NA
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			UEDANAN D SCEE	THE EXPLORATION LLC	1/0.	931	461	NA	NA NA	INA	NA .	NA .	NA .	NA .	NA .
10*18371	М	5-23-5	HERMAN D ESTEL	TH EXPLORATION, LLC	1/8+	931	461	NA	NA	INA.	100				
10*18386	M	5-23-5	JOSEPH R RINE AND JENNIFER M RINE	TH EXPLORATION, LLC	1/8+	932	492	NA	NA	NA	NA	NA	NA	NA	NA .
10*18598	М	5-23-5	MARK E GUSTELY	TH EXPLORATION, LLC	1/8+	935	52	NA	NA	NA .	NA	NA	NA .	NA	NA .
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			GASTON FAMILY	TH EXPLORATION, LLC	1/8+	959	502	NA .	NA .	NA .	NA .	NA .	NA	NA	 NA
10*18795	М	5-23-5	INVESTIMENTS LLC	TH EXPLORATION, LLC	1/67	335	302	100							
10*18994	M	5-23-5	SHIRLEY ANN DRAKE	TH EXPLORATION, LLC	1/8+	940	137	NA	NA	NA	NA	NA	NA	NA	NA
10*19656	М	5-23-5	DEBRA ROUDEBUSH	TH EXPLORATION, LLC	1/8+	944	105	NA	NA	NA	NA	NA	NA	NA	NA

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10*19786	М	5-23-5	DOROTHY HLINKA DUKE	TH EXPLORATION, LLC	1/8+	944	571	NA	NA .	NA	NA	NA	NA	NA	NA
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			MELISSA ANN BRAUN AND												
10*19999	М	5-23-5	RAYMOND BRAUN	TH EXPLORATION, LLC	1/8+	951	627	NA	NA	NA	NA	NA	NA	NA	NA
			RANDALL C ROGERSON &												
10*21084	М	5-23-5	TRACY LYNN ROGERSON	TH EXPLORATION, LLC	1/8+	949	368	NA	NA	NA	NA	NA	NA	NA	NA
10*21217	М	5-23-5	KEITH JAY FISCHER AND DAWN M FISCHER	TH EXPLORATION, LLC	1/8+	952	643	NA	NA	NA	NA	NA	NA	NA	NA
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10*21222	м	5-23-5	PATRICIA J SHAW KELLER	TH EXPLORATION, LLC	1/8+	946	43	NA	NA	NA	NA	NA	NA	NA	NA
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10*21425	М	5-23-5	ORIE N YOUNG AND BERNIE A YOUNG	TH EXPLORATION, LLC	1/8+	957	29	NA .	NA .	NA	NA	NA	NA .	NA	NA
10 21425	IVI	3-43-3	DEMINE A TOOMS	DAT CONSTION, EEC	1/01					,,					
				1								-			
. 1			FRANCIS R SMITH AND		- 10						NA.	MA	l _{NA}	NA .	
10*21428	M	5-23-5	ANNA M SMITH	TH EXPLORATION, LLC	1/8+	957	37	NA	INA	INA	INA	INA	INA	IMM	luo

10*21434	М	5-23-5	CATHERINE HUMMEL	TH EXPLORATION, LLC	1/8+	957	33	NA .	NA	NA	NA	NA	NA .	NA	NA .
10*21451	м	5-23-5	RICHARD RICH AND KAREN	TH EXPLORATION, LLC	1/8+	954	254	NA	NA	NA	NA	NA	NA	NA	NA
20 22432	·														
													NA	NA .	l _{NA}
10*21452	M	5-23-5	KIMBERLY COX	TH EXPLORATION, LLC	1/8+	954	262	NA	NA	NA	NA	NA	NA .	INA	INA
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10*21457	М	5-23-5	WARREN L COULTER AND ROSLINA A COULTER	TH EXPLORATION, LLC	1/8+	954	249	NA	NA	NA	NA	NA	NA .	NA	NA
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10*21458	м	5-23-5	HUSTON A SMITH JR AND ANN C SMITH	TH EXPLORATION, LLC	1/8+	957	45	NA .	NA	NA	NA	NA	NA	NA	NA
												NA NA	NA.	NA	NA
10*21459	M	5-23-5	JAMES L CHURCH	TH EXPLORATION, LLC	1/8+	957	41	NA	NA	NA	NA	INA	INA	INA	INA
			MABEL SHILLINGBURG AND CLIFFORD												
10*21498	М	5-23-5	SHILLINGBURG	TH EXPLORATION, LLC	1/8+	954	258	NA	NA	NA	NA	NA	NA	NA	NA

			MATTHEW COULTER AND												
10*21500 10*21501	м	S-23-5 5-23-5	SIMONE COULTER	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	954 954	245	NA NA		NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
10*21502	M	5-23-5		TH EXPLORATION, LLC	1/8+	954		NA		NA.	NA	NA	NA .	NA	NA .
10*21503	M	5-23-5		TH EXPLORATION, LLC	1/8+	954		NA .	NA	NA	NA	NA	NA NA	NA	NA .
10*21562	м	5-23-5	MARY ETTA TAYLOR AND	TH EXPLORATION, LLC	1/8+	958		NA .	NA	NA	NA	NA	NA	NA	NA
10*21563	M	5-23-5	DAVID R TAYLOR AND MARIA TAYLOR	TH EXPLORATION, LLC	1/8+	958	422	NA	NA NA	NA	NA	NA	NA	NA	NA
10*21565	M	5-23-5		TH EXPLORATION, LLC	1/8+	957	462	NA	NA	NA	NA	NA	NA	NA	NA

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			HERBERT M TAYLOR AND		46.	0.50	410	NA .	NA NA	NA.	NA .	NA NA	NA	NΔ	NA .
10*21566	M	5-23-5	LENORA E TAYLOR	TH EXPLORATION, LLC	1/8+	958	418	NA .	NA	NA .	NA .	NA .	No.		
10*21615	М		GARY PARSONS AND JOANN J PARSONS	TH EXPLORATION, LLC	1/8+	959	347	NA	NA	NA	NA	NA	NA	NA	NA .
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			CLARENCE RANDALL												
10*21626	М	5-23-5	EMERY AND PAULA JEAN EMERY	TH EXPLORATION, LLC	1/8+	958	344	NA	NA	NA	NA	NA	NA .	NA	NA
10*21632	М	5-23-5	JOHN ARLES EMERY	TH EXPLORATION, LLC	1/8+	959	339	NA .	NA	NA	NA	NA	NA	NA	NA
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												NA NA	NA .	NA.	NA
10*21655	M	5-23-5	STANLEY GUSTELY	TH EXPLORATION, LLC	1/8+	965	206	NA	NA	NA	NA	INA .	INA .	INA .	NA .
10*21656	м	5-23-5	JOHN OBLOY AND JANET L	TH EXPLORATION, LLC	1/8+	959	331	NA	NA	NA .	, NA	NA	NA .	NA .	NA
10 21030	IVI				43.	-									
10*21657	м	5-23-5	RONALD J SALKOVICK II & SANDRA SALKOVICK	TH EXPLORATION, LLC	1/8+	958	373	NA	NA	NA	NA	NA	NA	NA	NA

10*21774	м	5-23-5	JOYCE KAY BURTON AND SAMUEL C BURTON	TH EXPLORATION, LLC	1/8+	957	467	NA	NA	NA	NA	NA .	NA	NA	NA
			STUART WHITE AND BETTY												
10*21813	М	5-23-5	WHITE	TH EXPLORATION, LLC	1/8+	958	352	NA	NA	NA	NA	NA	NA	NA .	NA
			JAMES NEAL EMERY AND										NA		NA .
10*21815	M	5-23-5	RENEE R EMERY	TH EXPLORATION, LLC	1/8+	958	348	NA .	NA	NA	NA	NA	NA .	INA	TVA
			CINDY GREEN AND LARRY	TH EXPLORATION, LLC		958	356	NA	NA	NA NA	NA	NA .	NA NA	NA	NA
10*21816	M	5-23-5	GREEN	TH EXPLORATION, LLC	1/8+	958	356	NA 	NA	INA	NA .	IVA	IVA	No.	
			MARY LOU HLINKA AND RICHARD G HLINKA SR												NA .
10*21817	М	5-23-5	RICHARD G HLINKA SR	TH EXPLORATION, LLC	1/8+	959	514	NA	NA	NA .	NA	NA	NA	NA	IVA
			MARY CATHERINE THOMS												
10*21819	M	5-23-5	отт	TH EXPLORATION, LLC	1/8+	958	360	NA	NA	NA	NA	NA	NA .	NA	NA
10*21820	М	5-23-5	MARION DAVID OTT & JANICE L OTT	TH EXPLORATION, LLC	1/8+	959	506	NA	NA	NA	NA	NA	NA	NA	NA

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M	5-23-5	MARQUITA CLYBURN	TH EXPLORATION, LLC	1/8+	959	510	NA	NA	NA	NA	NA	NA	NA .	NA
М	5-23-5	BARBARA H COAKLEY	TH EXPLORATION, LLC	1/8+	960	66	NA	NA	NA	NA	NA .	NA	NA	NA
		ROBIN ADAIR GUMP AND	TH EVELOPATION 11C	1/8+	deu	70	NA.	NA.	NA NA	NA	NA	NA	NA	NA
М	5-23-5	LOUIS M GUMP	TH EXPLORATION, ELC	1/6+	300	,,								
м	5-23-5	JUDITH A TAYLOR	TH EXPLORATION, LLC	1/8+	960	74	NA	NA	NA	NA	NA	NA	NA	NA
М	5-23-5	CHARLES DOUGLAS LANE	TH EXPLORATION, LLC	1/8+	960	77	NA .	NA	NA	NA	NA	NA	NA	NA
										NA.	NA.	NA .	NA	lna
M	5-23-5	MELISSA L DARROW	TH EXPLORATION, LLC	1/8+	954	328	NA	NA	INA	INA	INO	100	1	
м	5-23-5	CHARLES J KNOX	TH EXPLORATION, LLC	1/8+	966	112	NA .	NA .	NA	NA NA	NA	NA	NA	NA
	M M	M 5-23-5 M 5-23-5 M 5-23-5	M 5-23-5 BARBARA H COAKLEY ROBIN ADAIR GUMP AND LOUIS M GUMP M 5-23-5 JUDITH A TAYLOR M 5-23-5 CHARLES DOUGLAS LANE M 5-23-5 MELISSA L DARROW	M 5-23-5 ROBIN ADAIR GUMP AND LOUIS M GUMP TH EXPLORATION, LLC M 5-23-5 JUDITH A TAYLOR TH EXPLORATION, LLC M 5-23-5 CHARLES DOUGLAS LANE TH EXPLORATION, LLC	M 5-23-5 BARBARA H COAKLEY TH EXPLORATION, LLC 1/8+ ROBIN ADAIR GUMP AND LOUIS M GUMP TH EXPLORATION, LLC 1/8+ M 5-23-5 CHARLES DOUGLAS LANE TH EXPLORATION, LLC 1/8+	M 5-23-5 BARBARA H COARLEY TH EXPLORATION, LLC 1/8+ 960 M 5-23-5 GHARLES DOUGLAS LANE TH EXPLORATION, LLC 1/8+ 960 M 5-23-5 CHARLES DOUGLAS LANE TH EXPLORATION, LLC 1/8+ 960 M 5-23-5 MELISSA L DARROW TH EXPLORATION, LLC 1/8+ 960	M 5-23-5 BOBIN ADAR GUMP AND LOUIS M GUMP TH EXPLORATION, LLC 1/8+ 960 70 M 5-23-5 HUDITH A TAYLOR TH EXPLORATION, LLC 1/8+ 960 70 M 5-23-5 HUDITH A TAYLOR TH EXPLORATION, LLC 1/8+ 960 72 M 5-23-5 HUDITH A TAYLOR TH EXPLORATION, LLC 1/8+ 960 74	M 5-23-5 BAIRBARA H COARLEY THE EPROBATION, LLC 1/2+ 960 66 NA. MOSIN ADAIR GLIMP AND COURS M GUMP THE EPROBATION, LLC 1/2+ 960 70 NA. M 5-23-5 JUDITH A TAYLOR THE EXPLORATION, LLC 1/2+ 960 77 NA. M 5-23-5 CHARLES COUGLAS LANE THE EXPLORATION, LLC 1/2+ 960 77 NA. M 5-23-5 CHARLES COUGLAS LANE THE EXPLORATION, LLC 1/2+ 960 77 NA.	M 5-23-5 ROBIN ADAR GUMP AND COURS MIRADER THE EPPLOBATION, LLC 1/8+ 960 70 NA NA NA NA NA NA NA NA NA S-23-5 MM 5-23-5 JUDITH A TAYLOR THE EPPLOBATION, LLC 1/8+ 960 77 NA NA NA NA NA NA NA NA NA NA NA NA NA	M 5-23-5 BARBANA R COMECY THEOTOMATON, LLC 1/8* 950 66 MA MA MA MA MA 5-23-5 COUNT MATERIAL TANIOR THEOTOMATON, LLC 1/8* 960 70 NA MA MA MA M 5-23-5 COUNTRY ATMICIS TO DOUGLATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICIS TO DOUGLAS LANS THE OPTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICIS THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICIS THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICIS THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICIS THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICIS THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICIS THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICIS THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICIS THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA M 5-23-5 COUNTRY ATMICIS THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA MA M 5-23-5 COUNTRY ATMICIS THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA MA M 5-23-5 COUNTRY ATMICIS THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA MA M 5-23-5 COUNTRY ATMICIS THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA MA MA M 5-23-5 COUNTRY ATMICIS THEOTOMATON, LLC 1/8* 960 77 NA MA MA MA MA MA MA MA MA MA MA MA MA MA	3 5-255 MAGUINA CORDINA IN TOPLOMODIA, LIC. 1/2+ 969 65 MA. 10	M 5-25 MANDET CHARLE BOUGLE MAN PRODUCTION LIC 1/2* 950 77 MA 94 MA MA MA MA MA MA MA MA MA MA MA MA MA	14 525 SARRAN COMBO PAR CO	9 5-95 NAMES AND ASSESSED FOR THE PROPERTY OF

10*22014	м	5-23-5	SHERMAN E KNOX JR	TH EXPLORATION, LLC	1/8+	966	108	NA	NA	NA	NA	NA	NA	NA	NA
10*22018	М	5-23-5	KATHLEEN ROBERTSON	TH EXPLORATION, LLC	1/8+	960	539	NA	NA	NA	NA	NA .	NA	NA	NA
10*22026	M	5-23-5	KEVIN D CHURCH	TH EXPLORATION, LLC	1/8+	957	49	NA	NA .	NA	NA	NA .	NA .	NA	NA
10*22027	м	5-23-5	STEPHEN C EMERY AND	TH EXPLORATION, LLC	1/8+	954	310	NA	NA	NA	NA	NA	NA	NA	NA .
			TODD LEARN AND KENDA												
10*22093	M	5-23-5	LEARN	TH EXPLORATION, LLC	1/8+	954	314	NA .	NA	NA	NA	NA	NA	NA	NA
10*22102	м	5-23-5	BONNIE LOU GRUBER	TH EXPLORATION, LLC	1/8+	954	302	NA NA	NA NA	NA	NA	NA	NA	NA	NA
22.02	W	376379	SOMME END GROBEN	THE STREET STREET	AJ OT	Popus	-V&								
10*22128	М	5-23-5	BETTY PYSELL	TH EXPLORATION, LLC	1/8+	961	433	NA	NA	NA	NA	NA	NA	NA	NA

10*22142 10*22143	м	5-23-5 5-23-5	CHERYL L HILL WANDA J RIDING AND GERALD R RIDING	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	961 961	423 426	NA NA		NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
10*22144	M	5-23-5	VICKY STRAUSS AND	TH EXPLORATION, LLC	1/8+	961		NA .	NA NA	NA	NA	NA .	NA	, NA	NA
10*22165	м	5-23-5	DEBRA L LYSESKI AND GERALD A LYSESKI	TH EXPLORATION, LLC	1/8+	954		NA .	NA	NA	NA	NA .	NA	NA	NA
10*22178	м	5-23-5	ANGELA HENTHORN AND WILLIAM R HENTHORN		1/8+	972		NA .	NA	NA	NA	NA .	NA	NA	NA
10*22287	M	5-23-5	MISSY JONES AND MICHAEL JONES	TH EXPLORATION, LLC	1/8+	962	195	NA NA	NA	NA	NA	NA .	NA .	NA	NA
10*22332	M	5-23-5	DORIS WEST AND ROBERT		1/8+	962	542	NA .	NA NA	NA	NA NA	NA.	NA	NA	NA

													,		
10*22339	М	5-23-5	BETTY LEE HOWARD LOY	TH EXPLORATION, LLC	1/8+	963	392	N A	NA .	NA .	NA.	N A	NA.	N A	NA .
10*22354		5-23-5	LORETTA M DOUGHERTY AND DAVID DOUGHERTY	TH EXPLORATION, LLC	1/8+	964	516	N A	NA	NA .	NA .	NA .	NA	N A	NA.
	M	5-23-5	TESSEAN FAMILY REVOCABLE LIVING TRUST		1/8+	963		N A	NA .	NA NA	N A	NA .	NA NA	N A	NA .
10*22436			SHERRY LIMRIE AND	TH EXPLORATION, LLC	1/8+	963			NA.	NA NA	NA.	N A	NA.	NA.	NA .
10*22437	М	5-23-5	EUGENE FANKHAUSER		1/8+	963									NA NA
10*22440	М	5-23-5											NA.		NA.
10*22443	М	5-23-5		TH EXPLORATION, LLC	1/8+	963				NA	rua.	1944 -	INA.	(NA)	1377
10*22450	м	5-23-5	JUDY ANN MERCER	TH EXPLORATION, LLC	1/8+	963	634	NA	NA	NA	NA .	NA	NA	NA	NA

			KENNETH R SHAW AND DONNA K SHAW	TH EXPLORATION, LLC	1/8+	966	518	NA .	NA NA	NΔ	NA.	NA.	NA NA	NA.	NA.
10*22503		5-23-5 5-23-5		TH EXPLORATION, LLC	1/8+	974			NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA .
10*22504		5-23-5	JAMES D DRAKE AND DONNA K DRAKE	TH EXPLORATION, LLC	1/8+	964		NA	NA .	NA	NA .	N A	NA NA	NA .	NA .
		5-23-5	RANDY BERISFORD AND	TH EXPLORATION, LLC	1/8+	964		N A	N A	NA.	NA NA	N A	NA.	NA .	NA .
10*22509				TH EXPLORATION, LLC	1/8+	965				NA.			NA	NA NA	NA .
10*22560	M	5-23-5	RUSSELL W ROGERSON AND SUSAN ROGERSON		1/8+	966			NA NA	NA NA					NA.
10*22592 10*22593	M	5-23-5	RONALD E ROGERSON	TH EXPLORATION, LLC	1/8+	966		NA	NA NA	NA.	NA.	NA NA	NA.	NA.	NA.

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10*22594	M	5-23-5	JAMES A WADE SR	TH EXPLORATION, LLC	1/8+	965	481	NA	NA	NA	NA	NA	NA	NA	NA
10*22609	М	5-23-5	KATHY JO CULLUM	TH EXPLORATION, LLC	1/8+	966	514	NA .	NA	NA	NA	NA	NA	NA	NA
10*22613	М	5-23-5	JEWEL L CAMPBELL	TH EXPLORATION, LLC	1/8+	966	510	NA .	NA	NA	NA .	NA .	NA	NA	NA .
10*22644	M	5-23-5	RICHARD EUGENE KELLER	TH EXPLORATION, LLC	1/8+	968	214	NA	NA	NA	NA	NA	NA	NA	NA
					- 10			NA .	NA .	NA .	NA	NA .	NA NA	INA	NA
10*22779	M	5-23-5	STEVEN WADE	TH EXPLORATION, LLC	1/8+	968	424	INA	NA .	NA .	NA .	NA	INA	INA .	NA .
			!												
10122000	м	5-23-5	MARGARET C MCMURRY 8 WILLIAM F MCMURRY	TH EXPLORATION: LLC	1/8+	972	54	NA .	NA NA	NA .	l NA	NA .	NA	NA .	NA .
10*22809	M	J-23-3	WILLIAM I WICHORK!	chi constituti dec	¥0.										
10*22811	M	5-23-5	ROBERT E ROGERSON	TH EXPLORATION, LLC	1/8+	972	64	NA	NA	NA	NA	NA	NA	NA	NA
*22811	<u> </u>	JS-23-5	NUBERT E RUGERSUN	I III EAPLURATION, LLC	1/0+	3/2	04	סנון	luo	Inc	lino	Juo			

10*22812	М	5-23-5	JOSEPH F GOBLOWSKY	TH EXPLORATION, LLC	1/8+	968	428	NA	NA	<u>NA</u>	NA	<u>NA</u>	NA	<u>NA</u>	NA
10*22861	м	5-23-5	LAURINE C CURTIS & EDGAR A CURTIS III	TH EXPLORATION, LLC	1/8+	976	147	NA	NA	NA	NA	NA	NA	NA	NA
10*23166			JAMES DAVID CRANDALL		1/8+	984		NA							NA NA
10*23168	M		JASON WADE	TH EXPLORATION, LLC	1/8+	966 988	506			NA NA	NA NA		NA NA		NA NA
10*23368	M	3-25-3	STEFANIE CIRILLI AND	The country are	AJO:	330	***								
10*23369	М	5-23-5	MATTHEW CIRILLI	TH EXPLORATION, LLC	1/8+	988	451	NA .	NA .	NA .	NA .	NA .	NA	NA .	NA
10*23370	м	5-23-5	DENVER J TAYLOR	TH EXPLORATION, LLC	1/8+	988	454	NA	NA	NA	NA	NA	NA	NA	NA

10*23371	м	5-23-5	JONNA MARPLE AND ERIK MARPLE	TH EXPLORATION, LLC	1/8+	988	442	NA	NA .	NA	NA	NA .	NA	NA	NA .
10*23398	м	5-23-5	JON GUSTELY AND	TH EXPLORATION, LLC	1/8+	1008		NA .	NA.	NA	NA.	NA NA	NA NA	NA NA	NA .
				TH EXPLORATION, LLC	1/8+	1008			NA	NA	NA	NA	NA.	NA NA	NA .
10*23410	М	5-23-5													NA NA
10*23428 10*23444	M	5-23-5	JENNIFER CUICHTA AND KEVIN CUICHTA	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	1008		NA NA	NA NA	NA NA	NA NA	NA NA	NA NA		NA NA
			RENEE KELLAR	TH EXPLORATION, LLC	1/8+	971		NA NA	NA.	NA	NA	NA.	NA.		NA.
10*23505	M	5-23-5	MARILYN M ROBINSON		1/8+	1009	309	NA NA	NA.	NA NA	NA NA	NA.	NA.	NA.	NA.

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7 7 0 7 10 6	М	5-23-5	CHAD FRANCIS AND LISA	TH EXPLORATION, LLC	1/8+	1009		NA .	NA	NA.	NA	NA	NA		NA .
10*23672	М	5-23-5	LISA TUCKER AND FRANCIS	TH EXPLORATION, LLC	1/8+	1010			NA	NA	NA .	NA	NA	NA	NA
10*23727	M	5-23-5	KAREN DRAKE AND JEFF		1/8+	1011			NA .	NA .	NA NA	NA NA	NA NA		NA NA
10*23756	M	5-23-5		TH EXPLORATION, LLC	1/8+	1012			NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA.
10*23757	M	5-23-5	DAVID DRAKE	TH EXPLORATION, LLC	1/8+						NA NA	NA.	NA.	NA NA	NA.
10*23767	М	5-23-5	MARK ALAN SLATEN	TH EXPLORATION, LLC	1/8+	1014		NA .	NA	NA	PUA	TAY.	I NA	INA.	
10*23771	M	5-23-5	ROBIN ROSE	TH EXPLORATION, LLC	1/8+	1014	485	NA	NA	INA	INA	INA	INA	INA	INA

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0*23792	м	5-23-5	STEVEN W SLATEN AND RHONDA SLATEN	TH EXPLORATION, LLC	1/8+	1014	488	NA	NA	NA	NA	NA	NA	NA	NA
			ELIZABETH BENNETT AND				400		NA NA	lna	NA	NA	NA	NA NA	NA .
10*23793	М	5-23-5	DONNIE BENNETT	TH EXPLORATION, LLC	1/8+	1014	492	NA	NA .	INA.	INA.	INA.			
10*23794	М	5-23-5	PATTY JEAN LANTZ	TH EXPLORATION, LLC	1/8+	1014	495	NA	NA	NA	NA	NA	NA .	NA	NA
		5-23-5	NANCY C DWYER AND WENDEL MARTINKOVIC	TH EXPLORATION LLC	1/8+	1017	6	NA	NA .	NA	NA .	NA	NA	NA .	NA
10*23826	М	5-25-5	WENDEL MARTINKOVIC	THE ALCOHOLOGY LEC	40.										
												i			
10*23838	М	5-23-5	RONALD DEAN YOHO & VICTORIA LYNN YOHO	TH EXPLORATION, LLC	1/8+	1017	11	NA	NA	NA	NA	NA	NA	NA	NA .
										:					
10\$73993	м	5-23-5	VICKI ANN WILLIAMS & WILLIAM J WILLIAMS	TH EXPLORATION, LLC	1/8+	1016	644	NA	NA	NA	NA	NA	NA	NA	NA .
10*23883	141	3.3.3													
10*24274	м	5-23-5	JO ELLEN GUSTELY	TH EXPLORATION, LLC	1/8+	1023	527	NA	NA	NA	NA	NA	NA	NA	NA

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10*24483	М	5-23-5	SUSAN ALFRED AND KEVIN J ALFRED	TH EXPLORATION, LLC	1/8+	1025	401	NA .	NA	NA	NA	NA .	NA	NA	NA
10*24551	м	5-23-5	LEONARD LEE COULTER AND DEBRA A COULTER	TH EXPLORATION, LLC	1/8+	1025	405	NA .	NA	NA	NA	NA	NA	NA	NA
			WILLIAM D TAYLOR AND KIM TAYLOR	TH EXPLORATION, LLC	1/8+	1027	315	NA	NA .	INA	NA .	NA .	NA .	INA	NA
10*24751	_M	5-23-5	KIWI TATLOR	TH EXPLORATION, ELC	1/6+	1027	313								
10*24752	M	5-23-5	PATTI KENNEDY	TH EXPLORATION, LLC	1/8+	1027	312	NA	NA	NA	NA	NA	NA	NA	NA .
11															
10*24860	M	5-23-5	DORA TAYLOR	TH EXPLORATION, LLC	1/8+	1028	92	NA	NA	NA	NA .	NA	NA	NA	NA
10*24868	М	5-23-5	ANNE DWYER	TH EXPLORATION, LLC	1/8+	1028	95	NA	NA	NA	NA	NA	NA	NA	NA
											:				
10\$24017	м	5-23-5	WALTER W STREIGHT JR AND CONNIE JO STREIGHT	TH EXPLORATION. LLC	1/8+	1027	281	NA .	NA	NA .	NA .	NA	NA	NA	NA
10*24917	M	J-43-3	PARTO COMME TO STREIGHT	on continuity acc	-14.										

M	5-23-5	ROBERT LEE MARCIANO AKA ROBERT LEE MAYER	TH EXPLORATION, LLC	1/8+	1030	416	NA	NA	NA	NA	NA .	NA	NA	NA
M	5-23-5	RAYMOND GUSTELY JR	TH EXPLORATION, LLC	1/8+	1030	373	NA	NA	NA .	NA	NA .	NA	NA	NA .
		DAVID C WHITE NEISWONGER AND WHITE	THE TYPE OF A TION INC.	4/0	1021	476		NA.	l _{NA}	NA.	l _{NA}	lna.	NA	NA
M	5-23-5	LAW OFFICES	TH EXPLORATION, LLC	1/8+	1031	4/6	NA .	INA	INA	NA .	INA		IN .	
				- 1-									l NA	l _{NA}
M	5-23-5	JERRY HUGGINS ET AL	TH EXPLORATION, LLC	1/8+	1030	368	NA .	NA .	INA.	INA .	INA	INA.	INA	
	5 22 5	ROBERT LEE MARCIANO	TH EXPLORATION LLC	1/8+	1030	416	INA	NA	NA.	NA .	lna	NA .	NA	NA
М	5-23-5	AKA ROBERT LEE WIATER	TH EXPLORATION, LLC		1030	410	l l l	No.						
M	5-23-5	STONE HILL MINERALS	TH EXPLORATION, LLC	1/8+	1057	332	NA .	NA	NA .	NA	INA .	NA NA	NA	NA
ivi	5.255			7-										
м	5-23-5	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION, LLC	1/8+	1063	594	NA	NA	NA	NA	NA	NA	NA	NA
	м м	M 5-23-5 M 5-23-5 M 5-23-5	M 5-23-5 RAYMOND GUSTELY JR DAVID C WHITE NEISWONGER AND WHITE LAW OFFICES M 5-23-5 JERRY HUGGINS ET AL ROBERT LEE MARCIANO AKA ROBERT LEE MAYER M 5-23-5 STONE HILL MINERALS HOLDINGS LLC	M 5-23-5 RAYMOND GUSTELY JR TH EXPLORATION, LLC DAVID C WHITE NESWONSER AND WHITE LAW OFFICES M 5-23-5 JERRY HUGGINS ET AL TH EXPLORATION, LLC TH EXPLORATION, LLC TH EXPLORATION, LLC TH EXPLORATION, LLC STONE HILL MINERALS HOLDINGS LLC TH EXPLORATION, LLC	M 5-23-5 RAYMOND GUSTELY JR TH EXPLORATION, LLC 1/8+ DAVID C WHITE NEISWONDER AND WHITE LAW OFFICES M 5-23-5 JERRY HUGGINS ET AL TH EXPLORATION, LLC 1/8+ M 5-23-5 ROBERT LEE MARCIANO AKA ROBERT LEE MARCIANO AKA ROBERT LEE MAYER M 5-23-5 TH EXPLORATION, LLC 1/8+ M 5-23-5 TH EXPLORATION, LLC 1/8+	M 5-23-5 AKA ROBERT LEE MAYER TH EXPLORATION, LLC 1/8+ 1030 M 5-23-5 RAYMOND GUSTELY JR TH EXPLORATION, LLC 1/8+ 1030 DAVID C WHITE NEISWONGER AND WHITE LAW OPPICES TH EXPLORATION, LLC 1/8+ 1030 M 5-23-5 JERRY HUGGINS ET AL TH EXPLORATION, LLC 1/8+ 1030 M 5-23-5 STONE HILL MINERALS HOLDINGS LLC TH EXPLORATION, LLC 1/8+ 1030 1/8+ 1030	M 5-23-5 AXA ADDRET LEE MAYER THE EXPLORATION, LLC 1/8+ 1030 416 M 5-23-5 RAYMOND GUSTELY JR THE EXPLORATION, LLC 1/8+ 1030 373 CANID C WHITE HEAVONGER AND WHITE HE	M 5-23-5 RAYMOND GUSTELY JR TH EXPLORATION, LLC 1/8+ 1030 416 NA DAVID C WHITE RESWONDER AND WHITE THE EXPLORATION, LLC 1/8+ 1030 373 NA DAVID C WHITE RESWONDER AND WHITE THE EXPLORATION, LLC 1/8+ 1030 475 NA M 5-23-5 ARRY HUGGINS ET AL THE EXPLORATION, LLC 1/8+ 1030 416 NA M 5-23-5 TORRET LEE MANICANO ALS REPRODUCED THE EXPLORATION, LLC 1/8+ 1030 416 NA STONE HILL IMPREMALS THE EXPLORATION, LLC 1/8+ 1030 416 NA STONE HILL IMPREMALS THE EXPLORATION, LLC 1/8+ 1030 416 NA STONE HILL IMPREMALS THE EXPLORATION, LLC 1/8+ 1030 416 NA STONE HILL IMPREMALS THE EXPLORATION, LLC 1/8+ 1030 416 NA STONE HILL IMPREMALS THE EXPLORATION, LLC 1/8+ 1030 416 NA	M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 415 MA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 573 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 476 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 484 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 484 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 484 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 484 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 484 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23-5 MAYMOND GUSTELY /R TH DPHORATION, LLC 1/8+ 1690 416 NA NA M 5-23	M 5-23-5 AVANORIO GUSTILV ZIR 1 TH EMPLOMATION, LIC 1/2* 1699 172 NA NA NA NA NA NA NA NA NA NA NA NA NA	23-25 AN AN ORDER LE MATERIALS IN EPRODATOR, LIC 1/29- 1690 415 M. M. M. M. M. M. M. M. M. M. M. M. M.	34 525 AMORTHE MATERIAL M 5235 AMORTHE MATERIAL M 645 AMORTHE MATERI	## \$25 ## AND CONTROLOGICAL TO THE PRODUCTION LICE 1/29 1200 1415 ## AND HA MA HA MA HA MA MA MA MA MA MA MA MA MA MA MA MA MA	10 2-35 AMARON COUTLY OF PERSONNELLE 1/20 1/20 1/20 1/20 1/20 1/20 1/20 1/20

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10*17192	N	5-23-8	ROBERT J HENRY	CHESAPEAKE APPALACHIA LLC	1/8+	716	193	NA	NA	NA	NA	29/325 Chesapeake Appalachia LLC to Statoli USA Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*19722	N	5-23-8	MASTER MINERAL HOLDINGS I LP	AMERICAN PETROLEUM PARTNERS LLC	1/8+	912	105	NA	NA	NA	NA	NA	NA	40/408 American Petroleum Partners Operating LLC to TH Exploration LLC	40/418 American Petroleum Partners Operating LLC to TH Exploration LLC
			DOMINION ENERGY							NA.	NA.	NA.	NA NA	NA NA	NA NA
10*18343	0	5-23-14	TRANSMISSION INC	TH EXPLORATION, LLC CHESAPEAKE APPALACHIA	1/8+	936	79	NA	NA .			29/325 Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	41/238 Statoil Onshore Properties Inc to TH	41/256 SWN Production Company LLC to TH Exploration LLC
10*17189	P	5-23-9.3	ROBERT J HENRY	CHESAPEAKE APPALACHIA	1/8+	716	197	NA	NA .	, NA	NA	29/325 Chesapeake Appalachia LLC to Statoll USA Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	41/238 Statoil Onshore Properties Inc to TH	41/256 SWN Production Company LLC to TH Exploration LLC
10*17189	Q	5-23-9.2	ROBERT J HENRY	GASTAR EXPLORATION	1/8+	716			NA	NA .	NA .		806/1 Gastar Exploration USA Inc to Atlnum	21/41 Gastar Exploration USA Inc and Gastar	36/9 Gastar Exploration
10*14786	R	5-23-13	TWILA O WHIPKEY	USA INC	1/8+	799	61	NA	NA .	NA	NA NA	NA .	Marcellus I LLC 806/1 Gastar Exploration USA Inc to Atinum	Exploration Inc merger 21/41 Gastar Exploration USA Inc and Gastar	inc to TH Exploration II LLC
10*14792	R	5-23-13	тімотну уоно	USA INC	1/8+	799	536	NA	NA	NA	NA	NA	Marcellus I LLC	Exploration Inc merger	Inc to TH Exploration II LLG

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4													21/41 Gastar Exploration	35/144 Gastar Exploration	
			ONWARD E BURGE TRUST STEPHEN W BURGE AS	GASTAR EXPLORATION									USA Inc and Gastar	Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14822	R	5-23-13	TRUSTEE	USA INC	1/8+	876	463	NA	NA .	NA	NA NA	NA	Exploration Inc merger	шс	Inc to TH Exploration II LLC
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			SARAH L BURGE TRUST					ļ					21/41 Gastar Exploration USA Inc and Gastar	35/144 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14823	R	5-23-13	STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	459	NA	NA	NA	NA NA	NA	Exploration Inc merger	LLC	Inc to TH Exploration II LLC
10-14823	 	32323													
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				GASTAR EXPLORATION											36/9 Gastar Exploration
10*14969	R	5-23-13	REBECCA S WORD	USA INC	1/8+	872	219	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA	Inc to TH Exploration II LLC
									}						
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														1	36/9 Gastar Exploration
10*14970	R	5-23-13	GRACE EXLINE	GASTAR EXPLORATION USA INC	1/8+	872	623	NA	NA	NA	NA	NA	NA	NA	Inc to TH Exploration II LLC
10 145/0	<u> </u>														
10*17822	R	5-23-13	ANTOINE E GERAUD	TH EXPLORATION, LLC	1/8+	943	560	NA	NA .	NA NA	NA NA	NA NA	NA	NA	NA
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10*18114	R	5-23-13	DARRELL NEWLAND	TH EXPLORATION, LLC	1/8+	927	66	NA	NA	NA	NA	NA	NA	NA	NA
	1		DONALD R NEWLAND AND	·						ļ	ļ		l	ļ	
10*18115	R	5-23-13	SUZANNE NEWLAND	TH EXPLORATION, LLC	1/8+	927	73	NA	NA NA	NA NA	NA NA	NA NA	INA	INA	NA

18369 R 5-23-13 CERAIG ALAN YOHO AND DONNA M YOHO TH EXPLORATION, LLC 1/8+ 931 303 NA NA NA NA NA NA NA NA NA NA NA NA NA
R 5-23-13 DONNA M YOHO TH EXPLORATION, LLC 1/8+ 931 303 NA NA NA NA NA NA NA NA NA NA NA NA NA
R 5-23-13 DONNA M YOHO TH EXPLORATION, LLC 1/8+ 931 303 NA NA NA NA NA NA NA NA NA NA NA NA NA
18370 R 5-23-13 SAMUEL D YOHO TH EXPLORATION, LLC 1/8+ 931 300 NA NA NA NA NA NA NA NA NA NA NA
18370 R 5-23-13 SAMUEL D YOHO TH EXPLORATION, LLC 1/8+ 931 300 NA NA NA NA NA NA NA NA NA NA NA NA NA
DAVID N DEVICK TRUSTEE OF THE TONI JO MASON OF THE TONI JO MASON UNING TRUST TH EXPLORATION, LLC 1/8+ 932 439 NA NA NA NA NA NA NA NA NA NA NA NA NA
R 5-23-13 LIVING TRUST TH EXPLORATION, LLC 1/8+ 932 439 NA NA NA NA NA NA NA NA NA NA NA NA NA
*18541 R 5-23-13 PATRICK P MCHENRY TH EXPLORATION, LLC 1/8+ 933 649 NA NA NA NA NA NA NA NA NA NA NA
*1851 R 5-23-13 PATRICK P MCHENRY TH EXPLORATION, LLC 1/8+ 933 649 NA NA NA NA NA NA NA NA NA NA NA NA NA
*18818 R 5-23-13 LUCILLE R MCHENRY TH EXPLORATION, LLC 1/8+ 937 624 NA NA NA NA NA NA NA NA NA NA NA NA NA
*19486 R 5-23-13 BARBARA ANN MAYNARD TH EXPLORATION, LLC 1/8+ 941 229 NA NA NA NA NA NA NA NA NA NA
*19486 R 5-23-13 BARBARA ANN MAYNARD TH EXPLORATION, LLC 1/8+ 941 229 NA NA NA NA NA NA NA NA NA NA NA NA NA
Nº 19540 R 5-23-13 ERICA M MASON TH EXPLORATION, LLC 1/8+ 942 53 NA NA NA NA NA NA NA NA NA NA NA

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10*19543	R	5-23-13	ROBERT I BONAR SR	TH EXPLORATION, LLC	1/8+	942	61	NA	NA	NA	NA	NA	NA	NA .	NA
10*19640	R	5-23-13	MARGARET F RICHMOND	TH EXPLORATION, LLC	1/8+	944	120	NA	,NA	NA	NA	NA	NA	NA	NA
10-19640															
10*19641	R	5-23-13	BRADFORD D LOWERY & DEBORAH LOWERY	TH EXPLORATION, LLC	1/8+	944	122	NA	NA	NA	NA	NA	NA	NA	NA .
10*19650	R	5-23-13	CLAUDIA LOWERY MALLOY	TH EXPLORATION, LLC	1/8+	944	99	NA	NA	NA	NA	NA	NA	NA	NA
10*19652	R	5-23-13	JACK R HAMMERS	TH EXPLORATION, LLC	1/8+	944	108	NA	NA	NA	NA	NA	NA	NA	NA .
10 13032															
10*19657	R	5-23-13	JANET LEE SPARKS	TH EXPLORATION, LLC	1/8+	964	440	NA	NA	NA	NA	NA	NA	NA .	NA
			CARL M MCHENRY AND												
10*19732	R	5-23-13	PAMELA MCHENRY	TH EXPLORATION, LLC	1/8+	944	469	NA	NA	NA	NA	NA	NA	INA	NA

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10*19858	R	5-23-13	JAMES MICHAEL YOHO	TH EXPLORATION, LLC	1/8+	960	188	NA	NA	NA	NA .	NA	NA .	NA	NA
10*19903	R	5-23-13	PAUL F HAMMERS	TH EXPLORATION, LLC	1/8+	948	236	NA	NA	NA	NA	NA	NA	NA	NA .
10*19996	R	5-23-13	CHARLES D WOOD	TH EXPLORATION, LLC	1/8+	947	589	NA .	NA	NA	NA	NA	NA	NA	NA
10, 13330		3 23 23													
	_		ARDITH R ROSE AND TOMMY E ROSE	TH EXPLORATION, LLC	1/8+	951	608	NA	lna	NA	NA	NA .	NA.	NA .	NA
10*21073	R	5-23-13	TOMMY E ROSE	TH EXPLORATION, LLC		331	000		INO						
			MALCOLM E WOOD AND												
10*21074	R	5-23-13	JOAN J WOOD	TH EXPLORATION, LLC	1/8+	951	610	NA	NA	NA	NA	NA	NA .	NA	NA
10*21174	R	5-23-13	SHAWN M WOOD	TH EXPLORATION, LLC	1/8+	952	190	NA	NA	NA	NA	NA	NA	NA	NA
10*21419	R	5-23-13	DAPHNE HUFFMAN AND CHARLES HUFFMAN	TH EXPLORATION, LLC	1/8+	957	59	NA	NA	NA	NA .	NA	NA	NA	NA

	_		GARY WAYNE ZESIGER & VITORINA ZESIGER	TH EXPLORATION, LLC	1/8+	957	57	NA NA	NA.	NA.	NA.	NA.	NA.	NA NA	NA .
10*21431		5-23-13 5-23-13		TH EXPLORATION, LLC	1/8+	957			NA NA	NA.	NA NA	NA NA	NA NA	NA NA	NA NA
10*21436	R		M VIRGINIA & EDWARD C		1/8+	957				NA NA	NA NA	NA NA		NA NA	NA NA
10*21439	R	5-23-13	KIMBERLY S DENNY AND	TH EXPLORATION, LLC		957			NA NA	NA NA	NA.	NA NA	NA NA	NA.	NA NA
10*21469	R	5-23-13	RICHARD ROSS WILSON		1/8+	960			NA NA	NA.	NA.	NA NA		NA NA	NA.
10*21471	R	5-23-13	ROBERT CRAIG MONTGOMERY AND			950		NA NA	NA.	NA NA	NA.	NA.	NA NA	NA NA	NA NA
10*21620 10*21621	R	5-23-13	CYNTHIA R MONTGOMERY MARILYN NOEL	TH EXPLORATION, LLC	1/8+	959	496 494	NA NA	NA NA	NA NA	NA	NA .	NA	NA	NA .

10*21658	R	5-23-13	CLARENCE RICHARD ZESIGER & MARY ZESIGER	TH EXPLORATION, LLC	1/8+	959	490	NA .	NA	NA	NA	NA	NA	NA .	NA .
10*21659	R	5-23-13	DEBORAH BLOUGH	TH EXPLORATION, LLC	1/8+	958	392	NA	NA	NA	NA	NA	NA	NA	NA
			PAMELA L DRAZIC AND												
10*21660	R	5-23-13	JEFFREY DRAZIC	TH EXPLORATION, LLC	1/8+	958	390	NA .	NA .	NA .	NA	NA .	NA	NA .	NA .
10*21830	R	5-23-13	MARISSA MASON	TH EXPLORATION, LLC	1/8+	960	200	NA	NA	NA	NA	NA	NA	NA	NA .
10*21831	R	5-23-13	MATTHEW MASON	TH EXPLORATION, LLC	1/8+	966	122	N A	NA .	NA NA	NA .	NA	NA NA	NA	NA .
													NA.	NA.	NA .
10*21834	R	5-23-13	GEORGE DANIEL KRUGER	TH EXPLORATION, LLC	1/8+	960	204	NA .	NA.	NA .	NA	NA .	NA	NA	NA .
10*21944	R	5-23-13	JILL A BECK	TH EXPLORATION, LLC	1/8+	960	101	NA	NA	NA	NA	NA	NA	NA	NA

.0*21947	R	5-23-13	WALLACE LYNN WENDEL	TH EXPLORATION, LLC	1/8+	965	59	NA	NA	NA	NA	NA .	NA	NA	NA
			DEBORAH K KLIMASZEWSI AND FRANK												No.
10*22007	R	5-23-13	KLIMASZEWSKI	TH EXPLORATION, LLC	1/8+	959	492	NA	NA	NA	NA	NA	NA	NA .	NA
			COLIN R YOHO AND												
10*22008	R	5-23-13	NORMA L YOHO	TH EXPLORATION, LLC	1/8+	953	304	NA	NA	NA	NA	NA .	NA	NA	NA
			MARK EUGENE YOHO & MARY YOHO	TH EXPLORATION, LLC	1/8+	960	544	NA .	NA .	N A	NA	NA	NA	NA	NA.
10*22025	R	5-23-13	MARY YOHO	TH EXPLORATION, LLC	1/8+	960	344	NA	NA .	NA	No.	ian .			
10*22031	R	5-23-13	PHILLIP YOHO AND PATRICIA YOHO	TH EXPLORATION, LLC	1/8+	960	535	N A	NA .	N A	NA	NA	NA	NA	NA
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4000003	R	5-23-13	JOANNE E RAY	TH EXPLORATION, LLC	1/8+	960	537	NA .	NA .	N A	NA	NA	NA	NA	NA
10*22032	n	3-23-13	POT WHILE E 1931		-10.										
10*22106	R	5-23-13	BARRY RAY MOORE	TH EXPLORATION, LLC	1/8+	954	643	NA	NA	NA	NA	NA	NA	NA	NA

10*22129	R	5-23-13	JANICE N HAUDENSCHILT	TH EXPLORATION, LLC	1/8+	961	459	NA	NA .	NA	NA	NA	NA	INA I	NA
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10*22137	R	5-23-13	CONNIE L NEELY	TH EXPLORATION, LLC	1/8+	961	466	NA	NA	NA	NA	NA	NA .	NA	NA .
			DONALD JAMES WILSON		- 10	050	103	<u> </u>	NA.	NA	NA .	NA .	NA .	NA .	NA
10*22285	R	5-23-13	AND SANDY L WILSON	TH EXPLORATION, LLC	1/8+	962	193	NA .	NA	INA	INO	INO	lus.		
10*22334	R	5-23-13	JOHN BRYANT	TH EXPLORATION, LLC	1/8+	962	540	NA	NA	NA	NA	NA	NA	NA .	NA
														NA	NA
10*22434	R	5-23-13	EDWIN NELSON WOOD	TH EXPLORATION, LLC	1/8+	963	637	NA	NA	NA	NA	NA	NA	NA	NA .
			DONNA V YOHO	TH EXPLORATION, LLC	1/8+	964	432	NA	NA	NA.	NA	NA	NA	NA	NA NA
10*22510	R	5-23-13	DUNNA V TUHU	III EAFLURATION, LLC	1/07	304	734								
10*22561	R	5-23-13	MARY ROSE YOHO	TH EXPLORATION, LLC	1/8+	968	200	NA	NA	NA	NA	NA	NA	NA	NA

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20125	1	R	5-23-13	HAROLD C SIMMONS	TH EXPLORATION, LLC	1/8+	966	100	NA .	NA .	NA	NA .	INA .	INA	INA	NA .
272232 8 23-2-3 CONTRACTOR TO TO TO TO TO TO TO TO TO TO TO TO TO	N			Y												
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8 1-53-33 CHICAGAICAL CALCA PRICE AND AND AND AND AND AND AND AND AND AND	10*22563	R	5-23-13	KIMBERLY D STRAUCH	TH EXPLORATION, LLC	1/8+	966	522	NA	NA	NA	NA	NA	NA	NA	NA
16*727758 R 9-725-33 AND COUNTY OF REPUBLICATION LIC 1/04 965 350 NA. NA. NA. NA. NA. NA. NA. NA. NA. NA.																
16*727758 R 9-725-33 AND COUNTY OF REPUBLICATION LIC 1/04 965 350 NA. NA. NA. NA. NA. NA. NA. NA. NA. NA.																
16*727758 R 9-725-33 AND COUNTY OF REPUBLICATION LIC 1/04 965 350 NA. NA. NA. NA. NA. NA. NA. NA. NA. NA.				1												
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16*727758 R 9-725-33 AND COUNTY OF REPUBLICATION LIC 1/04 965 350 NA. NA. NA. NA. NA. NA. NA. NA. NA. NA.																
8 2-29-33 AND CONNES SECHANORO THE ESPECIALISM, LLC 1/9- 963 389 MA MA MA MA MA MA MA MA MA MA MA MA MA	10*22585	R	5-23-13	CYNTHIA L CHICK	TH EXPLORATION, LLC	1/8+	966	102	NA .	NA	NA	NA .	NA	NA	NA	NA
8 2-29-33 AND CONNES SECHANORO THE ESPECIALISM, LLC 1/9- 963 389 MA MA MA MA MA MA MA MA MA MA MA MA MA																
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10*23372 R 5-23-13 ROBIN MILICIA TH EXPLORATION, LIC 1/8+ 1008 320 NA NA NA NA NA NA NA NA NA NA NA NA NA	10*22718	R	5-23-13	AND CONNIE S RICHMOND	TH EXPLORATION, LLC	1/8+	963	389	INA.	INA .	NA .	INA .	INA	INA .	INA	INA
10*23372 R 5-23-13 ROBIN MILICIA TH EXPLORATION, LLC 1/8+ 1008 320 NA NA NA NA NA NA NA NA NA NA NA NA NA																
10*23372 R 5-23-13 ROBIN MILICIA TH EXPLORATION, LLC 1/8+ 1008 320 NA NA NA NA NA NA NA NA NA NA NA NA NA																
10*23372 R 5-23-13 ROBIN MILICIA TH EXPLORATION, LLC 1/8+ 1008 320 NA NA NA NA NA NA NA NA NA NA NA NA NA																
10*23372 R 5-23-13 ROBIN MILICIA TH EXPLORATION, LLC 1/8+ 1008 320 NA NA NA NA NA NA NA NA NA NA NA NA NA																
10*23372 R 5-23-13 ROBIN MILICIA TH EXPLORATION, LLC 1/8+ 1008 320 NA NA NA NA NA NA NA NA NA NA NA NA NA																
DANA MILCIA 10°23373 R 5-23-13 DANA MILCIA 1/8+ 988 429 NA NA NA NA NA NA NA NA NA NA NA NA NA	10*23372	R	5-23-13	DEWEY A MILICIA AND ROBIN MILICIA	TH EXPLORATION, LLC	1/8+	1008	320	NA	NA .	NA NA	NA .	NA	NA .	NA .	NA
R 5-23-13 HUMPHREYS TH EXPLORATION, LLC 1/8+ 988 429 NA NA NA NA NA NA NA NA NA NA NA NA NA	10 23372		1 2 2													
R 5-23-13 HUMPHREYS TH EXPLORATION, LLC 1/8+ 988 429 NA NA NA NA NA NA NA NA NA NA NA NA NA																
R 5-23-13 HUMPHREYS TH EXPLORATION, LLC 1/8+ 988 429 NA NA NA NA NA NA NA NA NA NA NA NA NA																1
R 5-23-13 HUMPHREYS TH EXPLORATION, LLC 1/8+ 988 429 NA NA NA NA NA NA NA NA NA NA NA NA NA																
R 5-23-13 HUMPHREYS TH EXPLORATION, LLC 1/8+ 988 429 NA NA NA NA NA NA NA NA NA NA NA NA NA																
R 5-23-13 HUMPHREYS TH EXPLORATION, LLC 1/8+ 988 429 NA NA NA NA NA NA NA NA NA NA NA NA NA				DANA MILICIA												
NICOLETTA MILICIA	10*23373	R	5-23-13	HUMPHREYS	TH EXPLORATION, LLC	1/8+	988	429	NA	NA	NA	NA	NA	NA	NA	NA
	1															
														[
				NICOLETTA MILICIA										}]
	10*23446	R	5-23-13	BLOODWORTH	TH EXPLORATION, LLC	1/8+	1008	316	NA	NA	NA	NA	NA	NA	NA	NA

10*23669	R	5-23-13	LINDA K TOTTEN AND JERRY STEPHEN TOTTEN	TH EXPLORATION, LLC	1/8+	1010	358	NA	NA	NA	NA NA	NA	N A	N A	NA
10*24003	R	5-23-13	CHARLES SIBURT AND	TH EXPLORATION, LLC	1/8+	1020	193	NA	NA	NA	NA	NA	N A	NA	NA .
	R	5-23-13	MARY MARTHA BELLE DOYLE	TH EXPLORATION, LLC	1/8+	1024	285	NA.	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA
10*24291													NA NA	NA.	NA.
10*24491	R	5-23-13		TH EXPLORATION, LLC	1/8+	1008		NA .	NA	NA .	NA	NA			NA NA
10*24890	R	5-23-13	DEBRA JANE GALE	TH EXPLORATION, LLC	1/8+	1021		NA .	NA	NA .	NA	NA .	NA		
10*25065	R	5-23-13	COLBY G WOOD	TH EXPLORATION, LLC	1/8+	1027	103	NA	NA .	NA .	NA	NA .	NA	NA	NA
10*25066	R	5-23-13	RODGER A HENDERSON JR	TH EXPLORATION, LLC	1/8+	1027	97	NA	NA	NA	NA	NA	NA	NA	NA

10*27959	R	5-23-13	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION, LLC	1/8+	1063	594	NA	NA .	NA	NA	NA	NA .	NA	NA
													806/1 Gastar Exploration	21/41 Gastar Exploration	36/9 Gastar Exploration
10*14786	s	5-23-11.4	TWILA O WHIPKEY	GASTAR EXPLORATION USA INC	1/8+	799	61	NA	NA	NA	NA .	NA	USA Inc to Atinum Marcellus I LLC	USA Inc and Gastar Exploration Inc merger	Inc to TH Exploration II LL
10*14792	s	5-23-11.4	тімотну уоно	GASTAR EXPLORATION USA INC	1/8+	799	536	NA	NA NA	NA NA	NA NA	NA NA	806/1 Gastar Exploration USA Inc to Atinum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LI
		3-23-11,4	TIMOTH TONO	I USA INC	1/8+	/33	330	INA .		, ma					
10*14797	s	5-23-11.4	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8+	800	598	NA	NA NA	NA	NA	NA	30/136 Gastar Exploration USA Inc to Atinum Marcellus I LLC	n 21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LI
10*14822	S	5-23-11.4	ONWARD E BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	463	NA	NA	NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	35/144 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II L
1004.000			SARAH L BURGE TRUST STEPHEN W BURGE AS	GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	35/144 Gastar Exploration Inc to Atinum Marcellus I LLC	n 36/9 Gastar Exploration Inc to TH Exploration II I
<u>10*14823</u>	S	5-23-11.4	TRUSTEE	USA INC	1/8+	876	459	NA	, NA	NA	NA .	, NA	Exporation inc ineiger		36/9 Gastar Exploration
10*14969	s	5-23-11.4		USA INC	1/8+	872	219	NA	NA	NA	NA	NA	NA	NA	Inc to TH Exploration II

		T													
10*14970	S	5-23-11.4	GRACE EXLINE	GASTAR EXPLORATION USA INC	1/8+	872	623	NA	NA	NA .	NA	NA	NA	NA	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*17195	5	5-23-11.4	PATRICIA HARTMAN	GASTAR EXPLORATION USA INC	1/8+	695	317	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoll Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoll Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17196	S	5-23-11.4	DELBERT R. MONTGOMER	GASTAR EXPLORATION Y USA INC	1/8+	695	311	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17197	S	5-23-11.4	GLORIA J. SIMMONS HAROLD SIMMONS	GASTAR EXPLORATION USA INC	1/8+	695	313	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17199	S	5-23-11.4	PAMELA L DRAZIC AND JEFREY DRAZIC	GASTAR EXPLORATION USA INC	1/8+	695	315	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoii Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17200	S	5-23-11.4	STEPHANIE L BATES	GASTAR EXPLORATION USA INC	1/8+	697	156	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Athrum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17201	s	5-23-11.4	DENISE A GALE	GASTAR EXPLORATION USA INC	1/8+	697	395	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atlnum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC

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(10*17202) (2)	s	5-23-11.4	JANE GALE	GASTAR EXPLORATION USA INC	1/8+	697	385	N A	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17203	s	5-23-11.4	BARRY RAY MOORE	GASTAR EXPLORATION USA INC	1/8+	697	387	NA .	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17204	s	5-23-11.4	CLARENCE RICHARD ZESIGER & MARY ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697	391	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17206	s	5-23-11.4	M VIRGINIA & EDWARD C MARSH	GASTAR EXPLORATION USA INC	1/8+	697	399	NA NA		27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoii Onshore Properties inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17207		5-23-11.4	DEBORAH K. KLIMASZEWSKI FRANK KLIMASZEWSKI, SR	GASTAR EXPLORATION USA INC	1/8+	697	389	NA.	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17210	S	5-23-11.4	MARILYN NOEL	GASTAR EXPLORATION USA INC	1/8+	697 .	393	NA.	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17211	s	5-23-11.4	GARY WAYNE ZESIGER &	GASTAR EXPLORATION USA INC	1/8+	697	397	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC

10*17212	5	5-23-11.4	DARRELL NEWLAND LYDIA NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697	158	NA .	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	LLC and Statoil Onshore	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17213	5	5-23-11.4	CAROL DEEN GARDNER	GASTAR EXPLORATION USA INC	1/8+	697	154	NA .	23/353 Gastar Exploration USA inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atlnum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17822	5	5-23-11.4	ANTOINE E GERAUD	TH EXPLORATION, LLC	1/8+	943	560	NA	NA .	NA	NA .	NA .	NA .	NA .	NA .
10*18114	5	5-23-11.4	DARRELL NEWLAND	TH EXPLORATION, LLC	1/8+	927	66	NA .	NA	NA .	NA	NA	NA .	NA	NA .
10*18115	s	5-23-11.4	DONALD R NEWLAND AND SUZANNE NEWLAND	TH EXPLORATION, LLC	1/8+	927	73	NA .	NA .	NA .	NA .	NA	NA	NA .	NA
10*18275	. 5	5-23-11.4	BETTY JEAN NEELY	TH EXPLORATION, LLC	1/8+	929	60	NA	NA	NA	NA	NA	NA	NA	NA
10*18366	s	5-23-11.4	MARY LOU WILSON AND STANLEY D WILSON MICHAEL WILSON ATTORNEY IN FACT	TH EXPLORATION, LLC	1/8+	931	311	NA	NA	NA	NA	NA	NA NA	NA .	NA

		Γ	T												
			CRAIG ALAN YOHO AND												
10*18369	S	5-23-11.4	DONNA M YOHO	TH EXPLORATION, LLC	1/8+	931	303	NA	NA	NA	NA	NA	NA	NA	NA
			CRAIG ALAN YOHO AND								NA	NA NA	MA.	NA.	NA NA
10*18369	S	5-23-11.4	DONNA M YOHO	TH EXPLORATION, LLC	1/8+	931	303	NA	NA	NA	NA .	INA .	NA .	100	
10*18370	S	5-23-11.4	SAMUEL D YOHO	TH EXPLORATION, LLC	1/8+	931	300	NA	NA .	NA	NA	NA	NA	NA	NA
		5-23-11.4	SAMUEL D YOHO	TH EXPLORATION, LLC		931	300	NA NA	NA NA	NA NA	NA	NA	NA NA	NA	NA
10*18370	5	5-23-11.4	SAMUEL D YOHO	TH EXPLORATION, LLC	1/8+	931	300	NA .	NA .	INA.	NA.				
10*18379	S	5-23-11.4	DAVID N DEVICK TRUSTEE OF THE TONI JO MASON LIVING TRUST	TH EXPLORATION, LLC	1/8+	932	439	NA	NA	NA	NA	NA	NA	NA	NA
10110270			DAVID N DEVICK TRUSTEE OF THE TON! JO MASON	THE COLUMN TO THE	46		420		NA NA	NA NA	NA	NA	NA	NA	NA
10*18379	S	5-23-11.4	LIVING TRUST	TH EXPLORATION, LLC	1/8+	932	439	NA	INA	THE STATE OF THE S	INA.	100			
10*18541	s	5-23-11.4	PATRICK P MCHENRY	TH EXPLORATION, LLC	1/8+	933	649	NA	NA	NA	NA	NA	NA	NA .	NA

10*18818	s	5-23-11.4	LUCILLE R MCHENRY	TH EXPLORATION, LLC	1/8+	937	624	NA	NA	NA	NA .	NA	NA	NA	NA
10*19486		5-23-11.4	BARBARA ANN MAYNARD		1/8+	941	229		NA	NA NA	NA	NA	NA.	NA NA	NA NA
	S														
10*19540	S	5-23-11.4	ERICA M MASON	TH EXPLORATION, LLC	1/8+	942	53	NA	NA	NA	NA	NA	NA	NA	NA
									NA	NA	NA	NA	MA	NA	NA NA
10*19540	\$	5-23-11.4	ERICA M MASON	TH EXPLORATION, LLC	1/8+	942	53	NA	NA	IVA		110			
10*19543	S	5-23-11.4	ROBERT I BONAR SR	TH EXPLORATION, LLC	1/8+	942	61	NA	NA	NA	NA	NA	NA	NA	NA
10*19640			MARCARET FRICHASONS	THEY CONTION US	1/0		120	NA	NA NA	NA	NA	NA.	NA	NA	NA
10-19640	S	5-23-11.4	MARGARET F RICHMOND	I H EXPLORATION, LLC	1/8+	944	120	NA .	INA	INA.					
10*19641	s	5-23-11.4	BRADFORD D LOWERY & DEBORAH LOWERY	TH EXPLORATION, LLC	1/8+	944	122	NA	NA	NA	NA	NA	NA	NA	NA

10*19650	S	5-23-11.4	CLAUDIA LOWERY MALLOY	TH EXPLORATION, LLC	1/8+	944	99	NA NA	NA.	NA	NA NA	NA .	NA .	NA	NA.
10*19652	s	5-23-11.4		TH EXPLORATION, LLC	1/8+	944	108	NA	NA	NA	NA	NA .	NA	NA	NA .
10*19652	s	5-23-11.4		TH EXPLORATION, LLC	1/8+	944		NA	NA	NA	NA	NA .	NA NA	NA	NA
10*19657	s	5-23-11.4		TH EXPLORATION, LLC	1/8+	964		NA	NA	NA	NA	NA.	NA NA	NA NA	NA
10*19732		5-23-11.4	CARL M MCHENRY AND	TH EXPLORATION, LLC		944		NA	NA NA	NA NA	NA	NA	NA NA	NA	NA
					1/8+				1197	NA NA	NA NA	NA.	NA NA	NA.	NA NA
10*19858	\$	5-23-11.4 5-23-11.4	JAMES MICHAEL YOHO PAUL F HAMMERS	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	960	188 236	NA NA	, NA	, MA	IVA	110	NA	NA	NA.

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40440003	s	5-23-11.4	PAUL F HAMMERS	TH EXPLORATION, LLC	1/8+	948	236	NA .	NA .	NA	NA	NA	NA	NA	NA
10*19903		5-23-11.4	PAUL F HAMINES	TH EXPEDIATION, EEC	1/01	340									
														l _{NA}	NA.
10*19996	S	5-23-11.4	CHARLES D WOOD	TH EXPLORATION, LLC	1/8+	947	589	NA	NA	NA	NA	NA	INA	NA	INA
10*21073	S	5-23-11.4	ARDITH R ROSE AND TOMMY E ROSE	TH EXPLORATION, LLC	1/8+	951	608	NA .	NA	NA	NA	NA .	NA	NA	NA
40*04074	s	52244	MALCOLM E WOOD AND	TH EXPLORATION, LLC	1/8+	951	610	NA .	NA	NA	NA	NA	NA	NA	NA
10*21074	3	5-23-11.4	JOAN J WOOD	TH EXPLORATION, ELC	1/67	331	0.0								
														NA .	NA.
10*21174	S	5-23-11.4	SHAWN M WOOD	TH EXPLORATION, LLC	1/8+	952	190	NA	NA	NA .	NA	NA	NA	NA	NA .
10*21419	s	5-23-11.4	DAPHNE HUFFMAN AND CHARLES HUFFMAN	TH EXPLORATION, LLC	1/8+	957	59	NA	NA	NA	NA	NA	NA	NA	NA
	_		GARY WAYNE ZESIGER &	TH EVELOPATION 115	1/0:	957	57	NA	NA .	NA	NA	NA	NA	NA	NA
10*21431	<u> </u>	5-23-11.4	VITORINA ZESIGER	TH EXPLORATION, LLC	1/8+	33/	1 3/	Inc	P						

													NA.	MA	NA.
10*21436	S	5-23-11.4	M VIRGINIA & EDWARD C	TH EXPLORATION, LLC	1/8+	957		NA	NA	NA NA	NA NA	NA NA	NA NA	NA.	NA NA
10*21439	S	5-23-11.4	MARSH KIMBERLY S DENNY AND	TH EXPLORATION, LLC	1/8+	957		NA .	NA .	NA NA	NA NA	NA	NA NA	NA NA	NA NA
10*21469	S	5-23-11.4	JAMES E DENNY	TH EXPLORATION, LLC	1/8+	957		NA .	NA .			NA NA	NA NA	NA NA	NA.
10*21471	S	5-23-11.4	ROBERT CRAIG MONTGOMERY AND		1/8+	960		NA .	NA	NA NA	NA .	NA NA	NA NA	NA NA	NA NA
10*21620	S	5-23-11.4	CYNTHIA R MONTGOMERY		1/8+	959		NA	NA	NA NA	NA .	IWA	INA	NA NA	NA NA
10*21621	<u>s</u>	5-23-11.4 5-23-11.4	MARILYN NOEL CLARENCE RICHARD ZESIGER & MARY ZESIGER	TH EXPLORATION, LLC	1/8+	959 959	494 490	NA NA	NA	NA .	NA .	NA NA	NA	NA NA	NA.

10*21659	s	5-23-11.4	DEBORAH BLOUGH	TH EXPLORATION, LLC	1/8+	958	392	NA	NA	NA	NA	NA	NA	NA	NA
10*21660	s	5-23-11.4	PAMELA L DRAZIC AND JEFFREY DRAZIC	TH EXPLORATION, LLC	1/8+	958	390	NA	NA	NA	NA	NA .	NA	NA	NA .
10*21830	S	5-23-11.4	MARISSA MASON	TH EXPLORATION, LLC	1/8+	960	200	NA	NA	NA .	NA	NA	NA .	,NA	NA .
10*21831	5	5-23-11.4	MATTHEW MASON	TH EXPLORATION, LLC	1/8+	966	122	NA NA	NA .	NA .	NA	NA	NA	NA	NA
10*21834	s	5-23-11.4	GEORGE DANIEL KRUGER	TH EXPLORATION, LLC	1/8+	960	204	NA	NA	NA	NA	NA	NA	NA	NA
10*21944	s	5-23-11.4	JILL A BECK	TH EXPLORATION, LLC	1/8+	960	101	NA	NA	NA	NA	NA	NA	NA	NA
10*21947	S	5-23-11.4	WALLACE LYNN WENDEL	TH EXPLORATION, LLC	1/8+	965	59	NA	NA	NA	NA	NA	NA	NA	NA

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			DEBORAH K KLIMASZEWSI AND FRANK	1											MA
10*22007	S	5-23-11.4	KLIMASZEWSKI	TH EXPLORATION, LLC	1/8+	959	492	NA	NA	NA	NA	NA	NA	NA .	NA .
10*22008	s	5-23-11.4	COLIN R YOHO AND NORMA L YOHO	TH EXPLORATION, LLC	1/8+	953	304	NA	NA	NA	NA	NA	NA	NA	NA
		3-23-11.4	NOMINA E TONO	THE EXPEDITION, ELE	1/6+	333	304	NA .							
			COLIN R YOHO AND										No.	NA	NA
10*22008	S	5-23-11.4	NORMA L YOHO	TH EXPLORATION, LLC	1/8+	953	304	NA	NA	NA	NA	NA .	INA .	NA	INA
10*22025	S	5-23-11.4	MARK EUGENE YOHO & MARY YOHO	TH EXPLORATION, LLC	1/8+	960	544	NA	NA	NA	NA	NA	NA	NA	NA
10*22025	s	5-23-11.4	MARK EUGENE YOHO & MARY YOHO	TH EXPLORATION, LLC	1/8+	960	544	NA	NA.	NA NA	NA	NA	NA	NA	NA
1		3-23-11.4	WART TORO	TH EXPEDITATION, ELC	1/6+	360		INA	NA .						
10*22031	s	5-23-11.4	PHILLIP YOHO AND PATRICIA YOHO	TH EXPLORATION, LLC	4/0	960	535	NA	NA.	NA NA	NA NA	NA.	NA .	NA	NA
10 22031	, , , ,	3-25-11.4	PATRICIA YOHO	IT EXPLORATION, LLC	1/8+	960	535	INA	INA .	INA	100	1			
10172077	_										200	NA.	NA.	NA	NA NA
10*22032	S	5-23-11.4	JOANNE E RAY	TH EXPLORATION, LLC	1/8+	960	537	NA	INA	INA	INA	INA	1000	lian.	1:::

10*22106	S	5-23-11.4		TH EXPLORATION, LLC	1/8+	954		NA .	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
10*22129	s	5-23-11.4 5-23-11.4	JANICE N HAUDENSCHILT		1/8+	961 961		NA NA	NA NA	NA NA	NA NA	NA NA	NA NA		NA
10*22137	s	5-23-11.4		TH EXPLORATION, LLC	1/8+	961			NA NA		NA	NA	NA	NA	NA.
10*22285	s	5-23-11.4	DONALD JAMES WILSON AND SANDY L WILSON		1/8+	962	193	NA	NA	NA .	NA	NA	NA	NA NA	NA .
10*22334	S	5-23-11.4		TH EXPLORATION, LLC	1/8+	962		NA	NA	NA NA	NA	NA	NA	NA	NA .
10*22434		5-23-11.4	EDWIN NELSON WOOD		1/8+	963	637	NA	NA NA	NA	NA	NA	NA	NA	NA

10*22441	s	5-23-11.4	APRIL ROSE POSTLETHWAIT	TH EXPLORATION, LLC	1/8+	963	646	NA	NA	NA	NA	NA	NA	NA	NA
								NA	NA NA	NA	NA	NA.	NA	NA	NA .
10*22510	S	5-23-11.4		TH EXPLORATION, LLC	1/8+	964								NA NA	NA .
10*22510	S	5-23-11.4	DONNA V YOHO	TH EXPLORATION, LLC	1/8+	964		NA .	NA .	NA .	NA .	NA	NA	NA NA	NA NA
10*22561 10*22562	S S	5-23-11.4 5-23-11.4	MARY ROSE YOHO HAROLD C SIMMONS	TH EXPLORATION, LLC	1/8+	968			NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
					1/8+					NA NA	NA	NA NA	NA NA	NA	NA
10*22563	S	5-23-11.4	KIMBERLY D STRAUCH	TH EXPLORATION, LLC	1/8+	966	522	NA .	NA	NA .	IVA	137	100		
10*22585	S	5-23-11.4	CYNTHIA L CHICK	TH EXPLORATION, LLC	1/8+	966	102	NA	NA	NA]NA	[NA	INA	INA	IIIO

			WILLIAM R RICHMOND												NA.
10*22718	S	5-23-11.4	DEWEY A MILICIA AND	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	963	389	NA .	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
10*23372	s	5-23-11.4	DEWEY A MILICIA AND ROBIN MILICIA	TH EXPLORATION, LLC	1/8+	1008	320 320	NA NA	NA.	NA NA	NA NA	NA NA	NA NA	NA	NA
10*23373	s	5-23-11.4	DANA MILICIA	TH EXPLORATION, LLC		1008	320 429	NA NA	NA NA	NA NA	NA NA	NA NA	NA	NA	NA
10°23373	s		DANA MILICIA		1/8+			NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA	NA
10*23446	s	5-23-11.4	NICOLETTA MILICIA	TH EXPLORATION, LLC	1/8+	988	429			NA.	NA	NA NA	NA.	NA	NA
10*23446 10*23446	s	5-23-11.4 5-23-11.4	NICOLETTA MILICIA	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	1008	316	NA NA	NA NA	NA NA	NA NA	NA.	NA NA	NA	NA

10*23669	s	5-23-11.4	LINDA K TOTTEN AND JERRY STEPHEN TOTTEN	TH EXPLORATION, LLC	1/8+	1010	358	NA .	NA .	NA	NA	NA	NA .	NA	NA
10*24003	s	5-23-11.4	CHARLES SIBURT AND PAULA SIBURT	TH EXPLORATION, LLC	1/8+	1020	193	NA	NA	NA NA	NA	NA	NA	NA	NA
						2000									
10*24291	s	5-23-11.4	MARY MARTHA BELLE DOYLE	TH EXPLORATION, LLC	1/8+	1024	285	NA	NA	NA	NA	NA	NA	NA	NA
10*24491	s	5-23-11.4	DENISE A GALE	TH EXPLORATION, LLC	1/8+	1008	324	NA	NA	NA	NA	NA	NA	NA	NA
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10*24890	S	5-23-11.4	DEBRA JANE GALE	TH EXPLORATION, LLC	1/8+	1021	122	NA	NA	NA	NA	NA	NA	NA	NA
10*25065	<u> </u>	5-23-11.4	COLBY G WOOD	TH EXPLORATION, LLC	1/8+	1027	103	NA	NA	NA	NA	NA	NA .	NA	NA
10*25066	s	5-23-11.4	RODGER A HENDERSON JR	TH EXPLORATION, LLC	1/8+	1027	97	NA	NA	NA	NA	NA	NA	NA	NA

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10233														NA NA	NA NA
0 2 4	5	5-23-11.4	CHESTNUT HOLDINGS LLC	TH EXPLORATION, LLC	1/8+	1034	548	NA	NA .	NA	NA NA	NA	, NA	NA	IVA
10*27714	S	5-23-11.4	CORPORATION AN OHIO CORPORATION	TH EXPLORATION, LLC	1/8+	1060	572	NA	NA	NA	NA .	NA	NA	NA	NA
10*27959	5	5-23-11.4	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION, LLC	1/8+	1063	594	NA	NA .	NA .	NA NA	NA NA	NA	NA .	NA
10*14786	Т	5-23-11.1	TWILA O WHIPKEY	GASTAR EXPLORATION USA INC	1/8+	799	61	NA	NA .	NA	NA	NA NA	806/1 Gastar Exploration USA Inc to Athum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14797	T	5-23-11.1	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8+	800	598	NA	NA	NA	NA .	NA NA	30/136 Gastar Exploration USA Inc to Atlnum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14822	T	5-23-11.1	ONWARD E BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	463	NA .	NA	NA NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	35/144 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration Inc to TH Exploration II LLC
10*14823	т	5-23-11.1	SARAH L BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	459	NA	NA	NA	NA	NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	35/144 Gastar Exploration Inc to Atinum Marcellus I LLC	n 36/9 Gastar Exploration Inc to TH Exploration II LLC

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10*17195	Ţ	5-23-11.1	PATRICIA HARTMAN	GASTAR EXPLORATION USA INC	1/8+	695	317	NA .	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoli Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17196	ī	5-23-11.1	DELBERT R. MONTGOMER	GASTAR EXPLORATION Y USA INC	1/8+	695	311	NA		27/311 Gastar Exploration USA Inc and Athum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Tileholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10 *1 7197	T	5-23-11.1	GLORIA J. SIMMONS HAROLD SIMMONS	GASTAR EXPLORATION USA INC	1/8+	695	313	NA		27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17199	ī	5-23-11.1	PAMELA L DRAZIC AND JEFFREY DRAZIC	GASTAR EXPLORATION USA INC	1/8+	695	315	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17200	Ţ	5-23-11.1	STEPHANIE L BATES	GASTAR EXPLORATION USA INC	1/8+	697	156	NA		27/311 Gastar Exploration USA Inc and Athurn Marcellus I LLC to Chesapeake Appalachia LLC and Statoii Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17201	T	5-23-11.1	DENISE A GALE	GASTAR EXPLORATION USA INC	1/8+	697	395	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atlnum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17202	T	5-23-11.1	JANE GALE	GASTAR EXPLORATION USA INC	1/8+	697	385	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Athum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC

10*17203	Т	5-23-11.1	BARRY RAY MOORE	GASTAR EXPLORATION USA INC	1/8+	697	387	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoli Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17204	Ţ	5-23-11.1	CLARENCE RICHARD ZESIGER & MARY ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697	391	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17206	т	5-23-11.1	M VIRGINIA & EDWARD C	GASTAR EXPLORATION USA INC	1/8+	697	399	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17207	Т	5-23-11.1	DEBORAH K. KLIMASZEWSKI FRANK KLIMASZEWSKI, SR.	GASTAR EXPLORATION USA INC	1/8+	697	389	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17210	Ţ	5-23-11.1	MARILYN NOEL	GASTAR EXPLORATION USA INC	1/8+	697	393	NA NA		27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17211	Т	5-23-11.1	GARY WAYNE ZESIGER & VITORINA ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697	397	NA .	23/353 Gastar Exploration USA Inc to Atlnum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17212	т	5-23-11.1	DARRELL NEWLAND LYDIA NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697	158	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marceilus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC

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O					140				NA	NA .	NA	NA	NA.	NA.	NA.
10*25627	S	5-23-11.4	CHESTNUT HOLDINGS LLC	TH EXPLORATION, LLC	1/8+	1034	548	NA	, NA	NA .	NA .	INA	INA.	INA .	INA .
2															
10*27714		5-23-11.4	PIKEWOOD ENERGY CORPORATION AN OHIO CORPORATION	TH EXPLORATION, LLC	1/8+	1060	572	NA	NA	NA	NA	NA	NA	NA	NA
10 27/14															
			STONE HILL MINERALS												
10*27959	S	5-23-11.4	HOLDINGS LLC	TH EXPLORATION, LLC	1/8+	1063	594	NA	NA .	NA	NA NA	NA .	NA	NA	NA
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	_	5 22 44 4	TWILA O WHIPKEY	GASTAR EXPLORATION USA INC	1/8+	799	61	NA	NA	NA	NΔ	NA	806/1 Gastar Exploration USA Inc to Atinum Marcellus I LLC	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration
10*14786	T T	5-23-11.1	IWIDA O WHIPKET	USA INC	1/0+	733	- 01		INO.	DG.					
													30/136 Gastar Exploration	21/41 Gastar Exploration	
10*14797	т	5-23-11.1	ORVILLE YOUNG	GASTAR EXPLORATION USA INC	1/8+	800	598	NA	NA	NA	NA	NA	USA Inc to Atinum Marcellus I LLC	USA Inc and Gastar Exploration Inc merger	36/9 Gastar Exploration Inc to TH Exploration II LLC
			ONWARD E BURGE TRUST STEPHEN W BURGE AS	GASTAR EXPLORATION									21/41 Gastar Exploration USA Inc and Gastar	35/144 Gastar Exploration Inc to Atinum Marcellus I	36/9 Gastar Exploration
10*14822	т	5-23-11.1	TRUSTEE	USA INC	1/8+	876	463	NA .	NA	NA	NA NA	NA	Exploration Inc merger	uc	Inc to TH Exploration II LLC
												1			
10814923	т	5-23-11.1	SARAH L BURGE TRUST STEPHEN W BURGE AS TRUSTEE	GASTAR EXPLORATION USA INC	1/8+	876	459	NA	NA NA	NA	NA	NA NA	21/41 Gastar Exploration USA Inc and Gastar Exploration Inc merger	35/144 Gastar Exploration Inc to Atinum Marcellus I LLC	36/9 Gastar Exploration
10*14823		12-52-11-1	Imostee	1		1 2,0		1	1 11						

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10*17195	т	5-23-11.1	PATRICIA HARTMAN	GASTAR EXPLORATION USA INC	1/8+	695	317	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17196	T	5-23-11.1	DELBERT R. MONTGOMERY	GASTAR EXPLORATION / USA INC	1/8+	695	311	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atlnum Marcellus I LLC to Chesapeake Appalachia LLC and Statoii Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17197	Ţ	5-23-11.1	GLORIA J. SIMMONS HAROLD SIMMONS	GASTAR EXPLORATION USA INC	1/8+	695	313	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoii Onshore Properties inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17199	Ţ	5-23-11.1	PAMELA L DRAZIC AND JEFFREY DRAZIC	GASTAR EXPLORATION USA INC	1/8+	695	315	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17200		5-23-11.1	STEPHANIE L BATES	GASTAR EXPLORATION USA INC	1/8+	697	156	NA	23/353 Gastar Exploration USA Inc to Athrum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	41/238 Statoil Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
		5-23-11.1	DENISE A GALE	GASTAR EXPLORATION USA INC	1/8+	697	395	NA NA	23/353 Gastar Exploration USA Inc to Atlnum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc.	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Tileholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17201	Ţ	5-23-11.1	JANE GALE	GASTAR EXPLORATION USA INC	1/8+	697	385	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC

.l 0*1 7203	ī	5-23-11.1	BARRY RAY MOORE	GASTAR EXPLORATION USA INC	1/8+	697	387	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17204	ī	5-23-11.1	CLARENCE RICHARD ZESIGER & MARY ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697	391	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoli Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17206	Ţ	5-23-11.1	M VIRGINIA & EDWARD C MARSH	GASTAR EXPLORATION USA INC	1/8+	697	399	NA	23/353 Gastar Exploration	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17207	Ţ	5-23-11.1	DEBORAH K. KLIMASZEWSKI FRANK KLIMASZEWSKI, SR.	GASTAR EXPLORATION USA INC	1/8+	697	389	NA	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
	,	5-23-11.1	MARILYN NOEL	GASTAR EXPLORATION USA INC	1/8+	697	393	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17210 10*17211	Ţ	5-23-11.1	GARY WAYNE ZESIGER & VITORINA ZESIGER	GASTAR EXPLORATION USA INC	1/8+	697	397	NA	23/353 Gastar Exploration USA Inc to Atinum	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoil Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoii USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC
10*17212	Ţ	5-23-11.1	DARRELL NEWLAND LYDIA NEWLAND	GASTAR EXPLORATION USA INC	1/8+	697	158	NA	23/353 Gastar Exploration	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LIC to Chesapeake Appalachia LIC and Statoli Onshore Properties Inc	33/110 Chesapeake Appalachia LLC to SWN Production Company LLC	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	19/624 SWN Exchange Titleholder LLC and SWN Production Company LLC merger	21/238 Statoil USA Onshore Properties Inc to TH Exploration LLC	41/256 SWN Production Company LLC to TH Exploration LLC

10*17213	T	5-23-11.1	CAROL DEEN GARDNER	GASTAR EXPLORATION USA INC	1/8+	697	154	NA	23/353 Gastar Exploration	27/311 Gastar Exploration USA Inc and Atinum Marcellus I LLC to Chesapeake Appalachia LLC and Statoil Onshore Properties Inc	Appalachia LLC to SWN	33/424 Statoil Onshore Properties Inc to SWN Exchange Titleholder LLC	Production Company LLC	Onshore Properties Inc to	41/256 SWN Production Company LLC to TH Exploration LLC
10*18275	т	5-23-11.1	BETTY JEAN NEELY	TH EXPLORATION, LLC	1/8+	929	60	NA	NA	NA.	NA .	NA	NA	NA	NA
			MARY LOU WILSON AND STANLEY D WILSON MICHAEL WILSON ATTORNEY IN FACT	TH EXPLORATION, LLC	1/8+	931	311	NA.	NA.	NA NA	NA.	NA NA	NA NA	NA NA	NA.
10*18366	T	5-23-11.1	CRAIG ALAN YOHO AND												
10*18369	Т	5-23-11.1	DONNA M YOHO	TH EXPLORATION, LLC	1/8+	931	303	NA		NA	NA	NA	NA		NA
10*18370	Т	5-23-11.1	DAVID N DEVICK TRUSTEE OF THE TONI JO MASON	1	1/8+	931	300	NA	NA	NA	NA	NA	NA .	NA	NA NA
10*18379	T	5-23-11.1	LIVING TRUST	TH EXPLORATION, LLC	1/8+ 1/8+	932	439	NA	NA NA	NA .	NA .	NA .	NA .	NA.	NA.

10*19652	Ţ	5-23-11.1	JACK R HAMMERS	TH EXPLORATION, LLC	1/8+	944	108	NA NA	NA.	NA.	NA	NA NA	NA	NA NA	NA
10*19652	Ţ	5-23-11.1		TH EXPLORATION, LLC	1/8+	944	108	NA NA	NA	NA	NA	NA	NA	NA NA	NA
	т	5-23-11.1		TH EXPLORATION, LLC	1/8+	948	236	NA.	NA NA	NA NA	NA NA	NA NA	NA NA	NA	NA NA
10*19903			PAUL F HAMMERS	TH EXPLORATION, LLC		948			NA NA	NA NA	NA.	NA NA	NA.	NA.	NA.
10*19903	т	5-23-11.1	COLIN R YOHO AND		1/8+		304		NA NA	NA NA	NA.	NA NA	NA NA	NA.	NA.
10*22008	T	5-23-11.1	MARK EUGENE YOHO &	TH EXPLORATION, LLC	1/8+	953					NA.			NA.	NA NA
10*22025	T	5-23-11.1	MARY YOHO JANICE N HAUDENSCHILT	TH EXPLORATION, LLC	1/8+	960	544 459	NA NA	NA NA	NA NA	NA.	NA NA	NA NA	NA NA	NA NA

10*22334	T	5-23-11.1	JOHN BRYANT	TH EXPLORATION, LLC	1/8+	962	540	NA NA	NA NA	NA NA	NA NA	NA .	NA.	NA NA	NA
10*22441	т	5-23-11.1	APRIL ROSE	TH EXPLORATION, LLC	1/8+	963			NA .	NA .	NA .	NA .	NA .	NA	NA
10*22510	т	5-23-11.1		TH EXPLORATION, LLC	1/8+	964		NA NA	NA NA	NA NA	NA .	NA .	NA NA	NA NA	NA
	т	5-23-11.1	DEWEY A MILICIA AND ROBIN MILICIA	TH EXPLORATION, LLC	1/8+	1008		NA	NA NA	NA.	NA.	NA.	NA.	NA.	NA NA
10*23372	т	5-23-11.1	DANA MILICIA HUMPHREYS	TH EXPLORATION, LLC	1/8+	988			NA.	NA.	NA.	NA NA	NA NA	NA	NA NA
10*23373			NICOLETTA MILICIA					NA NA	NA NA	NA.	NA.	NA.	NA.	NA.	NA.
10*23446 10*25627	T	5-23-11.1	BLOODWORTH CHESTNUT HOLDINGS LLC	TH EXPLORATION, LLC TH EXPLORATION, LLC	1/8+	1008	316	NA NA	NA NA	NA NA	NA NA	, NA	NA	NA	NA

		PIKEWOOD ENERGY												
10*27714	,	CORPORATION AN OHIO CORPORATION	TH EXPLORATION, LLC	1/8+	1060	572	NA	NA .	NA	NA	NA NA	NA	NA	NA



CERTIFICATE OF CONSENT AND EASEMENT

The undersigned, for valuable consideration, the receipt and sufficiency of which is hereby acknowledged, being the owner of the surface of that certain lot, tract or parcel of land located in Franklin District, Marshall County, State of West Virginia, shown on the attached plat or survey, hereby consents and grants an easement, pursuant to West Virginia Code, Section 22C-9-7(b)(4) and Operating Rule 4.4 of the Rules and Regulations of the West Virginia Oil and Gas Conservation Commission, to TH Exploration, LLC, its successors or assigns, for the drilling and operation of a deep well for the production of oil or gas at the location shown on the attached plat or survey.

Executed this 20th day of Detoter, 2019.

Robert L. Shields

Rebecca A. Shields

Warshall County
Jan Pest, Clerk
Instrument 1463767
01/29/2020 @ 10:38:15 AM
RIGHT OF WAY M/O CONSIDERATION
Book 1072 @ Page 252
Pages Recorded 2
Recording Cost # 11.00

STATE OF WEST VIRGINIA

SS:

COUNTY OF MARSHALL

On this, the Law day of October, 2019, before me, a notary public, the undersigned officer, personally appeared Robert L. Shields and Rebecca A. Shields known to me (or satisfactorily proven) to be the person(s) who's name is subscribed to the within instrument, and acknowledged that he/she/they executed the same for proposed therein contained.

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

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
S DAVID WILHARM
Reedy, Watern Ear's Roberty FLC
3200 Main Strage
Westen, West Virginia 25052
My Commission Explore Mar. 13, 2023

My Commission Expires: _ Signature/Notary Public: _

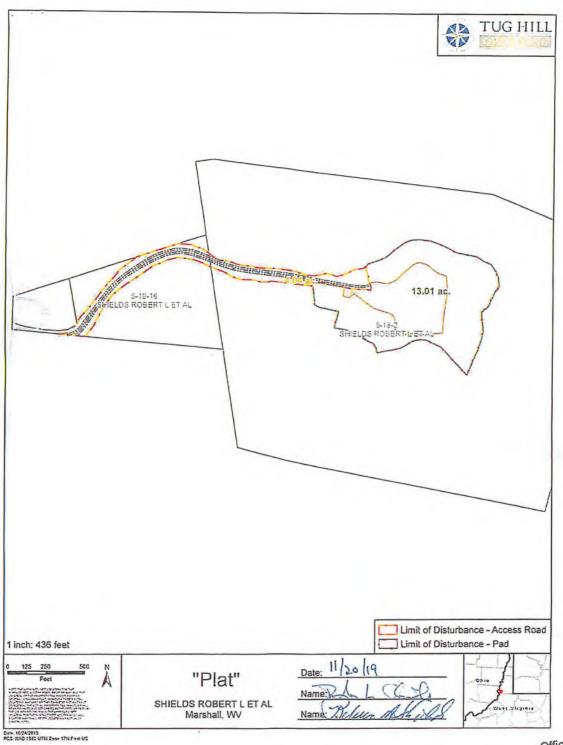
Signature/Notary Public: Share had Name/Notary Public (print): 3 David Williams

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

4838-2618-8605v2

Office of Oil and Gas

JUL 17 2020



RECEIVED Gas

JUL 17 2020



CERTIFICATE OF CONSENT AND EASEMENT

The undersigned, for valuable consideration, the receipt and sufficiency of which is hereby acknowledged, being the owner of the surface of that certain lot, tract or parcel of land located in Franklin District, Marshall County, State of West Virginia, shown on the attached plat or survey, hereby consents and grants an easement, pursuant to West Virginia Code, Section 22C-9-7(b)(4) and Operating Rule 4.4 of the Rules and Regulations of the West Virginia Oil and Gas Conservation Commission, to TH Exploration, LLC, its successors or assigns, for the drilling and operation of a deep well for the production of oil or gas at the location shown on the attached plat or survey.

Executed this 20 day of October, 2019

Donald Shields

Harshall County
Jan Pest, Clerk
Instrument 1463768
01/29/2020 @ 10:38:16 AH
RIGHT OF WAY W/O CONSIDERATION
Book 1072 @ Page 254
Pages Recorded 2
Recording Cost \$ 11.00

STATE OF WEST VIRGINIA

COUNTY OF MARSHALL

SS:

Contract of the second sections

On this, the day of October, 2019, before me, a notary public, the undersigned officer, personally appeared Donald Shields known to me (or satisfactorily proven) to be the person(s) who's name is subscribed to the within instrument, and acknowledged that he/she/they executed the same for proposed therein contained.

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

OFFICIAL SEAL MOTARY PUBLIC STATE OF WEST VIRGINIA S DAVID WILLHARM S DAVID WILLHARM Revay Wann Pais Series Palca Western, West Verginal 2500g My Commission Express Mar. 13.2025

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

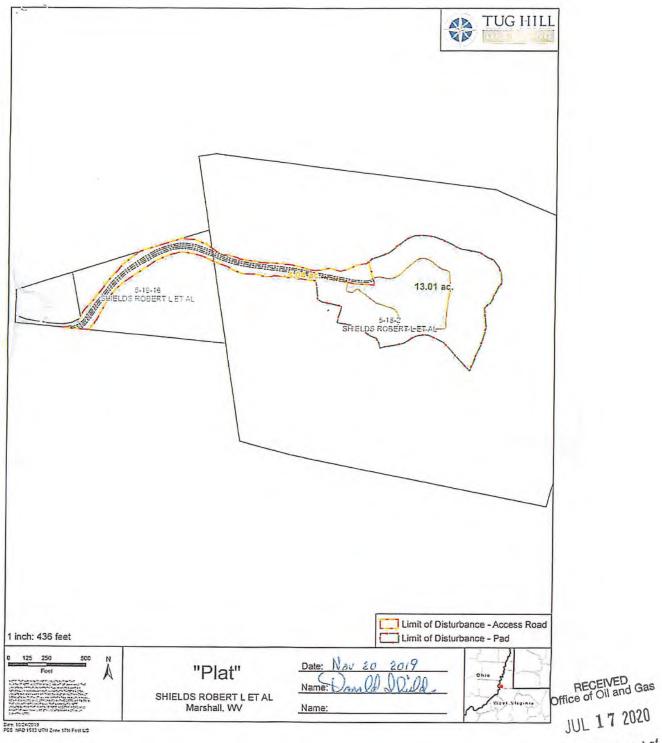
Charleston, WV 25304

My Commission Expires: 3/13/263
Signature/Notary Public: 5/263
Name/Notary Public (print): 5/263

4838-2618-8605v2

RECEIVED Office of Oil and Gas

JUL 17 2020



WHEN RECORDED RETURN TO: TH Exploration II, LLC 1320 South University Drive, Suite 500 Fort Worth, Texas 76107 Attn: David Kalish

Jan Pest MARSHALL County 01:22:38 PM Instrument No 1403489 Date Recorded 04/27/2016 Document Type ASN Pages Recorded 77 Book-Page 36-9 Recording Fee \$77.00 Additional \$13.00

Execution Version

ASSIGNMENT AND BILL OF SALE

STATE OF WV δ §

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF MARSHALL §

Environmental Protection THIS ASSIGNMENT AND BILL OF SALE (this "Assignment"), dated April 7, 2016, but effective as of 7:00 A.M. Houston time on January 1, 2016 (the "Effective Time"), is between Gastar Exploration Inc., a Delaware corporation, whose address is 1331 Lamar Street, Suite 650 Houston, Texas 77010 ("Assignor"), and TH Exploration II, LLC, a Texas limited liability company, whose address is 1320 South University Drive, Suite 500, Fort Worth, Texas 76107 ("Assignee"). Assignor and Assignee are each, individually, referred to herein as a "Party" and, collectively, as the "Parties".

Capitalized terms used but not defined herein shall have the respective meanings set forth in that certain Purchase and Sale Agreement (the "Purchase Agreement"), dated as of February 19, 2016, by and between Assignor and Assignee (as successor-in-interest).

Section 1. Assignment. The conveyance and assignment herein shall be deemed effective as of the Effective Time.

For Ten Dollars (\$10.00) and other good and valuable consideration (the receipt and sufficiency of which are hereby acknowledged), Assignor does hereby forever GRANT, BARGAIN, SELL, CONVEY, ASSIGN, TRANSFER, SET OVER AND DELIVER unto Assignee, all of Assignor's right, title and interest in and to the following interests and properties (such right, title and interest described in subsections (a) through (k) of this Section 1, less and except the Excluded Assets, collectively, the "Conveyed Interests"):

- all oil, gas and/or mineral leases of Assignor, together with any and all other right, title and interest of Assignor in and to the leasehold estates created thereby, including subleases, royalties, overriding royalties, net profits interest, carried interests or similar rights or interests in such leases, and together with all rights, privileges, benefits and powers conferred upon Assignor with respect to the use and occupation of the lands covered thereby that may be necessary, convenient or incidental to the possession and enjoyment of such leases, located in Marshall, Wetzel, Doddridge, Harrison, Lewis, Marion, and Monongalia Counties, West Virginia and Greene, Butler, Fayette, Somerset, and Clearfield Counties, Pennsylvania, including those described on Exhibit A-Part 1 attached hereto (subject to any reservations, limitations or depth restrictions described on Exhibit A-Part 1), (Assignor's interest in such leases and other right, title and interest as so limited, the "Leases");
- all rights and interests in, under or derived from all unitization agreements in effect with respect to any of the Leases and the units created thereby, including those described

1 1

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 1 ASSIGNMENT OF ASSETS

Section 1.1 <u>Assignment</u>. 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 <u>Exhibit A</u> attached hereto (the "Leases") INSOFAR AND ONLY INSOFAR as they cover those lands described on <u>Exhibit A</u> (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 <u>Disclaimers of Warranties and Representations</u>.

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

Office of Oil and Gass

JUL 17 2020

WW Department of Environmental Protection

COLIN KING AMERICAN PETROLEUM PARTNERS OPERATING LLC 380 SOUTHPOINTE BOULEVARD, STE. 120 CANONSBURG PA 15317-8561

STATE OF WEST VIRGINIA S
COUNTY OF MARSHALL

Marshall County
Jan Pest, Clerk
Instrument 1431482
10/18/2017 @ 03:32:59 PM
ASSIGNMENTS
Book 40 @ Page 418
Pages Recorded 5
Recording Cost \$ 11.00

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "<u>Assignment</u>") is made and entered into this 167 day of October, 2017 (the "<u>Effective Date</u>"), by and between AMERICAN PETROLEUM PARTNERS OPERATING, LLC, (hereinafter "<u>Assignor</u>") and TH EXPLORATION, LLC (hereinafter "<u>Assignee</u>") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated August 4, 2017 (the "<u>Acreage Trade Agreement</u>"). Capitalized terms used but not defined herein and defined in the Acreage Trade Agreement shall have the meanings given to such terms in the Acreage Trade Agreement.

WITNESSETH:

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

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

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

Assignment. Assignor does hereby grant, bargain, sell, convey, deliver, assign, set over and transfer, as of the Effective Date, to Assignee, its respective successors and assigns, forever, all of Assignor's right, title and interest in and to the Leases, and the lands covered thereby, together with all rights incident thereto and appurtenances thereon.

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

2. <u>Special Warranty</u>. Assignor represents and warrants that Assignor has not conveyed or otherwise encumbered (other than Permitted Encumbrances) its interest in the

Office of Oil and Gas

JUL 17 2020

WW Department of Environmental Protection

WY-AGIR-0008



July 15, 2020

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

RE: McMasters S-17HU

Subject: Marshall County Route 29/1 Road Crossing Letter

Dear Laura:

Tug Hill Operating, LLC (THO) hereby submits this letter as confirmation that THO has obtained the right to drill, extract and produce the minerals under Marshall County Route 29/1 in the area reflected on the McMasters S-17HU well plat. THO has conducted a full title search in the relevant Court House to confirm its ownership under said County Routes and is not currently aware of any recorded document that would suggest an ownership other than THO.

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

Sincerely,

Amy Miller

Permit Specialist - Appalachia Region

Cell 304-376-0111

Email: amiller@tug-hillop.com

Office of Oil and Gas

JUL 17 2020

WW Department of Environmental Protection

WW-6AC (1/12)

Date of Notice Certification: 07/15/2020

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

API No. 47- 051

W. L.	ATT ALL	Well Pad Name	e; Shields
	been given:	22.61 1 0	i se di i se se se se
	tract of land as follows:	\$ 22-6A, the Operator has provided the required	d parties with the Notice Forms list
tate:	West Virginia	Lasting: 518,	200.94
ounty:	Marshall	- IIIVINAD Ka	1,175.26
istrict:	Franklin		ch Ridge Road (CR 29)
uadrangle:	Powhatan Point 7.5'		ert L. Shields, et al
Vatershed:	Lower Fish Creek		
has provide formation refigiving the equirements firginia Code of this article fursuant to that the Ope	ed the owners of the surface descrite equired by subsections (b) and (c), se surface owner notice of entry to su of subsection (b), section sixteen of § 22-6A-II(b), the applicant shall thave been completed by the applicant west Virginia Code § 22-6A, the Operator has properly served the require	erator has attached proof to this Notice Certifi	on (b), section ten of this article, ement was deemed satisfied as a re of this article six-a; or (iii) the no surface owner; and Pursuant to W the notice requirements of section
PLEASE CHI	ECK ALL THAT APPLY		ONLY
□ 1, NO	FICE OF SEISMIC ACTIVITY or	■ NOTICE NOT REQUIRED BECAUSE SEISMIC ACTIVITY WAS CONDUCTED	Part of the part o
	FICE OF ENTRY FOR PLAT SURV	TEY of D NO PLAT SURVEY WAS COND	Corners 🖂
■ 2. NO	THE OF EATTER FOR TENT SORT		UCTED RECEIVED
		NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OF	RECEIVED RECEIVED NOT REQUIRED
		NOTICE OF ENTRY FOR PLAT SURVEY	☐ RECFIVED/ NOT REQUIRED
□ 3, NO		NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OF WRITTEN WAIVER BY SURFACE OF	RECEIVED/ NOT REQUIRED WHER
□ 3. NO	ПСЕ OF INTENT TO DRILL or	NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OF WRITTEN WAIVER BY SURFACE OF	☐ RECFIVED/ NOT REQUIRED

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

WW-6AC (1/12)

Certification of Notice is hereby given:

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

 Well Operator:
 Tug Hill Operating, LLC
 Address:
 380 Southpointe Boulevard, Plaza II, Suite 200

 By:
 Amy L. Miller
 Canonsburg, PA 15317

 Its:
 Permitting Specialist - Appalachia Region
 Facsimile:
 724-338-2030

 Telephone:
 724-749-8388
 Email:
 amiller@tug-hillop.com

NOTARY SEAL

Commonwealth of Pennsylvania - Notary Seal MAUREEN A STEAD - Notary Public Washington County My Commission Expires Jan 28, 2023 Commission Number 1259926 Subscribed and sworn before me this 15 day of JVLV 2020

A Motary Public

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.

Office of Oil and Gas

JUL 17 2020

WV Department of Environmental Protection

WW-6A (9-13) 4705102338

OPERATOR WELL NO. McMasters S-17HU

Well Pad Name: Shields

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

Not	ice Time Requirement: notice shall be provide	ded no later tha	n the filing date of permit application.
	e of Notice: 7/13/2020 Date Permit Applicatice of:	tion Filed: 7/16	/2020
7			PROVAL FOR THE AN IMPOUNDMENT OR PIT
Deli	very method pursuant to West Virginia Co	de § 22-6A-10	(b)
	PERSONAL REGISTERED SERVICE MAIL		OD OF DELIVERY THAT REQUIRES A PT OR SIGNATURE CONFIRMATION
sedir the s oil ard description more well importance proving subservector proving Code	nent control plan required by section seven of the urface of the tract on which the well is or is properly as leasehold being developed by the propose ribed in the erosion and sediment control plan surface or lessee, in the event the tract of land on we coal seams; (4) The owners of record of the surface tract is to be used for the plandment or pit as described in section nine of the awater well, spring or water supply source located water for consumption by humans or domest osed well work activity is to take place. (c)(1) If section (b) of this section hold interests in the lands of the sheriff required to be maintained pursuation of this article to the contrary, notice to a lie	nis article, and to posed to be located well work, if abmitted pursual hich the well proface tract or tra- acement, constrains article; (5) A ated within one tic animals; and more than threads, the applican- tion and to section each holder is not toor shall also proface.	or signature confirmation, copies of the application, the erosion and the well plat to each of the following persons: (1) The owners of record of ated; (2) The owners of record of the surface tract is to be used for roads or other land disturbance as ant to subsection (c), section seven of this article; (3) The coal owner, coposed to be drilled is located [sic] is known to be underlain by one or acts overlying the oil and gas leasehold being developed by the proposed auction, enlargement, alteration, repair, removal or abandonment of any any surface owner or water purveyor who is known to the applicant to thousand five hundred feet of the center of the well pad which is used to (6) The operator of any natural gas storage field within which the extenants in common or other co-owners of interests described in that may serve the documents required upon the person described in the eight, article one, chapter eleven-a of this code. (2) Notwithstanding any notice to a landowner, unless the lien holder is the landowner. W. Va. rovide the Well Site Safety Plan ("WSSP") to the surface owner and any as provided in section 15 of this rule.
☑ SUNAMAddi Procto NamAddi Procto ☑ SUNAMAddi Procto NamAddi Procto	PRESE OWNER(S) e: Donald Shields (Pad and Access Road) ress: 231 Lonesome Ln. r, WV 26055 e: Robert and Rebecca Shields (Pad and Access Road) ress: 2756 Burch Ridge Road r, WV 26055 PREACE OWNER(S) (Road and/or Other Dist e: Mark A. Yoho ress: 6701 Burch Ridge Road r, WV 26055 e: Mark E. Yoho ress: 3998 Burch Ridge Road r, WV 26055 PREACE OWNER(S) (Impoundments or Pits)	turbance)	□ Well Plat Notice is hereby provided to: □ COAL OWNER OR LESSEE Name: CONSOL Energy Address: 1000 Consol Drive Canonsburg, PA 15317 □ COAL OPERATOR Name: CONSOL Energy Address: 1000 Consol Drive Canonsburg, PA 15317 □ SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s) Name: Nikki L. & Jonathan Stevens Address: 757 Weeping Willow Lane Proctor, WV 26055 □ OPERATOR OF ANY NATURAL GAS STORAGE FIELD Name: n/a Address: n/a
	e: n/a ress:		*Please attach additional forms if necessary

OPERATOR WELL NO. McMasters S-17HU Well Pad Name: Shields

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 and Gas Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wylgov/pi and-gas/pages/default.aspx.

Well Location Restrictions

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

Well Pad Name: Shields

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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 § 22-6Λ-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.

Office of Oil and Gas

JUL 17 2020

WW-6A (8-13) API NO. 47-051 A-70 5 1 2 3 8 OPERATOR WEEL NO. MANASterile 2413 3 8 Well Pad Name: Shields

TAT		1 1		
Notice	IS	hereby	given	Dy:

Well Operator: Tug Hill Operating, LLC

Telephone: 724-749-8388

Email: amiller@tug-hillop.com

any Stilles

Address: 380 Southpointe Boulevard, Plaza II, Suite 200

Canonsburg, PA 15317

Facsimile: 724-338-2030

Oil and Gas Privacy Notice:

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

Commonwealth of Pennsylvania - Notary Seal Chester Arthur West IV, Notary Public Washington County My commission expires February 10, 2024 Commission number 1267179

Member, Pennsylvania Association of Notaries

Subscribed and sworn before me this 13 day of July, 2020

Notary Public

My Commission Expires

2-10-2024

Office of Oil and Gas

JUL 17 2020

WV Department of Environmental Protection

WW-6A

Supplement Pg. 1A

Tug Hill Operating, LLC 380 Southpointe BLVD, Suite 200 Canonsburg, PA 15317

WATER WELL REPORT

Well: MCMASTERS S-20HU

District: Franklin County: Marshall State: WV

There appears to be One (1) possible water source within 2,000 feet of the above referenced well location.

Topo Spot # 1	
(House/Cabin)	
TM 5-18-3.1	
Nikki L. & Jonathan Stevens	
757 Weeping Willow Ln.	
Proctor, WV 26055	
304-771-0630 ©	
740-255-3620 ©	
336-239-2605 ©	

Office of Oil and Gas

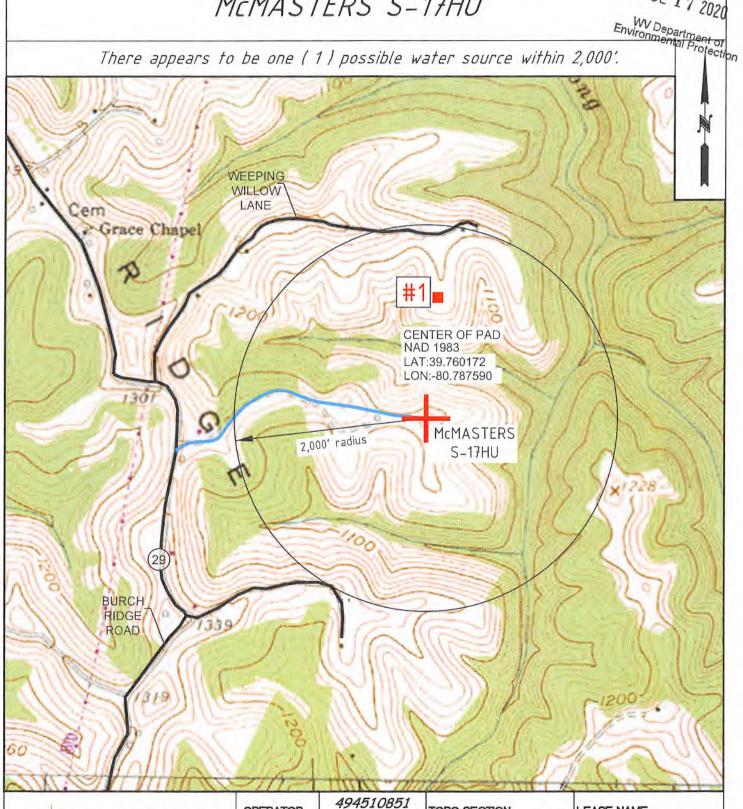
WW-6A

PROPOSED McMASTERS S-17HU

SUPPLEMENTICE OF OIL and Gas

JUL 17 2020

There appears to be one (1) possible water source within 2,000'.





OPERATOR TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317

TOPO SECTION LEASE NAME POWHATAN POINT 7.5' **McMASTERS** SCALE: DATE: 1'' = 1000'DATE: 6-4-2020

Operator Well No. McMasters S-17HU

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE OF ENTRY FOR PLAT SURVEY

	Requirement: N	otice shall be prov	rided at least SEVEN (7) day	s but no more than	FORTY-FIVE (45) days prior to	
entry Date of Notice	ce: 6/23/2020	Date of Plan	nned Entry: 6/30/2020				
Delivery me	thod pursuant to	West Virginia C	ode § 22-6A-10a				
☐ PERSO	NAL DE	REGISTERED	STERED METHOD OF DELIVERY THAT REQUIRES A				
SERVIC		MAII.		RECEIPT OR SIGNATURE CONFIRMATION			
on to the surf but no more t beneath such owner of min and Sediment Secretary, wh	face tract to conduct than forty-five day tract that has filed terals underlying standard to the control Manual	ct any plat surveys is prior to such ent I a declaration pur such tract in the co and the statutes an Il include contact	Prior to filing a permit applic is required pursuant to this ar- try to: (1) The surface owner suant to section thirty-six, ar- unty tax records. The notice id rules related to oil and gas information, including the ac- te secretary.	ticle. Such notice s of such tract; (2) t ticle six, chapter to shall include a sta exploration and pr	hall be provided at le o any owner or lesse venty-two of this coc tement that copies of roduction may be obt	east seven days e of coal seams de; and (3) any f the state Erosion rained from the	
Notice is her	eby provided to:	7					
SURFACE	CE OWNER(s)		■ colai	OWNER OR LES	SSEE		
Name: Mark A.		I_{λ}	Name: con				
Address: 670	1 Burch Ridge Rd.		Address:				
Practor, WV 2605		1	Canonsburg, P	A 15317			
Name: Mark E.	. Yaho			A TALL SALES AND A STATE OF THE SALES			
Address: 3991	8 Burch Ridge Rd.		■ MINE	RAL OWNER(s)			
Practor, WV 26055		Name: Rob	ert & Rebecca Shields				
Name: Donald Shields			756 Burch Ridge Rd.				
Address: 231 Proctor, WV 2605	ddress: 231 Lonesome Ln.		Proctor, WV 26		0.004649		
FIGGO, WV 2003	9.			additional forms if nec	cessary		
Pursuant to V	ereby given: Vest Virginia Codo on the tract of lan West Virginia Marshall Franklin Powhatan Point 7.5'		Approx. Latitu Public Road A Watershed: Generally uses	ide & Longitude; ccess:	operator is planning 39.760262; -80.788083 Burch Ridge Road (County Lower Fish Creek Donald L. Shields, et al.		
may be obtain Charleston, V obtained from	ned from the Secretary 25304 (304-9) in the Secretary by creby given by:	etary, at the WV L 26-0450). Copies visiting <u>www.dep</u>	Manual and the statutes and Department of Environmenta of such documents or additi b.wv.gov/oil-and-gas/pages/d	I rules related to oi I Protection headqu onal information re efault.aspx. 380 Southpointe Boulev Canonsburg, PA 15317	narters, located at 60 elated to horizontal d ard, Plaza II, Suite 200	and production 1 57th Street, SE, rilling May RECEIVED Filling May RECEIVED JUL 1 7 2020 WW Department of Environmental Prefection	
Email:	amiller@tug-hillop.o	moon	Facsimile:	724-338-2030		, electio	
12.12.4 (8.1							

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.

ADDITIONAL PARTIES TO NOTICE McMasters Pad WW-6A3

Additional Surface Owner:

Robert and Rebecca Shields 2756 Burch Ridge Road Proctor, WV 26055

Additional Mineral Owner: Donald Shields 231 Lonesome Ln. Proctor, WV 26055

Office of Oil and Gas

JUL 17 2020

WV Department of Environmental Protection

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

Date of Noti	ee: 07/14/2020 Date Permit A			
Delivery me	hod pursuant to West Virginia Code §	22-6A-16(c)		
CERTI	FIED MAIL.	HAND		
	RN RECEIPT REQUESTED	DELIVERY		
Pursuant to V return receipt the planned of required to be drilling of a damages to the (d) The notice of notice.	V. Va. Code § 22-6A-16(c), no later that requested or hand delivery, give the surfaperation. The notice required by this seprovided by subsection (b), section ten operizontal well; and (3) A proposed surface surface affected by oil and gas operations required by this section shall be given the provided to the SURFACE OWNE.	n the date for filing the face owner whose land subsection shall included this article to a surfaction use and compensate to the extent the dark to the surface owner at R(s)	will be used for e; (1) A copy ce owner whose tion agreement mages are comp	cation, an operator shall, by certified mail or the drilling of a horizontal well notice of of this code section; (2) The information se land will be used in conjunction with the at containing an offer of compensation for pensable under article six-b of this chapter, sted in the records of the sheriff at the time
Name: Donald S Address: 2311 Proctor, WV 2600 Notice is her Pursuant to Woperation on	eby given: Yest Virginia Code § 22-6A-16(c), notice the surface owner's land for the purpose of	Name: Ro Address Proctor, w	e undersigned v	well operator has developed a planned ct of land as follows:
Name: Donald S Address: 2311 Proctor, WV 2609 Notice is her Pursuant to W operation on State:	conesome Ln. by given: est Virginia Code § 22-6A-16(c), notice the surface owner's land for the purpose of West Virginia	Name: Ro Address Proctor, w	2756 Burch Ridge v 26055 e undersigned v well on the tra Easting:	well operator has developed a planned ct of land as follows: 518,200.94
Name: Donald S Address: 2311 Proctor, WV 2603 Notice is her Pursuant to W operation on State: County:	conesome Ln. Seby given: Vest Virginia Code § 22-6A-16(c), notice the surface owner's land for the purpose of West Virginia Marshall	Name: Readdress; Address; Proctor, We is hereby given that the of drilling a horizontal UTM NAD 83	2756 Burch Ridge v 26055 e undersigned v well on the tra Easting: Northing:	well operator has developed a planned ct of land as follows: 518,200.94 4,401,175.26
Name: Donald S Address: 2311 Proctor, WV 2603 Notice is her Pursuant to W operation on State: County: District:	bisides conesome Ln. bis by given: lest Virginia Code § 22-6A-16(c), notice the surface owner's land for the purpose of the surface owner's land for the surface owner's land	Name: Readers of Address; Proctor, We have the series of drilling a horizontal of UTM NAD 83	2756 Burch Ridge v 26055 e undersigned v well on the tra Easting: Northing:	well operator has developed a planned ct of land as follows: 518,200,94 4,401,175.26 Burch Ridge Road (CR 29)
Name: Donald S Address: 2311 Proctor, WV 2603 Notice is her Pursuant to W	conesome Ln. Seby given: Vest Virginia Code § 22-6A-16(c), notice the surface owner's land for the purpose of West Virginia Marshall	Name: Readdress; Address; Proctor, We is hereby given that the of drilling a horizontal UTM NAD 83	2756 Burch Ridge v 26055 e undersigned v well on the tra Easting: Northing:	well operator has developed a planned ct of land as follows: 518,200.94 4,401,175.26
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The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.



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

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

January 28, 2020

Byrd E. White, III Secretary of Transportation/ Commissioner of Highways

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

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

Subject: DOH Permit for the Shields Pad, Marshall County

McMasters N-11HU McMasters N-12HU McMasters N-13HU McMasters N-14HU McMasters N-15HU McMasters S-16HU McMasters S-17HU McMasters S-18HU McMasters S-19HU McMasters S-20HU

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2012-0250 which has been transferred to Tug Hill Operating for access to the State Road for a well site located off Marshall County Route 29 SLS.

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

Very Truly Yours,

Gary K. Clayton, P.E.

Regional Maintenance Engineer

Central Office O&G Coordinator

Environmental Protection

Cc: Amy Miller

Tug Hill Operating

CH, OM, D-6

File



PLANNED ADDITIVES TO BE USED IN FRACTURING OR STIMULATION

Well No. McMasters S-17HU

PRODUCT NAME:	CHEMICAL DESCRIPTION:	PRODUCT USE:	HAZARDOUS COMPONENT:
GBW-20C	Hemicellulase Breaker	Breaker - Water	None
ALPHA 1427		Biocide	Glutaraldehyde – CAS#000111-30-8 Quatemary 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



