

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

Harold D. Ward, Cabinet Secretary www.dep.wv.gov

Monday, March 15, 2021 PERMIT MODIFICATION APPROVAL Horizontal 6A / New Drill

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

Re: Permit Modification Approval for KNOB CREEK S-10HM 47-051-02286-00-00

Lateral Extension

TUG HILL OPERATING, LLC

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

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

James A. Martin Chief

Operator's Well Number: KNOB CREEK S-10HM Farm Name: DAVID LEE FRANKLIN U.S. WELL NUMBER: 47-051-02286-00-00 Horizontal 6A New Drill Date Modification Issued: 3/15/2021

Promoting a healthy environment.



February 17, 2021

WADE STANSBERRY WV DEP OFFICE OF OIL & GAS 601 57TH STREET SE CHARLESTON, WV 25304-2345

VIA USPS

RE: Knob Creek S-10HM API # 47-051-02286 (H6A Permit Modification) Meade District, Marshall County, WV

Dear Wade:

Tug Hill Operating, LLC is submitting a permit modification for its permitted well, Knob Creek S-10HM to add 8,099.73' to the lateral length. Therefore, enclosed please find the following:

- Modified WW-6B with changes highlighted in yellow
- Updated well plat
- Updated WW-6A1 information
- Updated Site Safety Plan (The only information that has changed is the contact information for the Inspector at the contact list at the end of the Plan).

If you have any questions or need any additional information, please do not hesitate to call me on (304) 376-0111. Thank you for attention to this matter, it is greatly appreciated.

Sincerely,

any louis

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WV Department of Environmental Protection

AMY MORRIS PERMIT SPECIALIST-APPALACHIA REGION TUG HILL OPERATING, LLC

Enclosures

API NO. 47-051 - 02286

WW-6B (04/15) Modification

OPERATOR WELL NO. Knob Creek S-10HM Well Pad Name: Knob Creek

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

1) Well Operat	tor: Tug Hill	Operating	, LLC	494510851	Marshall	Meade	Glen Easton 7.5'
- ,				Operator ID	County	District	Quadrangle
2) Operator's '	Well Number	Knob Cre	ek S-10	HM Well P	ad Name: Kno	ob Creek	
3) Farm Name	/Surface Owr	ner: David	Lee Fran	nklin Public R	oad Access: St	t. Joseph R	oad - CR 21
4) Elevation, c	urrent ground	l: 737'	1	Elevation, propose	d post-construc	ction: 737'	
5) Well Type	(a) Gas Other	x	_ Oil _	Un	derground Stor	rage	
	(b)If Gas	Shallow Horizontal	x x	Deep			NU 29/2020
6) Existing Pac	d: Yes or No					5	Pri
7) Proposed Ta	arget Formati	on(s), Depth		cipated Thickness ed approximate pressure of 3800 ps	and the second sec		
8) Proposed To	otal Vertical I	Depth: 6,38	82'				
9) Formation a	nt Total Vertic	al Depth:	Ononda	ga			
10) Proposed 7	Total Measure	ed Depth:	16,440'				
11) Proposed I	Horizontal Le	g Length:	9,489.5	3'			
12) Approxima	ate Fresh Wat	er Strata De	pths:	70'; 380'			
13) Method to	Determine Fi	resh Water I	Depths:	Use shallow offset wells to determine de	epest freshwater, or determine us	ing pre-drill tests, testing whil	a drilling or petrophysical evaluation of resistivity.
14) Approxima	ate Saltwater	Depths: 1,	740'				RECEIVED Office of Ull and Gas
15) Approxima	ate Coal Sean	Depths: S	Sewickle	y Coal - 292' and	Pittsburgh Co	oal - 374'	FEB 2 5 2021
16) Approxima	ate Depth to F	Possible Voi	d (coal n	nine, karst, other):	None		
17) Does Prop directly overly					Ν	10 X	WW Depertment of Environmental Protectio
	-						
(a) If Yes, pro	ovide Mine Ir		_				
		Depth					
		Seam	-				
		Owne	r:				



API NO. 47- 051 - 02286

OPERATOR WELL NO. Knob Creek S-10HM Well Pad Name: Knob Creek

WW-6B (04/15)

18)

CASING AND TUBING PROGRAM

ТҮРЕ	Size (in)	<u>New</u> or Used	Grade	<u>Weight per ft.</u> (lb/ft)	<u>FOOTAGE: For</u> <u>Drilling (ft)</u>	INTERVALS: Left in Well (ft)	<u>CEMENT:</u> <u>Fill-up</u> <u>(Cu. Ft.)/CTS</u>
Conductor	30"	NEW	BW	BW	120'	120'	259ft^3(CTS)
Fresh Water	13 3/8"	NEW	J55	54.5#	480'	480'	683ft^3(CTS)
Coal	13 3/8"	NEW	J55	54.5#	480'	480'	683ft^3(CTS)
Intermediate	9 5/8"	NEW	J55	36#	2,302'	2,302'	745ft^3(CTS)
Production	5 1/2"	NEW	P110	20#	16,440'	16,440'	4,199ft^3(CTS)
Tubing	2 3/8"	NEW	N80	4.7#	6,060'		
Liners							

ТҮРЕ	Size (in)	<u>Wellbore</u> 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	13 3/8"	17.5"	.33	2,740	2,192	SEE #24	1.2
Coal	13 3/8"	17.5"	.33	2,740	2,192	SEE #24	1.2
Intermediate	9 5/8"	12 1/4"	.352	3,520	2,816	SEE #24	1.19
Production	5 1/2"	8 7/8"_8 3/4"	.361	12,640	10,112	SEE #24	1.17/1.19
Tubing	2 3/8"		.19	11,200	8,960		
Liners							

PACKERS

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

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

Drill through the Marcellus tagging less than 100' from the top of the Onondaga to get depths and log data. Plug back to proposed kick off point. Drill the horizontal section to planned and proposed TD. Run casing and cement to surface. Run Bond Log from app. 60 deg to surface. Make clean out run and stimulate.

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

Well to completed with approximately 24,000,000 lb. proppant and 425,000 barrels of water. Max rate = 80bpm; max psi = 9,000#.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 12.93 acres

22) Area to be disturbed for well pad only, less access road (acres): 5.55 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 other joint. Production casing will have one centralizer every other joint in lateral, one centralizer every joint through curve, one centralizer every other joint to surface.

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

 WD Department of

 Sfc - Premium NE-1 + 2% CaCl; Int1 - Premium NE-1 + 1.5% CaCL + Flake; Int2 - Lead: Premium NE-1 + 5% BA-90 €n85%/Reated Protection

 3% KCl + .75 gals/100sk FP-13L + 1% MPA-170 Tail: Premium NE-1 + .1% R-3 + 5% KCl + 1% CD-32 + .4% FL-52 + .2% ASA-301

 + .6% Sodium Metasilicate; Kick Plug - Class H Cement + 1% CD-32 + .7% Sodium Metasilicate + .1% R-3 + .75 gal/100sk FP-13L;

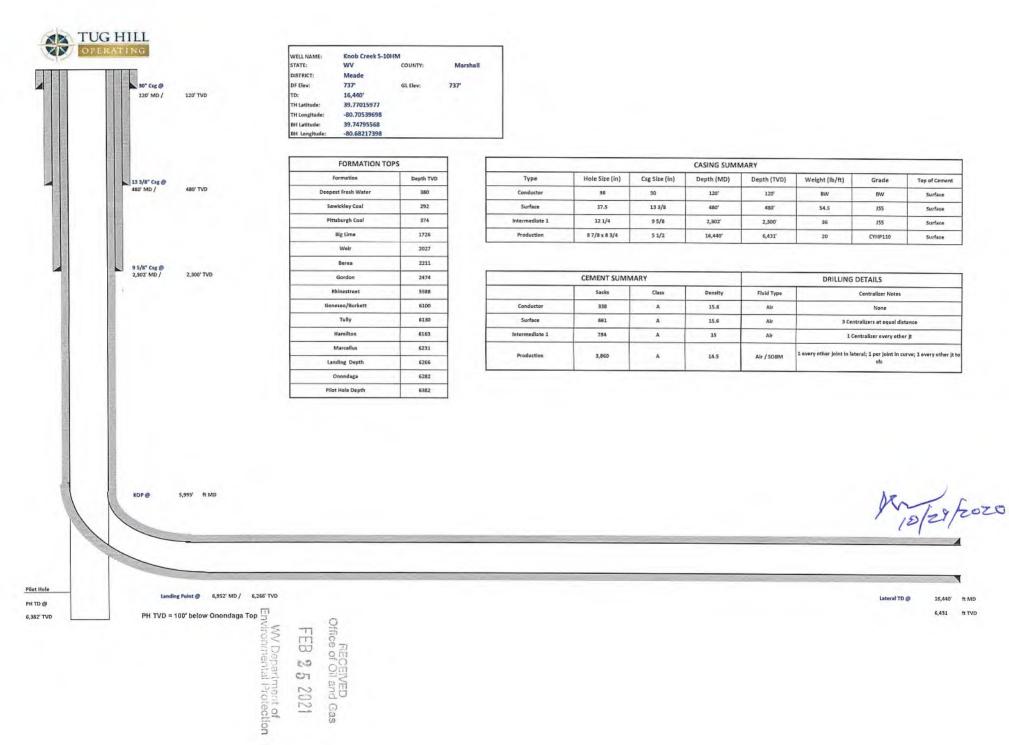
 Prod - Lead: 50:50 (Poz:Class H) + .3% R-3 + .3% MPA-250 + .75 gal/100sk FP-13L Tail: 25:75 (Poz:Class H) + .3% R-3 + .3%

 MPA-250 + .375 gal/100sk FP-13L

25) Proposed borehole conditioning procedures:

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







Tug Hill Operating, LLC Casing and Cement Program

Knob Creek S-10HM

		Ca	asing		
	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	13 3/8"	J55	17 1/2"	480'	CTS
Intermediate	9 5/8"	J55	12 1/4"	2,302'	CTS
Production	5 1/2"	CYHP110	8 7/8 x 8 3/4	16,440'	CTS

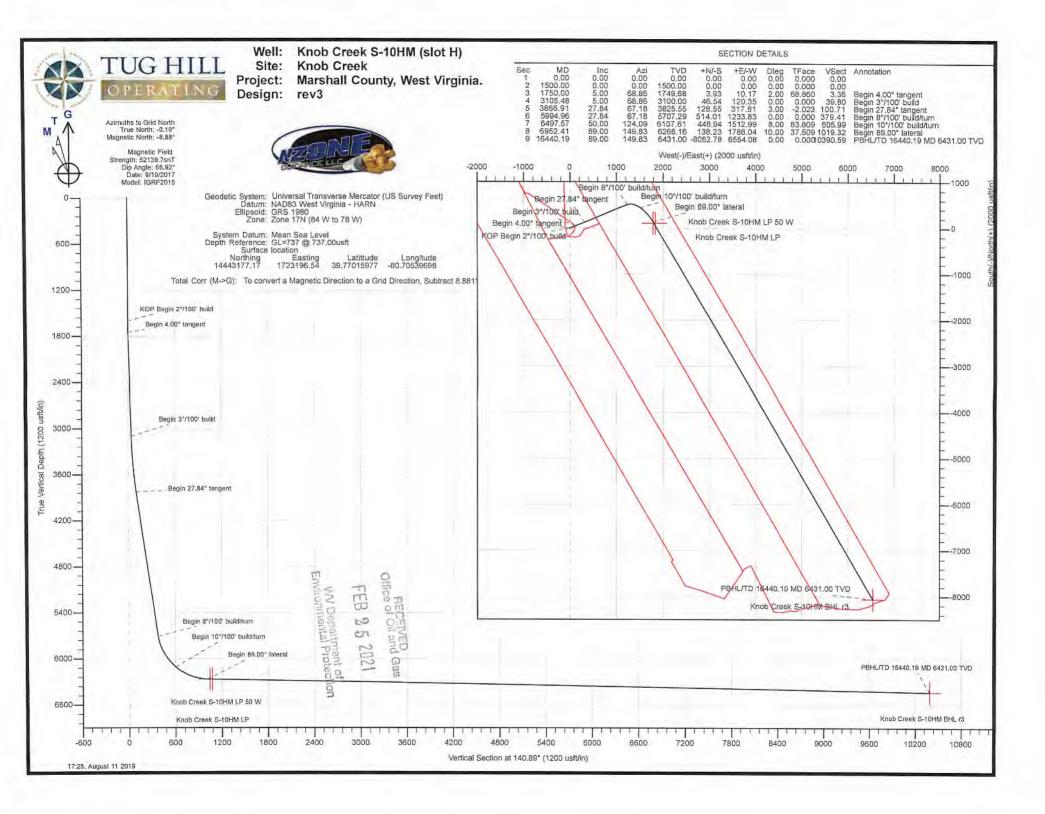
Cement

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

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WV Department of Environmental Protection



HILL			Pla	anning F	Report -	Geographic				
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Marsha	all County, V	Vest Virgini	a.							
NAD83 V	West Virginia	a - HARN	US Survey Fee	et) S	system Da	atum:	1	Mean Sea Level		
Knob C	Creek	-								
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Knob C	reek S-10H	M (slot H)								
+N/-S +E/-W		0.00 usft 0.00 usft 0.00 usft	Northing: Easting: Wellhead E	levation:			usft Le	ongitude:		39.77015977 -80.70539698 737.00 usft
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			Phase:	PLAN	1	Tie	On Depth:		0.00	
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		te 0/11/2	019						Onico	
		ey (Wellbo	ore)	To	ol Name		Remarks		FE	B 2 5 2021
16,4	140.19 rev3	(Original H	lole)			lard			Enviro	Department of nimerital Protecti
nation (°)	Azimuth (°)	Dept	h +N/-S			Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
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0.00					0.00	0.00			0.000	
5.00					10.17	2.00			68.860	
					120.35	0.00			0.000	
		6								Mar
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Universal Transverse Mercator (US Survey Feet) NAD63 West VirginiaHARN Zone 17N (64 W to 78 W) System Datum: I Knob Creek Lat/Long Northing: Easting: 14,443,053.74 usft 1.723,120.29 usft 0.00 usft Latfude: Sorie Conduction Sorie Conduction Sorie Conduction Sorie Conduction Latfude: Grid Conduction Grid Conduction Knob Creek Knob Creek S-10HM (slot H) Northing: 0.00 usft 14,443,053.74 usft 1.33/16° Latfude: Conduction Grid Conduction Latfude: Conduction Grid Conduction Model Name Sample Date Declination (1) Dip (1) Dip (1) Original Hole Sample Date Declination (1) Dip (1) Depth From (YDU) HN/S #E/AW Remarks Depth To (usft) Vertical MMD MWD MMD MWD MMD MWD Azimuth (1) Depth (1) Peth (usft) Hole MMD Reference: 13.341 Build Rate Rate Dot 0.00 0.00 0.00 0.00</td><td>Planning Report - Geographic DB_ulu216dt_v14 h Tug Hill Operating LLO Marshall County, West Virginia, Knob Creek S-10HM (slot H) Original Hole Local Co-ordinate Reference: TVD Reference: Morth Reference: Mor</td><td>Planning Report - Geographic DB_uk/22164_u14 h Tug Hill Operating LLO Marshail County, West Virginia. 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Knob Creek S-10HM (elct H) Original Hole reva Local Go-ordinate Reference: TVD Reference: North Reference

CO0389 900 002 002 14 85



Knob Creek

Original Hole

rev3

Planning Report - Geographic

Local Co-ordinate Reference: DB_Jul2216dt_v14 lt Tug Hill Operating LLC TVD Reference: Marshall County, West Virginia. MD Reference: Grid North Reference: Knob Creek S-10HM (slot H) Survey Calculation Method:

Well Knob Creek S-10HM (slot H) GL=737 @ 737.00usft GL=737 @ 737.00usft Minimum Curvature

Office of Oil and Gas

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lection

Database: Company:

Project:

Wellbore:

Design:

Site:

Well:

esign:	rev3								1000
lanned Survey									WW Depatimic Environment P
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,443,177.17	1,723,196.54	39.77015977	-80,70539698
100.00	0.00	0.00	100.00	0.00	0.00	14,443,177.17	1,723,196.54	39.77015977	-80.70539698
200.00	0.00	0.00	200.00	0.00	0.00	14,443,177.17	1,723,196.54	39.77015977	-80,70539698
300.00	0.00	0.00	300.00	0.00	0.00	14,443,177.17	1,723,196.54	39.77015977	-80,70539698
400,00	0.00	0.00	400.00	0.00	0.00	14,443,177.17	1,723,196.54	39.77015977	-80,70539698
500.00	0.00	0.00	500.00	0.00	0.00	14,443,177.17	1,723,196.54	39,77015977	-80.70539698
600.00	0.00	0.00	600.00	0.00	0.00	14,443,177.17	1,723,196.54	39.77015977	-80.70539698
700.00	0.00	0.00	700.00	0.00	0.00	14,443,177.17	1,723,196.54	39.77015977	-80.70539698
800.00	0.00	0.00	800.00	0.00	0.00	14,443,177.17	1,723,196.54	39.77015977	-80.70539698
900.00	0.00	0.00	900.00	0.00	0.00	14,443,177.17	1,723,196.54	39.77015977	-80,70539698
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1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,443,177.17	1,723,196.54	39.77015977	-80.70539698
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,443,177.17	1,723,196.54	39.77015977	-80.70539698
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,443,177.17	1,723,196.54	39.77015977	-80.70539698
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,443,177.17	1,723,196.54	39,77015977	-80.70539698
1,600.00	2.00	68.86	1,599.98	0.63	1.63	14,443,177.80	1,723,198.16	39.77016149	-80,70539118
KOP Beg	in 2°/100' bui	ld							
1,700.00	4.00	68.86	1,699.84	2.52	6.51	14,443,179.69	1,723,203.04	39.77016662	-80.70537379
1,750.00	5.00	68.86	1,749.68	3.93	10.17	14,443,181.10	1,723,206.70	39.77017048	-80.70536075
Begin 4.0	0° tangent								
1,800.00	5.00	68.86	1,799.49	5.50	14.23	14,443,182.67	1,723,210.77	39.77017476	-80.70534627
1,900.00	5.00	68.86	1,899.11	8.65	22.36	14,443,185.82	1,723,218.90	39.77018332	-80.70531730
2,000.00	5.00	68.86	1,998.73	11.79	30.49	14,443,188.96	1,723,227.03	39.77019187	-80.70528833
2,100.00	5.00	68.86	2,098.35	14.93	38.62	14,443,192.10	1,723,235.15	39.77020043	-80.70525937
2,200.00	5.00	68.86	2,197.97	18.08	46.75	14,443,195.24	1,723,243.28	39.77020899	-80.70523040
2,300.00	5.00	68.86	2,297.59	21.22	54.88	14,443,198,39	1,723,251.41	39.77021755	-80,70520143
2,400.00	5.00	68.86	2,397.21	24.36	63.01	14,443,201.53	1,723,259.54	39.77022611	-80.70517247
2,500.00	5.00	68.86	2,496.83	27.51	71.14	14,443,204.67	1,723,267.67	39.77023467	-80.70514350
2,600.00	5.00 5.00	68.86	2,596,45	30.65	79.26	14,443,207.82	1,723,275.80	39.77024323	-80.70511453
2,700.00 2,800.00	5.00	68.86 68.86	2,696.07 2,795.69	33.79 36.94	87.39 95.52	14,443,210.96	1,723,283.93	39.77025178	-80,70508557
2,900.00	5.00	68.86	2,795.89	40.08	103.65	14,443,214.10	1,723,292.06	39.77026034 39.77026890	-80.70505660 -80.70502763
3,000.00	5.00	68,86	2,994.93	43.22	111.78	14,443,217,25 14,443,220.39	1,723,300,19 1,723,308.32	39.77020890	-80.70499867
3,100.00	5.00	68.86	3,094,55	46.37	119.91	14,443,223.53	1,723,316.45	39.77028602	-80.70496970
3,105.48	5.00	68.86	3,100.00	46.54	120.35	14,443,223.33	1,723,316.89	39.77028649	-80.70496811
Begin 3°/					120.00	(1110)220111	1,120,010.00	00,77020010	30,70400011
3,200.00	7.83	68.13	3,193.92	50.42	130.18	14,443,227.59	1,723,326.71	39.77029707	-80.70493311
3,300.00	10.83	67.77	3,292.59	56.52	145.21	14,443,233.69	1,723,341.74	39.77031368	-80.70487956
3,400.00	13.83	67.56	3,390.27	64.64	164.96	14,443,241.81	1,723,361.49	39.77033581	-80.70480916
3,500.00	16.83	67.43	3,486.70	74.77	189.39	14,443,251.93	1,723,385.92	39.77036339	-80.70472211
3,600.00	19.83	67.33	3,581.61	86.86	218.42	14,443,264.03	1,723,414.95	39.77039635	-80.70461865
3,700.00	22.83	67.26	3,674.75	100.90	251.97	14,443,278.07	1,723,448.51	39.77043460	-80.70449907
3,800.00	25.83	67.21	3,765.85	116.85	289,96	14,443,294.01	1,723,486.50	39.77047804	-80.70436368
3,866.91	27.84	67.18	3,825.55	128.55	317.81	14,443,305.72	1,723,514,34	39.77050994	-80.70426445
Begin 27.	84° tangent								
3,900.00	27.84	67.18	3,854.81	134.55	332.05	14,443,311.72	1,723,528.59	39.77052627	-80.70421369
4,000.00	27.84	67.18	3,943.24	152.66	375.10	14,443,329.83	1,723,571.63	39.77057562	-80.70406028
4,100.00	27.84	67.18	4,031.67	170.77	418,14	14,443,347.94	1,723,614.68	39.77062498	-80.70390688
4,200.00	27.84	67.18	4,120.09	188.89	461.19	14,443,366.06	1,723,657.72	39.77067433	-80.70375347
4,300.00	27.84	67.18	4,208.52	207.00	504.23	14,443,384.17	1,723,700.77	39.77072368	-80.70360007
4,400.00	27.84	67.18	4,296.94	225.11	547.28	14,443,402.28	1,723,743.81	39.77077304	-80.70344666
4,500.00	27.84	67.18	4,385.37	243.23	590.32	14,443,420.40	1,723,786.86	39.77082239	-80.70329326
4,600.00	27.84	67,18	4,473,79	261.34	633.37	14,443,438.51	1,723,829.90	39.77087174	-80.70313985





rev3

Database: Company:

Project:

Wellbore: Design:

Site:

Well:

Planning Report - Geographic

DB_Jul2216dt_v14 lt Local Tug Hill Operating LLC TVD I Marshall County, West Virginia. MD R Knob Creek North Knob Creek S-10HM (slot H) Surve Original Hole

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Well Knob Creek S-10HM (slot H) GL=737 @ 737.00usft GL=737 @ 737.00usft Grid Minimum Curvature

Office of Oll and Gas

FEB 2 5 202

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Measured			Vertical			Мар	Мар	En	WAY Department -1
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Northing	Easting		
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	Latitude	Longitude
4,700.00	27,84	67.18	4,562.22	279,45	676.41	14,443,456.62	1,723,872.95	39.77092109	-80.70298
4,800.00	27.84	67.18	4,650.64	297.57	719.46	14,443,474.74	1,723,915,99	39.77097044	-80.70283
4,900.00	27,84	67.18	4,739.07	315.68	762,50	14,443,492.85	1,723,959.04	39.77101980	-80.70267
5,000.00	27.84	67.18	4,827,49	333.79	805.55	14,443,510.96	1,724,002.08	39.77106915	-80.7025
5,100.00	27,84	67.18	4,915.92	351.91	848.59	14,443,529.08	1,724,045.13	39,77111850	-80.7023
5,200.00	27.84	67.18	5,004.34	370.02	891.64	14,443,547.19	1,724,088.17	39.77116785	-80,7022
5,300.00	27.84	67.18	5,092.77	388.13	934.68	14,443,565,30	1,724,131.22	39,77121720	-80.7020
5,400.00	27.84	67.18	5,181,19	406.25	977.73	14,443,583.42	1,724,174.26	39.77126655	-80,7019
5,500.00	27.84	67.18	5,269.62	424.36	1,020.77	14,443,601.53	1,724,217.31	39.77131590	-80.7017
5,600.00	27.84	67.18	5,358.04	442.47	1,063.82	14,443,619.64	1,724,260.36	39.77136525	-80,7016
5,700.00	27.84	67.18	5,446.47	460.59	1,106.87	14,443,637.76	1,724,303.40	39.77141460	-80.7014
5,800.00	27.84	67.18	5,534.89	478.70	1,149.91	14,443,655.87	1,724,346.45	39.77146395	-80.70129
	27.84	67.18		496.81	1,192.96		1,724,389.49	39.77151330	-80.70114
5,900.00			5,623.32	514.01		14,443,673.98		39.77156016	-80,70099
5,994.96	27.84	67.18	5,707.29	514.01	1,233.83	14,443,691.18	1,724,430.37	38.77130010	-60,7003.
	/100' build/tur								
6,000.00	27.89	68.04	5,711.74	514.91	1,236.01	14,443,692.08	1,724,432,54	39.77156261	-80.70099
6,100.00	29.84	84.15	5,799.45	526.21	1,282.52	14,443,703.38	1,724,479.06	39.77159321	-80.7008:
6,200.00	33.48	97.77	5,884.66	525.02	1,334.69	14,443,702.18	1,724,531.23	39.77158945	-80,70064
6,300.00	38.33	108.65	5,965.72	511.35	1,391.50	14,443,688.52	1,724,588.03	39.77155139	-80.70043
6,400.00	43.98	117.28	6,041.04	485.47	1,451.83	14,443,662.64	1,724,648.37	39.77147978	-80.70022
6,497.57	50.00	124.09	6,107.61	448.94	1,512.99	14,443,626.11	1,724,709.52	39.77137889	-80.70000
Begin 10	°/100' build/tu	Im							
6,500.00	50.19	124.28	6,109.17	447.89	1,514.53	14,443,625.06	1,724,711.06	39.77137600	-80.70000
6,600.00	58.37	131.40	6,167.55	397.98	1,578.36	14,443,575.15	1,724,774.90	39.77123834	-80.6997
6,700.00	66.87	137.33	6,213.53	335,86	1,641.62	14,443,513.03	1,724,838.16	39.77106717	-80.69955
6,800.00	75.57	142.55	6,245.72	263.43	1,702.38	14,443,440.60	1,724,898.92	39.77086768	-80.69933
6,900.00	84.37	147.37	6,263.13	182.88	1,758.80	14,443,360.04	1,724,955.33	39.77064594	-80.69913
6,952.41	89.00	149.83	6,266.16	138.23	1,786.04	14,443,315.40	1,724,982.58	39.77052308	-80.69903
and the second second		143.00	0,200.10	130.23	1,700.04	14,443,315.40	1,124,302.00	38.77032300	-00.0000
	.00° lateral								
7,000.00	89,00	149.83	6,266.98	97.09	1,809.96	14,443,274.26	1,725,006.50	39.77040989	-80.69895
7,100.00	89.00	149.83	6,268.72	10.66	1,860.22	14,443,187.83	1,725,056.75	39.77017204	-80.69877
7,200.00	89.00	149.83	6,270.46	-75.78	1,910.47	14,443,101.39	1,725,107.00	39.76993420	-80.69859
7,300.00	89.00	149.83	6,272.20	-162.22	1,960.72	14,443,014,95	1,725,157,26	39.76969635	-80.69842
7,400.00	89.00	149.83	6,273.93	-248.66	2,010.98	14,442,928.51	1,725,207.51	39.76945851	-80.69824
7,500.00	89.00	149.83	6,275.67	-335.09	2,061.23	14,442,842.07	1,725,257.77	39.76922066	-80,69806
7,600.00	89,00	149.83	6,277.41	-421.53	2,111.49	14,442,755.64	1,725,308.02	39.76898282	-80.69788
7,700.00	89,00	149.83	6,279.15	-507.97	2,161.74	14,442,669.20	1,725,358.28	39.76874497	-80.69770
7,800.00	89.00	149.83	6,280.88	-594.41	2,212.00	14,442,582.76	1,725,408.53	39.76850712	-80.69753
7,900.00	89,00	149.83	6,282.62	-680.84	2,262.25	14,442,496.32	1,725,458.79	39.76826928	-80.69735
8,000.00	89.00	149.83	6,284.36	-767.28	2,312,51	14,442,409.89	1,725,509.04	39.76803143	-80,69717
8,100.00	89.00	149.83	6,286.10	-853.72	2,362.76	14,442,323.45	1,725,559.30	39.76779358	-80.69699
8,200.00	89.00	149.83	6,287.83	-940.16	2,413.01	14,442,237.01	1,725,609.55	39.76755573	-80.69682
8,300.00	89.00	149.83	6,289.57	-1,026.60	2,463.27	14,442,150.57	1,725,659.80	39.76731789	-80.69664
8,400.00	89.00	149.83	6,291.31	-1,113.03	2,513.52	14,442,064.14	1,725,710.06	39.76708004	-80.69646
8,500.00	89.00	149.83	6,293.04	-1,199,47	2,563.78	14,441,977.70	1,725,760.31	39.76684219	-80.69628
8,600.00	89.00	149.83	6,294.78	-1,285.91	2,614.03	14,441,891.26	1,725,810.57	39.76660434	-80.69610
8,700.00	89.00	149.83	6,296.52	-1,372.35	2,664.29	14,441,804.82	1,725,860.82	39.76636649	-80.69593
8,800.00	89.00	149.83	6,298.26	-1,458.78	2,714.54	14,441,718.38		39,76612864	-80.69575
8,900.00	89.00	149.83	6,299.99	-1,545.22	2,764.80		1,725,911.08		-80.69557
9,000.00	89.00	149.83			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	14,441,631.95	1,725,961.33	39.76589079	
9,100.00			6,301.73	-1,631.66	2,815.05	14,441,545.51	1,726,011.59	39.76565294	-80.69539
	89.00	149.83	6,303.47	-1,718.10	2,865.30	14,441,459.07	1,726,061.84	39.76541509	-80.69522
9,200.00	89.00	149.83	6,305.21	-1,804.53	2,915.56	14,441,372.63	1,726,112.09	39.76517724	-80.69504
9,300.00	89.00	149.83	6,306,94	-1,890.97	2,965.81	14,441,286.20	1,726,162.35	39.76493939	-80.69486
9,400.00	89.00	149.83	6,308.68	-1,977.41	3,016.07	14,441,199.76	1,726,212.60	39.76470154	-80.69468



DB_Jul2216dt_v14 lt

Knob Creek

Original Hole

rev3

Tug Hill Operating LLC

Marshall County, West Virginia.

Knob Creek S-10HM (slot H)

Database:

Company:

Project:

Design:

Site

Well: Wellbore:

Planning Report - Geographic

Local Co-ordinate Reference: TVD Reference: **MD** Reference: North Reference: Survey Calculation Method:

Well Knob Creek S-10HM (slot H) GL=737 @ 737.00usft GL=737 @ 737.00usft Grid Minimum Curvature

Defice of Oil and Gas

FEB 2 5 2021

WV Dope Iment of Envirusmental Proteolion Planned Survey Vertical Map Map Measured Depth +N/-S +E/-W Northing Easting Depth Inclination Azimuth (usft) (usft) (usft) Longitude (usft) Latitude (") (°) (usft) (usft) 89.00 6,310.42 -2,063.85 3,066.32 14,441,113.32 1,726,262.86 39,76446369 -80.69450952 9,500.00 149.83 39.76422584 -80.69433174 89.00 6.312.16 -2.150.293,116,58 14,441,026.88 1,726,313,11 9,600,00 149.83 39.76398798 -80.69415396 9,700.00 89.00 149.83 6.313.89 -2.236.72 3,166.83 14.440,940,45 1,726,363,37 39 76375013 -80.69397618 9,800.00 89.00 149.83 6.315.63 -2.323.16 3,217.09 14,440,854,01 1.726.413.62 39.76351228 -80.69379840 9,900.00 89.00 149.83 6,317.37 -2,409.60 3,267,34 14,440,767.57 1,726,463,88 10,000.00 89.00 149,83 6,319,11 -2,496.04 3,317,59 14,440,681.13 1,726,514.13 39,76327443 -80.69362062 89.00 6,320.84 -2,582.47 39.76303657 -80.69344285 149.83 3.367.85 14,440,594,70 1,726,564,38 10,100,00 10,200,00 89,00 149.83 6,322.58 -2,668.91 3,418.10 14,440,508.26 1,726,614.64 39,76279872 -80.69326507 -80.69308730 14,440,421.82 39.76256087 89.00 6.324.32 -2.755.35 3.468.36 10,300.00 149.83 1,726,664.89 10,400.00 89.00 149.83 6.326.06 -2.841.793.518.61 14,440,335.38 1,726,715.15 39.76232301 -80.69290952 -80,69273175 10,500.00 89.00 149.83 6.327.79 -2.928.223,568.87 14,440,248,94 1,726,765.40 39 76208516 10,600.00 89.00 149.83 6,329.53 -3,014.66 3,619.12 14,440,162.51 1,726,815.66 39.76184730 -80.69255398 10,700.00 89.00 149.83 6.331.27 -3.101.10 3,669.38 14,440,076.07 1,726,865.91 39.76160945 -80.69237621 10.800.00 89.00 149.83 6,333.01 -3,187.54 3,719.63 14,439,989,63 1,726,916.17 39.76137160 -80.69219845 10,900.00 89.00 149.83 6,334.74 -3,273,97 3,769.89 14,439,903.19 1,726,966.42 39.76113374 -80,69202068 11,000.00 89,00 6,336.48 -3,360,41 39,76089588 -80.69184291 149.83 3,820,14 14,439,816.76 1,727,016.67 89.00 6,338,22 3,870.39 39.76065803 -80.69166515 11,100.00 149.83 -3,446.85 14,439,730,32 1,727,066.93 89.00 149.83 6.339.96 -3 533 29 39,76042017 -80,69148739 11,200.00 3 920 65 14,439,643,88 1,727,117.18 -80.69130963 11,300.00 89.00 149.83 6,341.69 -3,619.73 3,970.90 14,439,557.44 1,727,167.44 39.76018232 89.00 11,400.00 149.83 6,343,43 -3,706,16 4,021.16 14,439,471.01 1,727,217.69 39,75994446 -80,69113186 11,500.00 89.00 149.83 6,345.17 -3,792.60 4,071.41 14,439,384.57 39.75970660 -80.69095411 1.727.267.95 11,600.00 89.00 149.83 6,346.91 -3.879.04 4,121.67 14,439,298.13 1,727,318.20 39,75946875 -80.69077635 89.00 6,348.64 -80.69059859 11,700.00 149.83 -3.965.48 4.171.92 1,727,368.46 39,75923089 14,439,211,69 11,800.00 89.00 149.83 6,350.38 -4,051.91 4,222.18 39.75899303 -80.69042083 14,439,125.25 1,727,418.71 89.00 6 352 12 -80 69024308 11,900.00 149.83 -4.138.35 4 272 43 39,75875517 14,439,038,82 1,727,468.97 89.00 6,353.85 -80.69006533 12,000.00 149.83 -4,224.79 4.322.68 14,438,952.38 1,727,519.22 39,75851731 89.00 6 355 59 -80 68988757 12,100.00 149.83 -4,311.23 4.372.94 14,438,865.94 1,727,569.47 39,75827946 12,200.00 89.00 149.83 6.357.33 -4,397.66 4,423.19 14,438,779.50 1,727,619,73 39.75804160 -80.68970982 12.300.00 89.00 149.83 6.359.07 -4,484,10 4,473.45 14,438,693.07 1,727,669.98 39.75780374 -80.68953207 12,400.00 89.00 149.83 6,360.80 -4,570.54 4,523.70 -80.68935433 14,438,606.63 39.75756588 1,727,720.24 12,500.00 89.00 149.83 6.362.54 -4,656.98 4,573.96 39.75732802 -80.68917658 14,438,520,19 1,727,770.49 12,600.00 89.00 149.83 6,364.28 -4 743 42 -80 68899883 4 624 21 39 75709016 14 438 433 75 1.727.820.75 12,700.00 89.00 149.83 6,366.02 -4,829.85 4,674.47 14,438,347.32 1.727.871.00 39,75685230 -80,68882109 12,800.00 89.00 6.367.75 149.83 -4.916.29 4.724.72 14,438,260.88 1,727,921.26 39,75661444 -80.68864334 12,900.00 89.00 149.83 6.369.49 -5,002.73 4,774.97 14,438,174.44 1,727,971.51 39.75637658 -80.68846560 13,000.00 89.00 149.83 6.371.23 -5.089.174.825.23 14,438,088.00 1,728,021.76 39,75613872 -80.68828786 13,100.00 89.00 149.83 6,372.97 -5,175.60 4,875.48 14,438,001.57 1.728.072.02 39.75590085 -80.68811012 13,200.00 89.00 149.83 6,374.70 -5,262.04 4,925.74 39.75566299 -80.68793238 14,437,915,13 1,728,122.27 13,300.00 89.00 149.83 6,376.44 -5.348.48 4,975,99 14 437 828 69 1.728.172.53 39,75542513 -80.68775465 13,400.00 89.00 149.83 6,378.18 -5,434.92 5,026.25 14,437,742.25 1,728,222.78 39.75518727 -80.68757691 13,500.00 89.00 149.83 6,379.92 -5.521.35 5.076.50 14,437,655,81 1.728.273.04 39,75494941 -80.68739917 13,600.00 89.00 149.83 6,381.65 -5,607.79 5,126.76 14,437,569.38 1,728,323.29 39.75471154 -80.68722144 89.00 13,700.00 149.83 6,383,39 -5.694.235,177.01 14,437,482.94 1,728,373,55 39.75447368 -80.68704371 13,800.00 89.00 149.83 6,385.13 -5,780.67 5.227.26 14,437,396.50 1,728,423.80 39.75423582 -80.68686598 13,900,00 89.00 149.83 6.386.87 -5,867,10 5.277.52 14,437,310.06 1,728,474.05 39,75399795 -80.68668825 14,000.00 89.00 6,388.60 149.83 -5.953.54 5,327.77 14,437,223.63 1.728.524.31 39,75376009 -80.68651052 89.00 14,100,00 149.83 6,390,34 -6.039.985.378.03 14,437,137.19 1,728,574.56 39.75352223 -80.68633279 14,200.00 89.00 149.83 6.392.08 -6.126.42 5,428,28 14,437,050,75 39,75328436 -80.68615506 1.728.624.82 14,300.00 89.00 149.83 6,393,82 -6,212,86 5.478.54 14,436,964.31 1,728,675.07 39.75304650 -80.68597734 14,400.00 89.00 149.83 6,395.55 -6,299.29 5,528.79 14,436,877,88 1.728.725.33 39,75280863 -80.68579962 14.500.00 89.00 149.83 6,397.29 -6,385.73 5,579.05 14,436,791.44 1,728,775.58 39.75257077 -80.68562189 14,600.00 89.00 149.83 6,399.03 -6,472.17 5,629,30 14,436,705.00 1,728,825,84 39 75233290 -80 68544417

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-6,558.61

-6.645.04

-6,731.48

5,679.56

5,729.81

5,780.06

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14,436,532,12

14,436,445.69

1.728.876.09

1,728,926,34

1,728,976.60



-80.68526645

-80,68508873

-80.68491101

39.75209503

39.75185717

39,75161930



Planning Report - Geographic

Well Knob Creek S-10HM (slot H) Local Co-ordinate Reference: Database: DB_Jul2216dt_v14 lt Company: Tug Hill Operating LLC TVD Reference: GL=737 @ 737.00usft RECEIVED Office of Oil and Gas Marshall County, West Virginia. GL=737 @ 737.00usft Project: MD Reference: Knob Creek Grid Site: North Reference: Minimum Curvature Knob Creek S-10HM (slot H) Survey Calculation Method: Well: FEB 2 5 2021 Original Hole Wellbore: rev3 Design: WV Department of viconmental Protection

Planned Survey

									EUMIONNIA
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,000.00	89.00	149.83	6,405.98	-6,817.92	5,830.32	14,436,359.25	1,729,026.85	39.75138144	-80.68473330
15,100.00	89.00	149.83	6,407.72	-6,904.36	5,880.57	14,436,272.81	1,729,077.11	39.75114357	-80.68455558
15,200.00	89.00	149.83	6,409.45	-6,990,79	5,930.83	14,436,186.37	1,729,127.36	39.75090570	-80.68437787
15,300.00	89.00	149.83	6,411.19	-7,077.23	5,981.08	14,436,099.94	1,729,177.62	39,75066783	-80.68420015
15,400.00	89.00	149.83	6,412.93	-7,163.67	6,031.34	14,436,013.50	1,729,227.87	39,75042997	-80.68402244
15,500.00	89.00	149.83	6,414.67	-7,250.11	6,081.59	14,435,927.06	1,729,278.13	39,75019210	-80.68384473
15,600.00	89.00	149.83	6,416,40	-7,336.54	6,131.85	14,435,840.62	1,729,328.38	39.74995423	-80.68366702
15,700.00	89.00	149.83	6,418.14	-7,422.98	6,182.10	14,435,754.19	1,729,378.64	39.74971636	-80.68348931
15,800.00	89.00	149.83	6,419.88	-7,509.42	6,232.35	14,435,667.75	1,729,428.89	39.74947849	-80.68331161
15,900.00	89.00	149.83	6,421.61	-7,595.86	6,282.61	14,435,581.31	1,729,479.14	39.74924062	-80.68313390
16,000.00	89.00	149.83	6,423.35	-7,682.30	6,332.86	14,435,494.87	1,729,529.40	39.74900275	-80.68295620
16,100.00	89.00	149.83	6,425.09	-7,768.73	6,383.12	14,435,408.44	1,729,579.65	39.74876488	-80.68277849
16,200.00	89.00	149.83	6,426.83	-7,855.17	6,433.37	14,435,322.00	1,729,629.91	39.74852701	-80.68260079
16,300.00	89.00	149.83	6,428.56	-7,941.61	6,483.63	14,435,235.56	1,729,680.16	39,74828914	-80.68242309
16,400.00	89.00	149.83	6,430.30	-8,028.05	6,533.88	14,435,149.12	1,729,730.42	39.74805127	-80.68224539
16,440.19	89.00	149.83	6,431.00	-8,062.78	6,554.08	14,435,114.39	1,729,750.61	39.74795568	-80.68217398
PBHL/TC	0 16440.19 MD	6431.00 TVE	0						

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Knob Creek S-10HM LP - plan misses target - Point	0.00 center by 14.6	0.00 66usft at 698	6,266.00 0.13usft MD	106.90 (6266.64 TVE	1,787.32), 114.27 N, 1	14,443,284.07 799.98 E)	1,724,983.86	39.77043702	-80.69903493
Knob Creek S-10HM LP - plan misses target - Point	0.00 center by 28.6	0.00 Ousft at 700	6,266.00 5.26usft MD	106.90 (6267.07 TVD	1,837.32 0, 92.55 N, 18	14,443,284.07 312.60 E)	1,725,033.85	39.77043656	-80.69885700
Knob Creek S-10HM BH - plan hits target cent - Point	0.00 ter	0.00	6,431.00	-8,062.78	6,554.08	14,435,114.39	1,729,750.61	39.74795568	-80.68217398

Measured	Vertical	Local Coor	dinates	
Depth (usft)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
1,600.00	1,599.98	0.63	1.63	KOP Begin 2°/100' build
1,750.00	1,749.68	3.93	10.17	Begin 4.00° tangent
3,105.48	3,100.00	46.54	120.35	Begin 3°/100' build
3,866.91	3,825.55	128.55	317.81	Begin 27.84° tangent
5,994.96	5,707.29	514.01	1,233.83	Begin 8°/100' build/turn
6,497.57	6,107.61	448.94	1,512.99	Begin 10°/100' build/turn
6,952.41	6,266.16	138.23	1,786.04	Begin 89.00° lateral
16,440.19	6,431.00	-8,062.78	6,554.08	PBHL/TD 16440.19 MD 6431.00 TVD

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Well Site Safety Plan Tug Hill Operating, LLC

M 29/2020

Well Name: Knob Creek S-10HM

Pad Location: Knob Creek Pad

Marshall County, West Virginia

UTM (meters), NAD83, Zone 17:

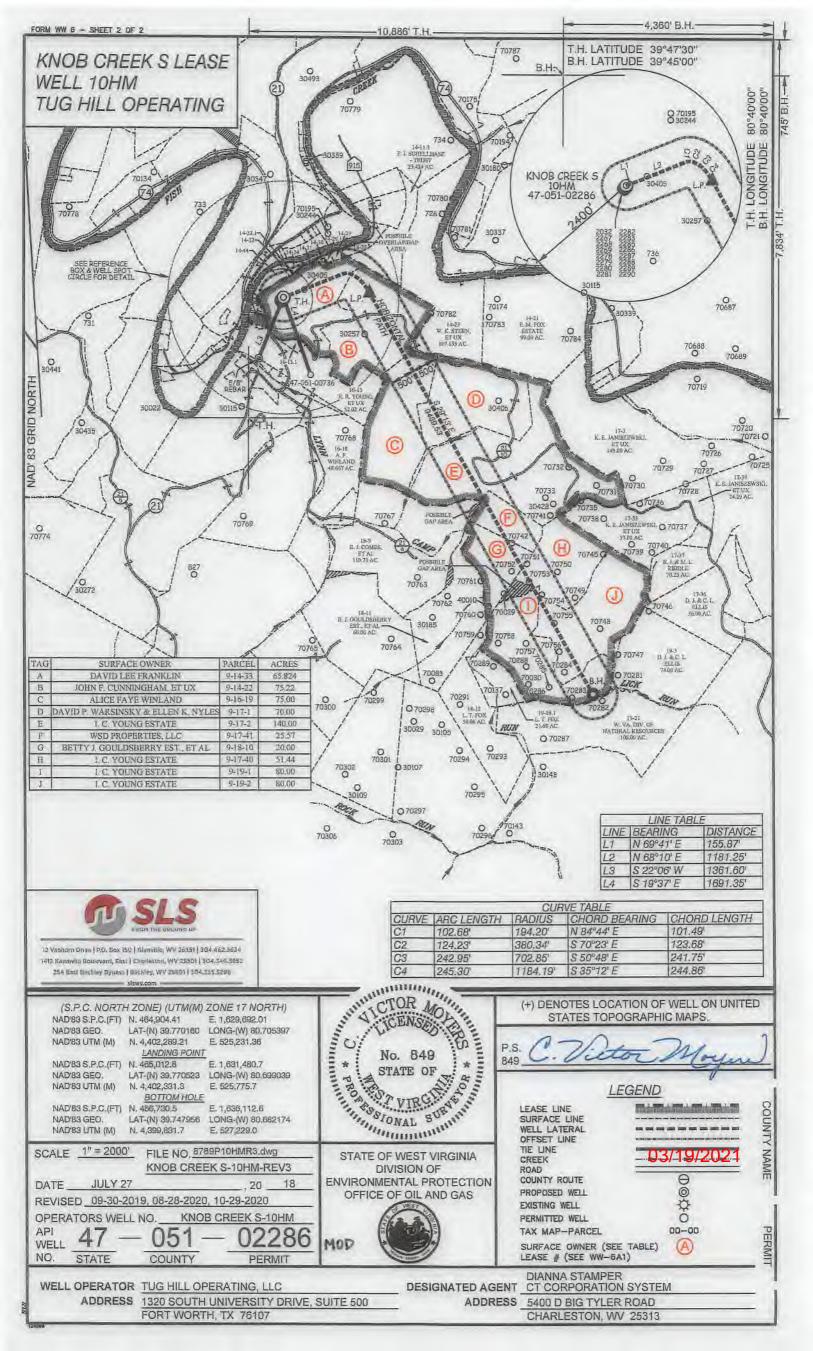
Northing: 4,402,289.21 Easting: 525,231.35

> October 2020 FEB 2 5 2021

> > WV Department / Environmental Frontation

03/19/2021

RM WW 8 - SHEET 1 OF 2	10,886' T.H	4,360' B.H.
NOB CREEK S LEASE		T.H. LATITUDE 39°47'30" B.H. LATITUDE 39°45'00"
VELL 10HM		
UG HILL OPERATING		(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH) NAD'83 S.P.C.(FT) N. 464,904.41 E. 1,629,692.01 NAD'83 GEO. LAIT-(N) 39.770160 LONG-(W) 80.705397
		NAD'83 S.P.C. (FT) N. 464,904.41 E. 1,629,692.01 2 NAD'83 GEO. LA[F-(N) 39.770160 LONG-(W) 80.705397 2
		NAD'83 S.P.C. (FT) N. 465,012.8 E. 1,631,480.7 NAD'83 GEO. LAT-(N) 39.770523 LONG-(W) 80.699039
		NAD'83 UTM (M) N. 4,402,331.3 E. 525,775.7
		BOTTOM HOLE Comparison Comparison NAD'83 S.P.C.(FT) N. 456,730.5 E. 1,636,112.6 Total
		NAD'83 S.P.C. (FT) N. 456,730.5 E. 1,636,112.6 IIIII NAD'83 GEO. LAT-(N) 39.747956 LONG-(W) 80.682174 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
		The second secon
		MAP/PARCEL ADJOINING SURFACE OWNER LIST ACRES 9-13-13 MARGARET K, FOX - LIFE 15.513 9-14-28 CHARLES R SCHELLHASE, ET UX 3.029 9-14-29 ANDREW FASOULETOS, ET UX 0.209
		9-14-29.1 ANDREW FASOULETOS, ET UX 1.171 9-14-30 WILLIAM C. GROFT, ET UX 0.35
		9-14-31 WILFORD F. NELSON, JR., ET UX 0.954 9-14-32 TWILA C. COFFIELD 0.583 9-14-32.1 TWILA C. COFFIELD 0.184
	1	9-14-35 PAUL G. FOX 0,338 9-14-36 MARGARET FOX - LIFE 1600 SQ. FT.
		9-14-37 MARGARET FOX - LIFE LOT (ASD) 9-14-38 MARGARET FOX - LIFE 0.631 9-14-39 MARGARET FOX - LIFE 8675 SQ. FT.
	T.H.	9-14-40 MARGARET FOX - LIFE 19,560 SQ. FT. 9-14-41 MARGARET FOX - LIFE 9165 SQ. FT.
EFERENCES		9-14-42 JOHN C. LAGOS, ET UX 1.87 9-14-44 DAVID LEE FRANKLIN 2.913 9-14-54 RICHARD L. HARVETH, ET UX 1.649
-13 /1+32		9-16-14 LYNN CAMP METHODIST CHURCH 0.762 9-16-15.1 ERIC J. YOUNG 1.98
181		
63. ¹⁴⁻⁴⁴ 915	1	
14-33 FIELD		
5/8" REBAR		
(14-39 CE	NTER OF OPOSED	
	ELL PAD	
14-36 KNOB	CREEK S	
14.376	0HM 1-02286	
14-38 5 540.		
A		
5/8" REBAR		NOTES ON STRUCT
-33		NOTES ON SURVEY
5-15 16-14 1"	= 400'	 NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. WERE FOUND WITHIN
A. CI C		625' OF THE CENTER OF PROPOSED WELL PAD. 2. SEE REFERENCES FOR DWELLINGS LOCATED
PROM THE GROUND UM		WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD. 3. WELL SPOT CIRCLE & TOPO MARK SCALE IS
2 Vanhorn Drive P.O. Box 150 Glenville, WV 26351 304,462,563-	4	1"=2000'. 4. BASED ON WV DOT COUNTY ROUTE 74 IS A 40'
12 Kamwita Boulevard, East Charleston, WV 25301 304,346,395 254 Bast Beckley Bypass Beckley, WV 25801 304,255,5296	2	STRIP OF LAND ACQUIRED IN NUMEROUS DEEDS.
siswy.com		
HE UNDERSIGNED, HEREBY CERTIFY IS PLAT IS CORRECT TO THE BEST O	FMY	(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
IOWLEDGE AND BELIEF AND SHOWS	ALL EU	DATE, 20
E REGULATIONS ISSUED AND PRESC	RIBED * No. 849	REVISED 09-30-2019, 08-28-2020, 10-29-2020
THE DIVISION OF ENVIRONMENTAL I	ROTECTION	API OPERATORS WELL NO. KNOB CREEK S-10HM
CTIATE)	2/ VIRGIN	WELL 47 - 051 - 02286
. C. Octor J.	RIBED PROTECTION. STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF	NO. TI COUNTY PERMIT
NIMUM DEGREE ACCURACY 1 / 2500	TILL NO.	- JALEUF WEST VIRGINIA RESIST
	- KNOB CREEK S-10HM-REV3 SCALE 1" = 2000'	DIVISION OF ENVIRONMENTAL PROTECTION
DIZONITAL A MEDICAL		OFFICE OF OIL AND GAS
	SURVEY GRADE TIE TO CORS NETWORK	
DNTROL DETERMINED BY DGPS (S	SURVEY GRADE TIE TO CORS NETWORN WASTE IF	
DITROL DETERMINED BY DGPS (5 ELL LIQUID PE: OIL GAS_X INJECTIO	SURVEY GRADE TIE TO CORS NETWORN WASTE IF	UCTION X STORAGE DEEP SHALLOW X
DINTROL DETERMINED BY DGPS (S ELL LIQUID PE: OIL GAS X INJECTIO CATION : ELEVATION 737.50'	SURVEY GRADE TIE TO CORS NETWORN WASTE IF	SUCTION X STORAGE DEEP SHALLOW X
DINTROL DETERMINED BY DGPS (S ELL LIQUID PE: OIL GAS X INJECTIO CATION : ELEVATION 737.50' DISTRICT MEADE	SURVEY GRADE TIE TO CORS NETWORK WASTE IF DNDISPOSAL "GAS" PROD WATERSHEDFISH CREE COUNTYMARSHALL	SUCTION X STORAGE DEEP SHALLOW X
DINTROL DETERMINED BY DGPS (S ELL LIQUID PE: OIL GAS X INJECTION CATION : ELEVATION 737.50' DISTRICT MEADE URFACE OWNER DAVID LEE FRAM	SURVEY GRADE TIE TO CORS NETWORN WASTE IF DN DISPOSAL "GAS" PROD WATERSHED FISH CREE COUNTY MARSHALL	UCTION X STORAGE DEEP SHALLOW X K (HUC 10) QUADRANGLE T.H WILEYVILLE 7.5' ACREAGE 65.824±
DINTROL DETERMINED BYDGPS (S ELLGAS_XINJECTION CATION : ELEVATION737.50' DISTRICTMEADE URFACE OWNERDAVID LEE FRAM DYALTY OWNERDAVID LEE FRAM	SURVEY GRADE TIE TO CORS NETWORK WASTE IF DNDISPOSAL "GAS" PROD WATERSHEDFISH CREE COUNTYMARSHALL	Substrain X STORAGE DEEP SHALLOW X SK (HUC 10) B.H WILEYVILLE 7.5' QUADRANGLE T.H GLEN EASTON 7.5' ACREAGE 65.824± ACREAGE 65.824± ACREAGE 039/219/2021
DINTROL DETERMINED BY DGPS (S ELL LIQUID PE: OIL GAS X INJECTION CATION : ELEVATION 737.50' DISTRICT MEADE URFACE OWNER DAVID LEE FRAN DYALTY OWNER DAVID LEE FRAN COPOSED WORK :	SURVEY GRADE TIE TO CORS NETWOR	Suction X storage deep shallow X SK (HUC 10) QUADRANGLE B.H WILEYVILLE 7.5' QUADRANGLE B.H GLEN EASTON 7.5' ACREAGE 65.824± ACREAGE 65.824± ACREAGE 65.824± LEASE NO. SEE WW-6A1
DINTROL DETERMINED BYDGPS (S ELLGAS_XINJECTION DISTRICTGAS_XINJECTION DISTRICTADE URFACE OWNERDAVID LEE FRAM DYALTY OWNERDAVID LEE FRAM ROPOSED WORK : RILLXCONVERTI	SURVEY GRADE TIE TO CORS NETWORH WASTE IF DN DISPOSAL "GAS" PROD WATERSHED FISH CREE COUNTY MARSHALL IKLIN KLIN, ET AL - SEE WW-6A1 DRILL DEEPER	Suction _X
ELL LIQUID PE: OIL GAS_X_ INJECTIO CATION : ELEVATION	SURVEY GRADE TIE TO CORS NETWORK WASTE IF DN DISPOSAL "GAS" PROD WATERSHED FISH CREE COUNTY MARSHALL KLIN KLIN, ET AL - SEE WW-6A1 DRILL DEEPER REDRILL FORMATION PLUG AND ABANE	Storage DEEP SHALLOW X SK (HUC 10) B.H WILEYVILLE 7.5' QUADRANGLE T.H GLEN EASTON 7.5' ACREAGE 65.824± ACREAGE 639749/2021 LEASE NO. SEE WW-6A1 FRACTURE OR STIMULATE X PLUG OFF OLD DON CLEAN OUT AND REPLUG OTHER
District David Lee France District DIstrict	SURVEY GRADE TIE TO CORS NETWORH WASTE IF DN DISPOSAL "GAS" PROD WATERSHED FISH CREE WATERSHED FISH CREE WATERSHED MARSHALL KLIN KLIN KLIN, ET AL - SEE WW-6A1 DRILL DEEPER REDRILL FORMATION PLUG AND ABANE	Storage DEEP SHALLOW X SK (HUC 10) B.H WILEYVILLE 7.5' QUADRANGLE T.H GLEN EASTON 7.5' ACREAGE 65.824± ACREAGE 639749/2021 LEASE NO. SEE WW-6A1 FRACTURE OR STIMULATE X PLUG OFF OLD DON CLEAN OUT AND REPLUG OTHER
DATROL DETERMINED BY DGPS (S DELL LIQUID PE: OIL GAS_X INJECTION CATION : ELEVATION 737.50' DISTRICT MEADE URFACE OWNER DAVID LEE FRAN DYALTY OWNER DAVID LEE FRAN COPOSED WORK : RILL X CONVERT L DORMATION PERFORATE NEW HYSICAL CHANGE IN WELL (SPECIFY)	SURVEY GRADE TIE TO CORS NETWORH WASTE IF DN DISPOSAL "GAS" PROD WATERSHED FISH CREE COUNTY MARSHALL KLIN KLIN, ET AL - SEE WW-6A1 DRILL DEEPER REDRILL FORMATION PLUG AND ABANE	Storage DEEP SHALLOW X SK (HUC 10) B.H WILEYVILLE 7.5' B.H GLEN EASTON 7.5' QUADRANGLE T.H GLEN EASTON 7.5' ACREAGE 65.824± ACREAGE 65.824± LEASE NO. SEE WW-6A1 FRACTURE OR STIMULATE X PLUG OFF OLD DON CLEAN OUT AND REPLUG OTHER TARGET FORMATION MARCELLUS ESTIMATED DEPTH TVD: 6,382' / TMD: 16,440'
District DAVID LEE FRAN District DAVID LEE FRAN DYALTY OWNER DAVID LEE FRAN DOPOSED WORK : RILL X CONVERT	SURVEY GRADE TIE TO CORS NETWORH WASTE IF DN DISPOSAL "GAS" PROD WATERSHED FISH CREE COUNTY MARSHALL IKLIN DRILL DEEPER REDRILL FORMATION PLUG AND ABANE NG, LLC DESIGN	Storage DEEP SHALLOW X SK (HUC 10) B.H WILEYVILLE 7.5' QUADRANGLE T.H GLEN EASTON 7.5' ACREAGE 65.824± ACREAGE 639749/2021 LEASE NO. SEE WW-6A1 FRACTURE OR STIMULATE X PLUG OFF OLD DON CLEAN OUT AND REPLUG OTHER



WW-6A1 (5/13)

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:

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

*Co-tenancy utilization - At least 7 mineral owners in tract. At least 75% of the royalty owners have executed a lease on the tract. The interests of the remaining co-tenants were acquired pursuant to the Co-tenancy Modernization and Majority Protection Act.

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

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

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

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

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

Page 1 of 03/19/2021

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Lease ID	Parcel	Tags	Grantor, Lessor, Etc. DAVID LEE FRANKLIN	Grantee, Lessee, Etc. TH EXPLORATION LLC	Royalty	Deed B	ook/Page	Assignment N/A	Assignment N/A	Assignment N/A	Assignment N/A	Assignment N/A	Assignment N/A	Assignment N/A Gulfport Energy Corp &									
10 4/051.215.	1 3 4 33	<u> </u>		TH EXPLORATION LLC	1/0+	0/4	- 512	N/A	N/6			Fossil Creek Ohlo LLC to Gulport Energy Corp:	Fossil Creek Ohio LLC to Gulfport Energy Corp:	Gulfport Energy Corp & Fossil Creek Ohio, LLC to TH Exploration LLC:									
10°16479	9-14-22		JOHN F CUNNINGHAM AND BERNEICE K CUNNINGHAM	FOSSIL CREEK OHIO, LLC	1/8+	826	88	N/A	N/A	N/A	32/105	34/398	36/535										
10*18424	9-16-19	c	BRENDA J LOHRUM	TH EXPLORATION LLC	1/8+	932	590		N/A	N/A	N/A	N/A N/A	N/A	<u>N/A</u>									
10°18425 10°18426	9-16-19			TH EXPLORATION LLC TH EXPLORATION LLC			592 595	N/A N/A	N/A N/A	N/A	N/A N/A	<u>N/A</u>	N/A	N/A	N/A								
10°18427	9-16-19	C	HELEN M MOBRLEY	TH EXPLORATION LLC	1/8+	932	599		N/A	N/A	N/A	N/A	N/A	N/A									
10*18428 10*18509	9-16-19	1 6		TH EXPLORATION LLC	1/8+	932	597	N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A N/A									
10*18511	9-16-19	1 č		TH EXPLORATION LLC			560 563		N/A N/A	N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A						
10*18516	9-16-19	C	DARL I TRAVIS AND MARY A TRAVIS	TH EXPLORATION LLC	1/8+	933	604	N/A	N/A	N/A	N/A	N/A	N/A N/A										
10°18521 10°18650	9-16-19			TH EXPLORATION LLC TH EXPLORATION LLC			586	N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A	N/A N/A							
10*18651			RICKY A LOHRUM		1/8+	936	167	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A						
10*18761	9-16-19	с	JOSEPH B TRAVIS	TH EXPLORATION LLC	1/8+	938	483	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A										
10°18807 10°19680			THOMAS F TRAVIS AND DEBORAH A TRAVIS DARL L CARD AND SUSAN D CARD	TH EXPLORATION LLC	1/8+	937	642 443	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A
10°19866	9-16-19	C	JAMES R DIMMERLING			944		N/A N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19867	9-16-19	c	JEFFREY S DIMMERLING AND CARRIE F DIMMERLING	TH EXPLORATION LLC	1/8+	945	599	N/A	N/A	N/A	N/A N/A	N/A	N/A N/A										
10°19931 10°21086	9-16-19	1-6		TH EXPLORATION LLC		949 959	205	N/A N/A	N/A	N/A	N/A N/A	N/A	N/A										
10°21925	9-16-19	c	MOUNT ST MARYS SEMINARY		1/8+	953	515	N/A	N/A	N/A	N/A	N/A N/A	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21958	9-16-19	c	JARRED R BARNES	TH EXPLORATION LLC	1/8+	960	18	N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A										
10*21962 10*21977	9-16-19		CHRISTINA S ELICSON & GEORGE T ELICSON SHAWN M CARD	TH EXPLORATION LLC	1/8+	960 960	26	N/A N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A	N/A						
10*21978				TH EXPLORATION LLC	1/8+	960	500	N/A	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A							
10*22103	9-16-19	C	ANDREW J CARD DIANE M PADULA SOUTH EASTERN LIEUTENANCY OF EQUESTRIAN ORDER OF THE HOLY SEPTIL CHBE OF JERUISALEM				513		N/A	N/A	N/A	N/A	N/A	<u>N/A</u>									
10*22601				TH EXPLORATION LLC	1/8+	966	473	N/A	N/A	N/A	N/A	N/A	N/A										
10°22814	9-16-19	c	TERRY J SCOTT	TH EXPLORATION LLC	1/8+	972	23	N/A	N/A	N/A	N/A	N/A N/A	N/A										
10°27947	9-16-19	- <u>-</u>	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1063	568	N/A	N/A	N/A	<u>N/A</u>	N/A											
																		Hope Natural Gas Company to A.M. Snider & Duane M. Snider, d/b/a Hundred Gas		Carl D. Perkins to Perkins Oil and Gas Inc		Stone Energy Corp to EQT Production Company:	EQT Production Company to TH Exploration LLC:
10°23112	9-16-19	c	JOHN V AND RACHEL M SHEPHERD	TG STILES	1/8+	63	219	N/A	Company: 446/186	451/132 & 451/418	583/72	Corporation: 26/322	38/75	48/21N/A									
10°17135 10°17136	9-17-1			TH EXPLORATION LLC	1/8+	919	625 627	N/A N/A	N/A	N/A N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
10 1/130	9-1/-1	<u> "</u>	DAVID P WARSINSKT	TH EXPLORATION LLC	1/8+	919	627	N/A		N/A	N/A												
10*15910	9-17-2	E	SHIRLEY KOONTZ	CHESAPEAKE APPALACHIA LL	1/8+	701	303	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 29/325		Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchang Titleholder LLC to SWN Production Company LLC: 19/624	SWN Production Company LLC to TH Exploration LLC: 36/431	y Statoil USA Onshore Properties Inc to TH Exploration LLC: 36/455									
<u>10*15911</u>	9-17-2	E	ROBERT W. GRAY	CHESAPEAKE APPALACHIA LLS	1/8+	715	441	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 29/325	Chesapeake Appalachia LLC to SWN Production Company: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchange Titleholder LLC to SWN Production Company LLC: 19/624											
10°15912	9-17-2	E	DELORES I RICHTER	CHESAPEAKE APPALACHIA LL	1/8+	715	448	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 29/325	Chesapeake Appalachia LLC to SWN Production Company: 33/110	Statoll USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchang Titleholder LLC to SWN Production Company LLC: 19/624	e SWN Production Compan LLC to TH Exploration LLC 36/431	y Statoli USA Onshore : Properties Inc to TH Exploration LLC: 36/455									
10*15913	9-17-2	E	LILA MCGUIRE	CHESAPEAKE APPALACHIA LL	1/8+	715	449	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 29/325	Chesapeake Appalachia LLC to SWN Production Company: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchang Titleholder LLC to SWN Production Company LLC: 19/624											
10*15914	9-17-2	E	JUDY CALLOWAY	CHESAPEAKE APPALACHIA LL	1/8+	715	450	N/A	Chesapeake Appalachia LLC to Statoll USA Onshore Properties Inc: 29/325		Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	Merger - SWN Exchang Titleholder LLC to SWN Production Company LLC: 19/624	e SWN Production Compan LLC to TH Exploration LLC 36/431	y Statoil USA Onshore Properties Inc to TH Exploration LLC: 36/455									
10*15915	9-17-2	E	JUDY WARNER	CHESAPEAKE APPALACHIA LL	1/8+	715	451	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 29/325				SWN Production Compar										
10*15916	9-17-2	ε	CHRISTI LYNN CLAYTON	CHESAPEAKE APPALACHIA LL	1/8+	715	452	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 29/325	Chesapeake Appalachia LLC to SWN Production Company: 33/110	Statoil USA Onshore Properties Inc to SWM Exchange Titleholder LLC: 33/424	Merger - SWN Exchang Titleholder LLC to SWN Production Company LLC: 19/624	SWN Production Compar	ny Statoll USA Onshore : Properties Inc to TH Exploration LLC: 36/455									
10*15917	9-17-2	E	CINDY LOU SMITH	CHESAPEAKE APPALACHIA LL	1/8+	715	453	N/A	Chesapeake Appalachia LLC to Statoii USA Onshore Properties Inc: 29/325	Chesapeake Appalachia LLC to SWN Production Company: 33/110	Statoil USA Onshore Properties Inc to SWM Exchange Titleholder LLC: 33/424	Merger - SWN Exchan Titleholder LLC to SWN Production Company LLC: 19/624	SWN Production Compa										

No. No. <th>Lease ID</th> <th>Parcel</th> <th>Tags</th> <th>Grantor, Lessor, Etc.</th> <th>Grantee, Lessee, Etc.</th> <th>Royalty</th> <th>Deed B</th> <th>ook/Page</th> <th>Assignment</th> <th>Assignment</th> <th>Assignment</th> <th>Assignment</th> <th>Assignment</th> <th>Accionment</th> <th>Assignment</th>	Lease ID	Parcel	Tags	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed B	ook/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Accionment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
										A Signate in		Assignment	Assignment	Assignment	Assignment	Asignment	Changing	Canganien						
						1		1												Chesapeake Appalachia	Properties Inc to SWN	Titleholder LLC to SWN	SWN Production Company	Statoil USA Onshore
Disk A A B Disk Disk <td></td> <td>LLC to TH Exploration LLC:</td> <td>Properties inc to TH</td>																							LLC to TH Exploration LLC:	Properties inc to TH
No. No. <td>10*15918</td> <td>9-17-2</td> <td>E</td> <td>ARTHUR EMORY</td> <td>CHESAPEAKE APPALACHIA LL</td> <td>1/8+</td> <td>715</td> <td>457</td> <td>N/A</td> <td>24/67</td> <td></td> <td></td> <td>LLC: 19/624</td> <td>36/431</td> <td>Exploration LLC: 36/455</td>	10*15918	9-17-2	E	ARTHUR EMORY	CHESAPEAKE APPALACHIA LL	1/8+	715	457	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	24/67			LLC: 19/624	36/431	Exploration LLC: 36/455
No. No. <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td>Checaneske Annalachia</td> <td></td> <td>Statoil USA Opshore</td> <td>Merger - SWN Exchange</td> <td></td> <td></td>																			Checaneske Annalachia		Statoil USA Opshore	Merger - SWN Exchange		
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N - 1 N - 1 <th< td=""><td></td><td></td><td></td><td></td><td></td><td>1</td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Onshore Properties Inc:</td><td></td><td></td><td></td><td>LLC to TH Exploration LLC:</td><td>Properties Inc to TH</td></th<>						1	1												Onshore Properties Inc:				LLC to TH Exploration LLC:	Properties Inc to TH
No. No. <td>10*15919</td> <td>9-17-2</td> <td>3</td> <td>CAROLYN SUE HENRY</td> <td>CHESAPEAKE APPALACHIA LL</td> <td><u> </u></td> <td>715</td> <td>454</td> <td>N/A</td> <td>29/325</td> <td>Company: 33/110</td> <td>LLC: 33/424</td> <td>LLC: 19/624</td> <td>36/431</td> <td>Exploration LLC: 36/455</td>	10*15919	9-17-2	3	CAROLYN SUE HENRY	CHESAPEAKE APPALACHIA LL	<u> </u>	715	454	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	29/325	Company: 33/110	LLC: 33/424	LLC: 19/624	36/431	Exploration LLC: 36/455
Line Line District Dis				1		1	1												Chesapeake Appalachia		Statoll USA Onshore	Merger - SWN Exchange		
Disp. Los Los <thlos< th=""> <thlos< td="" th<=""><td></td><td></td><td>1</td><td></td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>LLC to Statoil USA</td><td></td><td></td><td>Titleholder LLC to SWN</td><td>SWN Production Company</td><td>Statoll USA Onshore</td></thlos<></thlos<>			1				1												LLC to Statoil USA			Titleholder LLC to SWN	SWN Production Company	Statoll USA Onshore
No. No. <td>10715020</td> <td>0.17.7</td> <td></td> <td>DENNIE KOTKE</td> <td></td> <td>Properties inc to TH Evoloration LLC: 36/455</td>	10715020	0.17.7		DENNIE KOTKE																				Properties inc to TH Evoloration LLC: 36/455
1 1 1 1 1 0 1 0 1 0	10-12920	9-1/-2	<u> </u>	DENNIS KOTKE	CHESAPEAKE APPALACHIA LL	4 1/8+	715	458	N/A	N/A	N/A	<u>N/A</u>	N/A	N/A	N/A	N/A	N/A	N/A	24/67	Company: 33/110	LLC: 33/424	110: 19/624	50/451	Exploration EEC. 30/435
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LINE LAD LAD <thlad< th=""> <thlad< th=""></thlad<></thlad<>																								SWN Production Company
NUMB La L	10*17233	9-17-2	F	TIMOTHY MCDOWELL		1/0.	1 712	200										N/A					Exploration LLC: 41/248	
N N					CHESAFEARE AFFALACHIA LL	1 407	- <u>/13</u>	- 333	N/A	N/A	N/A	N/A.	N/A	N/A	N/A	N/A	N/A	N/A		Company. 55/110				
						1	1	1															Statell USA Onchoro	SWN Production Company
1/27 1/2 <td></td> <td>Chesapeake Appalachia</td> <td></td> <td></td> <td></td> <td></td>																				Chesapeake Appalachia				
No. 20 S <td>10*17234</td> <td>9-17-2</td> <td>E</td> <td>GAREN P. MCDOWELL</td> <td>CHESAPEAKE APPALACHIA LL</td> <td>1/8+</td> <td>716</td> <td>280</td> <td>N/A</td> <td></td> <td>Company: 33/110</td> <td>LLC: 33/424</td> <td></td> <td>Exploration LLC: 41/248</td> <td></td>	10*17234	9-17-2	E	GAREN P. MCDOWELL	CHESAPEAKE APPALACHIA LL	1/8+	716	280	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		Company: 33/110	LLC: 33/424		Exploration LLC: 41/248	
N I MONOMING Contract Monoming Monoming<												- Iqri					1977					Adverse Child Cushenes		1
D210 L Meximation Contrasting						1	1									1				Character Americantia				SWN Production Company
PADP PADP PADP PADP PA							1															Production Company		
No. No. <td>10*17235</td> <td>9-17-2</td> <td>E</td> <td>WINONA RIDDLE</td> <td>CHESAPEAKE APPALACHIA LL</td> <td>1/8+</td> <td>715</td> <td>353</td> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>41/256</td>	10*17235	9-17-2	E	WINONA RIDDLE	CHESAPEAKE APPALACHIA LL	1/8+	715	353	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						41/256
Prime Prim Prime Prime							1															Morger - SWN Exchange		I I
N100 1000 1000 1000 10	1						1													Chesapeake Appalachia		Titleholder LLC to SWN	Statoil USA Onshore	
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P P	10°17236	9-17-2	E	TEXYN L. MILLER	CHESAPEAKE APPALACHIA LL	1/8+	716	270	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	_N/A	N/A	29/325	Company: 33/110	LLC: 33/424	LLC: 19/624	Exploration LLC: 41/248	41/256
P P																			Charanaska Annalachia		Statoil USA Opshore	Merger - SWN Exchange		
Line A Description Descriptio																				Chesapeake Appalachia			Statoil USA Onshore	
No. No. <td></td> <td> </td> <td> </td> <td></td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td>Onshore Properties Inc:</td> <td></td> <td>Exchange Titleholder</td> <td></td> <td></td> <td></td>																			Onshore Properties Inc:		Exchange Titleholder			
N N	10*17237	9-17-2	E	JENNIFER WHEATON	CHESAPEAKE APPALACHIA LL	1/8+	715	610	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	29/325	Company: 33/110	LLC: 33/424	LLC: 19/624	Exploration LLC: 41/248	41/256
H H						1													Chesaneake Annalachia		Statoil USA Onshore	Merger - SWN Exchange		
VICUUM 9.12 I NAME NA NA NA NA <th< td=""><td></td><td></td><td> </td><td></td><td></td><td>1</td><td></td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Chesapeake Appalachia</td><td>Properties Inc to SWN</td><td>Titleholder LLC to SWN</td><td></td><td></td></th<>						1														Chesapeake Appalachia	Properties Inc to SWN	Titleholder LLC to SWN		
NUM NUM <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>LLC to SWN Production</td> <td></td> <td></td> <td></td> <td></td>																				LLC to SWN Production				
pr/12/29 4/2 4 And Mark Multi B Constrained Production B	10*17238	9-17-2	E	LISA ANN MCDOWELL	CHESAPEAKE APPALACHIA LL	1/8+	715	341	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	24/204	Company: 33/110	LLC: 33/424	LLC: 19/624	Exploration LLC: 41/248	41/256
D2129 0.1 0.4 </td <td></td> <td></td> <td> </td> <td></td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td>Chesapeake Appalachia</td> <td></td> <td>Statoil USA Onshore</td> <td>Merger - SWN Exchange</td> <td>2</td> <td></td>																			Chesapeake Appalachia		Statoil USA Onshore	Merger - SWN Exchange	2	
PETER 1.2 1.4 APA AM AMUR Conservation No.																							Statoil USA Onshore	
Jac Jac <td></td> <td>Onshore Properties Inc:</td> <td></td> <td></td> <td></td> <td></td> <td></td>																			Onshore Properties Inc:					
No. N.N.	10-17239	9-1/-2	-	ANITA RAE MILLER	CHESAPEAKE APPALACHIA LL	1/8+	715	336	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	24/204	Company: 33/110	LLC: 33/424	LLC: 19/624	Exploration LLC: 41/248	41/256
bit 7230 9.72 £ BOME dest:1 Observation Change Teaching Production Produc																			Chesapeake Appalachia		Statoil USA Onshore	Merger - SWN Exchange		
International Internat																			LLC to Statoil USA	Chesapeake Appalachia	Properties Inc to SWN	Titleholder LLC to SWN	Statoil USA Onshore	
Ler Ler <td>10*17240</td> <td>0.17.2</td> <td>-</td> <td></td> <td></td> <td></td> <td>745</td> <td></td> <td>Exchange Titleholder</td> <td></td> <td></td> <td></td>	10*17240	0.17.2	-				745														Exchange Titleholder			
No. No. NA NA NA NA NA<	10 11040				CREDAFEAKE AFFALACRIA LL	1 1/0+	115	331	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	29/325	Company, 35/110				
P1-2024 P1-2024 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td> </td><td></td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>SW/N Production Company</td></t<>												1												SW/N Production Company
10 ¹ 12/21 9.172 E AssAssAs & Buildy Ordes Applicable 10 ¹ 12/24 9.172 E AssAssAs & Buildy N/A N/A N/A N/A												1											Statoil USA Onshore	
Line Line <th< td=""><td>10*17241</td><td>9-17-2</td><td>E</td><td>BARBARA K BURLEY</td><td>CHESAPEAKE ΔΡΡΑΙ ΔCHIA LL</td><td>1/8+</td><td>716</td><td>290</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>81/4</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td></td><td>Company: 33/110</td><td>LLC: 33/424</td><td>LLC: 19/524</td><td></td><td></td></th<>	10*17241	9-17-2	E	BARBARA K BURLEY	CHESAPEAKE ΔΡΡΑΙ ΔCHIA LL	1/8+	716	290	N/A	N/A	N/A	N/A	N/A	81/4	N/A	N/A	N/A	N/A		Company: 33/110	LLC: 33/424	LLC: 19/524		
Less Less <th< td=""><td></td><td></td><td>-</td><td></td><td></td><td>- 40.</td><td>1.1</td><td> </td><td></td><td></td><td></td><td>10/0</td><td>170</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>			-			- 40.	1.1					10/0	170											
Party Party <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>SWN Production Company</td></th<>																								SWN Production Company
10*17242 9:172 E GERALD LMULER Omegany: 33/10 U: 3/024 U: 2/024																							Properties Inc to TH	LLC to TH Exploration LLC:
Image: Normal state Normal state Normal state No	10*17242	9-17-2	E	GERALD L MILLER	CHESAPEAKE APPALACHIA LL	1/8+	716	285	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					Exploration LLC: 41/248	41/256
k k																						Morror SMIN Evel-		
10*17243 9-172 E DAND MCDOWELL OHESAPEAR APPALACHALLIK 1/8 7.2 2.6 N/A N/A N/A										1										Choraneake Annalachia			Statoil USA Onshore	SWN Production Company
10*17243 9-172 E DAVID MCDOWELL CHESAPEAKE APPALACHIA LUI, V8+ 717 26 N/A N/A <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td> </td> <td>1</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Production Company</td> <td>Properties Inc to TH</td> <td>LLC to TH Exploration LLC:</td>										1		1										Production Company	Properties Inc to TH	LLC to TH Exploration LLC:
Line Line <th< td=""><td>10*17243</td><td>9-17-2</td><td>E</td><td>DAVID MCDOWELL</td><td>CHESAPEAKE APPALACHIA LL</td><td>1/8+</td><td>717</td><td>26</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td></td><td>Company: 33/110</td><td>LLC: 33/424</td><td>LLC: 19/624</td><td>Exploration LLC: 41/248</td><td>41/256</td></th<>	10*17243	9-17-2	E	DAVID MCDOWELL	CHESAPEAKE APPALACHIA LL	1/8+	717	26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		Company: 33/110	LLC: 33/424	LLC: 19/624	Exploration LLC: 41/248	41/256
Line Line <th< td=""><td></td><td></td><td></td><td></td><td></td><td>1</td><td></td><td></td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Charanaska Annalashia</td><td></td><td>Statoli USA Onshore</td><td>Merger - SWN Exchange</td><td></td><td></td></th<>						1													Charanaska Annalashia		Statoli USA Onshore	Merger - SWN Exchange		
International system Internati																				Chesapeake Appalachia			Statoil USA Onshore	
Image: bit is a line bit line bit is a line bit is a line bit is a line bit l																					Exchange Titleholder	Production Company	Properties Inc to TH	
Image: bit in the second sec	10°17244	9-17-2	E	KAREN CECIL	CHESAPEAKE APPALACHIA LL	1/8+	716	295	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	29/325	Company: 33/110	LLC: 33/424	LLC: 19/624	Exploration LLC: 41/248	41/256
Image: bit in the second sec							1				Т								Chesapeake Appalachia		Statoll USA Onshore	Merger - SWN Exchange	e	
bit bit <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>[</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td></td> <td></td> <td>Chesapeake Appalachia</td> <td></td> <td></td> <td>Statoil USA Onshore</td> <td></td>									[Chesapeake Appalachia			Statoil USA Onshore	
10*1766 9-17-2 E ULL FAYE BONAR SNODGRASS AND DONALD T SNODGRAY N/A N																			Onshore Properties Inc:	LLC to SWN Production	Exchange Titleholder			
10°17073 9.17.2 E JAMES PERRY COLVERAN TH EXPLORATION LL 1/8 932 567 N/A	10*17245	9-17-2	<u> </u>	CHAD E LONGFELLOW						N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							
10°17707 9-17-2 E JACQUELYN SFERARAI AND JOHN C FERARI TH EXPLORATION LLC 1/8 499 177 N/A	10*17673	9-17-2	E	JAMES PERRY COCHRAN		1/8+	949	172	N/A N/A									N/A						
10°17079 9-17-2 E CARDLGONGOLA TH EXPLORATION LLC 1/8+ 949 167 N/A	10°17707	9-17-2	EIJ	JACQUELYN S FERRARI AND JOHN C FERRARI	TH EXPLORATION LLC	1/8+	949	177											N/A	N/A		N/A		
10°13039 9-17-2 E MICHAELESWIFT AND MELOOY ASWIFT TH EXPLORATION LLC 1/8+ 925 372 N/A		9-17-2	E	CAROL GONGOLA	TH EXPLORATION LLC	1/8+	949	167			N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A				
		9-17-2	E /	MICHAEL E SWIFT AND MELODY A SWIFT	TH EXPLORATION LLC	1/8+	925	372			N/A							N/A						
	10*18107	9-17-2	Ē	ANITA MAE MASON					N/A N/A	N/A	N/A N/A	N/A N/A				N/A								

Lease ID	1 forest 1	the lease time to	1	1	1	1								1				Participantes -	Assignment	Assignment
10" 18167		Tags Grantor, Lessor, Etc. E NEIL CALL AND MELINDA CALL	Grantee, Lessee, Etc. TH EXPLORATION LLC	Royalty Deed Book/Page 1/8+ 927 492	Assignment N/A	Assignment	Assignment	Assignment	Assignment N/A	Assignment N/A	Assignment N/A	Assignment N/A	Assignment	Assignment N/A	Assignment N/A	Assignment N/A	Assignment	Assignment	N/A	N/A
10*18168		E SANDRA YANAGAWA	TH EXPLORATION LLC	1/8- 927 498	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18169	9-17-2	E KABEN K WILLIAMS	TH EXPLORATION LLC	1/8+ 927 628	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18192		E STEPHEN'S MASON AND CAROLE K MASON	TH EXPLORATION LLC	1/8- 928 625	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18193		E CAROLYN LEE FUREY AND MARTIN I FUREY	TH EXPLORATION LLC	1/8+ 949 158	N/A	B/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A
10*18194		E PAMELA BEYLER AND CHAD R BEYLER E MABY THERESA SOLEAU AND THOMAS SOLEAU	TH EXPLORATION LLC	1/8+ 928 630	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	11/A N/A	N/A N/A	N/A
10*18199		E LAWRENCE LYAUGHN AND GALL LYAUGHN	TH EXPLORATION LLC	1/8~ 928 643 1/8~ 928 532	N/A N/A	N/A N/A	N/A	N/A N/A	N/A	N/A N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A
10*18259		E JENNIFER WHEATON	TH EXPLORATION LLC	1/8+ 929 3	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18260		E GEMMA RUDY AND TIMOTHY RUDY	TH EXPLORATION LLC	1/8+ 928 584	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18261		E TIMOTHY MCDOWELLAND CYNTHIA MCDOWELL	TH EXPLOBATION LLC	1/8+ 928 553	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14/A	N/A	N/A	N/A
10*18262		E KAREN MCDOWELL CECIL AND JAMES E CECIL	TH EXPLORATION LLC.	1/8+ 928 555	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
10*18263 10*18254		E LISA ANN MCDOWELL AND ROBERT JOSEPH HILL E DAVID MCDOWELL AND CRYSTAL MCDOWELL	TH EXPLORATION LLC	1/8+ 928 551	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A
10*18295		E THOMAS R BAKER AND VICKIE L BAKER	TH EXPLORATION LLC TH EXPLORATION LLC	1/8+ 928 549 1/8+ 929 262	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/6	N/A
10*18417		E CHERYLL HILL	TH EXPLORATION LLC	1/8+ 932 577	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18487	9-17.2	E NANCY L STANGEL AND JOHN J STANGEL	TH EXPLORATION LLC	1/8+ 933 113	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18488		E CHARLINE M ENGLE AND KEVIN E ENGLE	TH EXPLORATION LLC	1/8+ 933 118	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
10*18508		E PATRICIA LUANNE BONAR	TH EXPLORATION LLC	1/8+ 925 351	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A
10*18555	9-17-2	E LORI SHANAHAN AND PATRICK SHANAHAN E PATRICIA L LEHN	TH EXPLORATION LLC TH EXPLORATION LLC	1/8+ 933 575	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A
10*18555		E PAMELA CALL	TH EXPLORATION LLC	1/8+ 936 95 1/8+ 936 100	N/A	N/A	N/A N/A	N/A N/5	N/A N/A	N/A N/A	N/A N/A	R/A N/A	N/A. N/A	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A
10*18558		E EUZABETH JANE KELLER	TH EXPLORATION LLC	1/8+ 936 107	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18762		E TRACY L BARNBY	TH EXPLORATION LLC	1/8+ 938 481	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19373	9-17-2	E DESSICA WHEATON	TH EXPLORATION LLC	1/8+ 931 411	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
10*19508	917-2	E STONE HILL MINERALS HOLDINGS LLC E CYNTHIA & KIRCHHOFF	TH EXPLORATION LLC	1/8+ 941 446	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A
10*19624		E JOHN TYINGLING	TH EXPLORATION LLC TH EXPLORATION LLC	1/8+ 942 637 1/8+ 944 209	N/A N/A	N/A N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A
10*19713		E MARSHA BERISFORD	TH EXPLORATION LLC	1/8+ 944 452	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19879	5-17-2	E MARY V GILSON AND WALTER M GILSON	TH EXPLORATION LLC	1/9- 945 588	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19933		E MARY ANN GRIFFITH	TH EXPLORATION LLC	1/8- 948 555	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A.	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
10*21400	9.17.2	E DENNIS REASBECK AND BARDARA REASBECK	TH EXPLORATION LLC	1/8+ 956 645	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A.	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A N/A
10*21487	91/2	E FLOYD D ANDERSON & CAROLYN SUE ANDERSON E JOSEPH NOKOVICH	TH EXPLORATION LLC	1/8+ 957 294	N/A	N/A	N/A	N/A	N/A.	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A
10*21844		E ROBERTA YOUNG	TH EXPLORATION LLC	1/8+ 959 635 1/8+ 959 629	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A.	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A
10*21927		E BLACK GOLD GROUP LTD	TH EXPLORATION LLC	1/8+ 964 474	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21928	9.17-2	E JOHN D COX AND CONNIE LCOX	TH EXPLORATION LLC	1/8+ 95.3 511	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21940	9-17-2	E PREISHAGE A TENET WITCHARM	TH EXPLORATION LLC	1/8+ 953 346	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
10*21967 10*21970		E ROGER G ALLEN AND DONNA KAY ALLEN	TH EXPLORATION LLC	1/8+ 960 571	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A
10*21971		E CHRISTOPHER DAUGHERTY & JENNIFER R DAUGHERTY E MARY LOU KITTELBERGER AND FREDERICK W KITTELBER		1/8+ 960 578 1/8+ 960 580	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A
10*21975	9-17-2	E RAYMOND A KUDERSKI AND KELLI J KUDERSKI	TH EXPLORATION LLC	1/8+ 960 582	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A	N/A	N/A-	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21984	9-17-2	E SANFORD METZ	TH EXPLOBATION LLC	1/8+ 960 576	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21986	9-17-2	E RONALD D KOONTZ & BETH ANN KOONTZ	TH EXPLORATION LLC	1/8+ 960 569	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22088		E BRANNEN DAUGHERTY	TH EXPLORATION LLC	1/8+ 951 345	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A.	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A
10*22154 10*22599	9.17.2	E DONALD EUGENE ANDERSON E BRYANT R SWIFT AND KATHY SWIFT	TH EXPLORATION LLC	1/8+ 953 509	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A.	N/A	N/A N/A	N/A N/A	N/A	N/A
10*22600	9172	E AIDEN BOYD YOUNG JENNIFER A YOUNG, PETITIONER	TH EXPLORATION LLC	1/8+ 966 456 1/8+ 966 462	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A
10*22776		E JAMES ROBERT WELLS	TH EXPLORATION LLC	1/8- 970 19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22849		F NEIL MCELROY AND SUE MASON MCELHOY	TH EXPLORATION LLC	1/8+ 977 44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A.	N/A	N/A	N/A	N/A	N/A	N/A
10*22851		E JOHN J HELLSTERN AND LYNN D HELLSTERN	TH EXPLORATION LLC	1/8+ 977 39	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A
10*22853 10*23076		F RONALD LEE HENSLEY AND MARY ANN HENSLEY E JACK & BERISFORD AKA BANDY BERISFORD	TH EXPLORATION LLC	1/8+ 977 34 1/8+ 984 43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A
10*23250		E IDA M TRAVIS ET AL DAVID C WHITE AS SPECIAL COMMIS	TH EXPLORATION LLC	1/8+ 984 43 1/8+ 988 73	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A
10*23539	9-17-2	E STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+ 1010 224	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23668	9-17-2	E THE ESTATE OF RUTH N LUTHER SUZANNE L WOZNIAK ED		1/8+ 1009 286	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27947	9.17-2	E STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+ 1063 568	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
10*28489		E CAROLYN J YOUNG E HOLLY A YDUNG	TH EXPLORATION LLC	1/8+ 1073 384	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A
10*28656	9-17-2	E CRYSTAL DAWN YOUNG	TH EXPLORATION LLC	1/8+ 1076 59 1/8+ 1075 62	N/A ti/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A
10*28557		E PENNY YODER AND KEVIN LYNN YODER	TH EXPLORATION LLC	1/84 1075 53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*28659	9-17-2	E MELISSA D FLETCHER & SCOTT A FLETCHER	TH EXPLORATION LLC	1/8+ 1076 56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*28762	9-17-2	E ALEXA B YOUNG	TH EXPLORATION LLC	1/8+ 1075 404	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
10*28813 10*28815	9-17-2	E CLARA SUE YOUNG E LELAND SINCLAIR YOUNG	TH EXPLORATION LLC	1/8+ 1077 465	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A.	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
10*28815	9.17.2	E LOIS ELAINE WICKHAM	TH EXPLORATION LLC	1/8+ 1077 462 1/8+ 1078 10	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A.	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A
10*28817		E NEIL ROBERT YOUNG	TH EXPLORATION LLC	1/8+ 1078 10	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A
10*28819		E MARK A WALKER	TH EXPLORATION LLC	1/8+ 1077 35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*28820	9-17-2	E MICHAELA WALKER	TH EXPLORATION LLC	1/8+ 1027 39	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23821		E CHAD A YOUNG	TH EXPLORATION LLC	1/8+ 1077 37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
10*29010 10*29011		E LARRY R BONAR AND DEBRA L BONAR E MICHAEL S OTT AND SYBIL OTT	TH EXPLORATION LLC TH EXPLORATION LLC	1/8+ 1083 555 1/8+ 1083 559	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A
10*29012		E GRANT D RICHARDS AND KERBI S RICHARDS	TH EXPLORATION LLC	1/8+ 1083 559	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A
10*29014	9-17-2	E CARLA J SIMMS	TH EXPLORATION LLC	1/8+ 1084 194	N/A	N/A	N/A	N/A N/A	N/A	N/A N/A	N/A	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29016	9-17-2	E SUSAN C YOUNG	TH EXPLORATION LLC	1/8+ 1083 374	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29176	9-17-2	E RONALD W YOUNG	TH EXPLORATION LLC	1/8+ 1085 188	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29177 10*29178		E ERICIYOUNG	TH EXPLORATION LLC	1/8+ 1085 182	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A
10*29237	9-17-2	E RONALD R YOUNG AND GERALDINE YOUNG E RONALD R YOUNG	TH EXPLORATION LLC TH EXPLORATION LLC	1/8+ 1085 185 1/8+ 1090 212	N/A N/A	N/A N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A
10*29383	9-17-2	E *ALICE F. WINLAND	TH EXPLORATION LLC	1/8+ 1090 212	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A
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Lease ID	Parcel	Tags	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Be	ook/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment						
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														Company to The Wheeling Natural	Company to The Manufacturers Light		Hundred Gas Company	Hundred Gas Company	Hundred Gas Company	Carl D Perkins to	Perkins Oil & Gas Inc to	Stone Energy Corp to EQT	
10127077														Gas Company:	& Heat Company:	Snider, dba Hundred				Perkins Oil & Gas Inc: 583/72	Stone Energy Corporation: 26/322		Perkins Oil & Gas Inc. to TH Exploration, LLC: 44/506
10*27877	9-17-41		JOHN T GALLAHER AND EMILY J GALLAHER	THE SUN OIL COMPANY	1/8+	68	471	N/A	N/A	N/A	N/A	N/A	N/A	150/34	148/389	Gas Company: 4/489	Company: 620/630	451/132	451/418	565/72	Corporation: 20/322	50/15	
							1													Statoil USA Onshore	Merger - SWN Exchange		
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																		Onshore Properties Inc:	LLC to SWN Production	Exchange Titleholder	Production Company	LLC to TH Exploration LLC:	Properties Inc to TH Exploration LLC: 36/455
10*15938	9-18-10	G	MARK W YOHO	CHESAPEAKE APPALACHIA LL	1/8+	695	157	N/A	N/A	N/A	N/A	23/512	Company: 33/110	LLC: 33/424	LLC: 19/624	36/431	Exploration LLC: 30/433						
																		Chesapeake Appalachia LLC to Statoil USA	Chesapeake Appalachia	Statol USA Onshore Properties Inc to SWN	Merger - SWN Exchange Titleholder LLC to SWN	SWN Production Company	Statoli USA Onshore
																		Onshore Properties Inc:	LLC to SWN Production	Exchange Titleholder	Production Company	LLC to TH Exploration LLC:	Properties Inc to TH
10*15940	9-18-10	G	JANICE N HAUDENSCHILT	CHESAPEAKE APPALACHIA LL	1/8+	695	166	N/A	N/A	N/A	N/A	23/512	Company: 33/110	LLC: 33/424	LLC: 19/624	36/431	Exploration LLC: 36/455						
						1												Chesapeake Appalachia		Statoil USA Onshore	Merger - SWN Exchange	SWN Production Company	Statoil USA Onshore
					1										1			LLC to Statoil USA Onshore Properties Inc:	Chesapeake Appalachia		Production Company	LLC to TH Exploration LLC:	Properties Inc to TH
10°15941	9-18-10	G	NICOLETTA MILICIA BLOODWORTH	CHESAPEAKE APPALACHIA LL	1/8+	698	370	N/A	N/A	N/A	N/A	23/512		LLC: 33/424	LLC: 19/624	36/431	Exploration LLC: 36/455						
																		Chesapeake Appalachia		Statoil USA Onshore	Merger - SWN Exchange		
																		LLC to Statoil USA	Chesapeake Appalachia	Properties Inc to SWN		SWN Production Company LLC to TH Exploration LLC:	Statoil USA Onshore
10*15942	9-18-10	G	CLARA YOHO	CHESAPEAKE APPALACHIA LL	L 1/8+	698	197	N/A	N/A	N/A	N/A	Onshore Properties Inc: 23/512		LLC: 33/424	Production Company LLC: 19/624		Exploration LLC: 36/455						
					- 40-					- N/A								Chesapeake Appalachia		Statoil USA Onshore	Merger - SWN Exchange		
						1 1							1		1			LLC to Statoil USA	Chesapeake Appalachia		Titleholder LLC to SWN	SWN Production Company	y Statoli USA Onshore
																		Onshore Properties Inc:	LLC to SWN Production	Exchange Titleholder		LLC to TH Exploration LLC:	Properties Inc to TH Exploration LLC: 36/455
10°15943	9-18-10	G	DANA MILICIA HUMPHREYS	CHESAPEAKE APPALACHIA LL	1/8+	700	90	N/A	N/A	N/A	N/A	23/512	Company: 33/110	LLC: 33/424	LLC: 19/624	36/431	Exploration EEC. 30/435						
															1		1	Chesapeake Appalachia	Chesapeake Appalachia	Statoil USA Onshore	Merger - SWN Exchange Titleholder LLC to SWN	SWN Production Company	v Statoll USA Onshore
															1			LLC to Statoll USA Onshore Properties Inc:	LLC to SWN Production	Exchange Titleholder	Production Company	LLC to TH Exploration LLC:	Properties Inc to TH
10*15944	9-18-10	G	DEWEY A MILICIA AND ROBIN MILICIA	CHESAPEAKE APPALACHIA LL	1/8+	700	109	N/A	N/A	N/A		23/512	Company: 33/110	LLC: 33/424	LLC: 19/624	36/431	Exploration LLC: 36/455						
								1										Chesapeake Appalachia		Statoil USA Onshore	Merger - SWN Exchange		
		1											1	1				LLC to Statoil USA	Chesapeake Appalachia		Titleholder LLC to SWN Production Company	SWN Production Company LLC to TH Exploration LLC:	
10*15945	9-18-10	G	HELEN V MCMASTERS AND KENNETH MCMASTERS	CHESAPEAKE APPALACHIA LL	1/8+	707	148	N/A	N/A	N/A	N/A	Onshore Properties Inc: 23/512	LLC to SWN Production Company: 33/110	LLC: 33/424	LLC: 19/624	36/431	Exploration LLC: 36/455						
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10°15946								.									N/A	Onshore Properties Inc:	LLC to SWN Production	Exchange Titleholder LLC: 33/424	Production Company LLC: 19/624	LLC to TH Exploration LLC: 36/431	Exploration LLC: 36/455
10-15946	9-18-10		JOSEPH M EMERY	CHESAPEAKE APPALACHIA LL	L: 1/8+	707	150	N/A	N/A	N/A	N/A	29/325	Company: 33/110			50/451							
																		Chesapeake Appalachia	Charanaska Annalachia	Statoil USA Onshore	Merger - SWN Exchange	SWN Production Company	y Statoll USA Onshore
		1												1				Onshore Properties Inc:	LLC to SWN Production	Exchange Titleholder	Production Company	LLC to TH Exploration LLC:	; Properties Inc to TH
10°15947	9-18-10	G	GERALD ARTHUR EBERT	CHESAPEAKE APPALACHIA LL	L 1/8+	703	588	N/A	N/A	N/A	N/A	23/512	Company: 33/110	LLC: 33/424	LLC: 19/624	36/431	Exploration LLC: 36/455						
															1			Chesapeake Appalachia		Statoll USA Onshore	Merger - SWN Exchange		and the second sec
															1	1		LLC to Statoil USA	Chesapeake Appalachia LLC to SWN Production	Properties Inc to SWN Exchange Titleholder	Titleholder LLC to SWN Production Company	SWN Production Company LLC to TH Exploration LLC:	: Properties Inc to TH
10*15948	9-18-10	G	GERALD ALLEN EBERT	CHESAPEAKE APPALACHIA LL	L 1/8+	707	152	N/A	N/A	N/A	N/A	29/325	Company: 33/110	LLC: 33/424	LLC: 19/624	36/431	Exploration LLC: 36/455						
												2						Chesapeake Appalachia		Statoil USA Onshore	Merger - SWN Exchange		
																		LLC to Statoll USA		Properties Inc to SWN	Titleholder LLC to SWN	SWN Production Compan	
10*15949	9-18-10		CLARENCE W EMERY]														LLC to SWN Production Company: 33/110	Exchange Titleholder LLC: 33/424	Production Company LLC: 19/624	LLC to TH Exploration LLC 36/431	Exploration LLC: 36/455
10 13949	9-18-10	6		CHESAPEAKE APPALACHIA LL	L 1/8+	703	590	N/A	N/A	N/A	N/A		Company: 33/110										
																		Chesapeake Appalachia LLC to Statoil USA	Chesapeake Appalachia	Statoil USA Onshore Properties Inc to SWN	Merger - SWN Exchange Titleholder LLC to SWN	SWN Production Compan	ny Statoll USA Onshore
					1 1													Onshore Properties Inc:	LLC to SWN Production	Exchange Titleholder	Production Company	LLC to TH Exploration LLC	C: Properties Inc to TH
10*15950	9-18-10	G	KAREN S GIBSON	CHESAPEAKE APPALACHIA LL	1/8+	707	154	N/A	N/A	N/A	N/A	29/325	Company: 33/110	LLC: 33/424	LLC: 19/624	36/431	Exploration LLC: 36/455						
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								1			l			1			1	LLC to Statoil USA Onshore Properties Inc:	Chesapeake Appalachia	Properties Inc to SWN	Titleholder LLC to SWN Production Company	SWN Production Compan LLC to TH Exploration LLC	C: Properties Inc to TH
10*15951	9-18-10	G	GEORGE R FINNEGAN	CHESAPEAKE APPALACHIA LL	1/8+	707	156	N/A	N/A	N/A	N/A	Onshore Properties Inc: 29/325	Company: 33/110	LLC: 33/424	LLC: 19/624	36/431	Exploration LLC: 36/455						
																		Chesapeake Appalachia		Statoil USA Onshore	Merger - SWN Exchange		
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10*15952	9-18-10		TOM A FINNEGAN	CHESAPEAKE APPALACHIA LL	L 1/8+	707	135	N/A	N/A	N/A	N/A	125/512	(company: 55/110	ILLC: 33/424	1000 20/024	1000.000							

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10*15953	9-18-10	G GARNET E EMERY	CHESAPEAKE APPALACHIA LL	1/8+	708	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	29/325	Company: 33/110	LLC: 33/474	11C: 19/624	50/451	exploration cost stat, the
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10*17174	9-18-10	G JOSHUA FARL YOHO, JR.	CHESAPEAKE APPALACHIA U	1/8+	715	381	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	29/325	Company: 33/110	LLC: 33/424	U.C: 19/624	36/431	Exploration LLC: 36/455
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10*17175	9-18-10	G JANE ELLEN MARCUM	CHESAPEAKE APPALACHIA LL	1/8+	715	17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	29/325	Company: 33/110	11C: 33/424	LLC: 19/624	36/431	Exploration (I.C. 10)+15
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1.	1																Onshare Properties Inc.			Production Company	LLC to TH Exploration LLC:	Properties loc to TH
10*17176	9-18-10	G NOFLSYOHO	CHESAPFAKE APPALACHIA LL	1/8+	716	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NIA	N/A	39/325	Company: 33/110	LLC: 33/424	LLC: 19/624	36/431	Exploration LLC: 36/455
10 19170	2.10.10	a libert 3 fuela	CHERREN APPROACHIAL	1/1/14	7.45		IN/M	IN/A	ill/e		DYA	19/24	in/et	DI(A)	DIA.	-0/6	1.1/141	Contraction of the				
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			and the second sec	1		10 T 10					and the second sec	1.0.0					Onshore Properties Inc.	LLC to SWN Production	Exchange Titleholder	Production Company	LLC to TH Exploration LLC:	Properties nic to 14
10*17178	9-18-10	G THOMAS S YOHO	CHESAPEAKE APPALACHIA LI	1/8-	716	386	N/A	N/A -	N/A	N/A	N/A	N/4	N/A	N/A	N/A	N/A	29/325	Company: 33/110	LLC: 33/424	ILC: 19/624	36/431	Exploration LLC: 36/455
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10*17179	9-18-10	C CONTRACTOR MANY	CHESAPEARE APPALACHIA LI	1/8+	716	1000				in	100		NIA	1010		100	Onshore Properties Inc: 29/325	Company: 33/110	U.C: 43/424	LLC: 19/624	36/431	Exploration LLC: 36/455
10-14144	9-18-10	6 CHARLES VINCENT YOND	CHESAPEASE APPALACHIA LI	1/8+	716	881	11/1	N/A	N/A	N/A	N/A	N/A	. 19/0	N/A	N/A	N/A	29/525	Company, 35/110	0.0. 0.0/4/4	LUN: 121000	40/ 102	
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Access 11	1					11.000.0							1 million 1	10 Acres 10	the second second second	and the second s	Onshore Properties Inc:	U.C to SWN Production	Exchange Titleholder	Production Company	LLC to TH Exploration LLC:	Properties Inc to TH
10*17180	9-18-10	G CHRISTA IO DAVIES	CHESAPEAKE APPALACHIA LL	1/8+	716	73	N/A	R/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	29/325	Company: 33/110	LLC: 33/424	LLC: 19/524	36/431	Exploration (17: 36/455
10*17689		G DONNA V YOHO	TH EXPLORATION LLC	1/8+	933	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18200		6 EMERSON BARRON AND DIANE BARRON	TH EXPLORATION LLC	1/8+	928	537	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
10*18201		G EUGENIE BARRON YTUARTE AND KENNETH YTUARTE	TH EXPLORATION LLC	1/8+		539	N/A	N/A.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A
10*18764	9-18-10	G CRAIG ALAN YOHO AND DONNA M YOHO	TH EXPLORATION LLC	1/8+	938	227	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A	N/A
10*18765 10*19508	9-18-10	G SAMUEL D YOHD G STONE HILL MINERALS HOLDINGS LLC	1H EXPLORATION LLC		938		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A. N/A	N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A
10 13500	9-18-10	IDA M TRAVIS ET AL DAVID C WHITE AS SPECIAL	TH EXPLORATION LLC	1/8+	941	446	N/A	N/A	N/A	N/A	N/A	N/A.	N/A	N/A	19/15	N/A	10/18	1800	10/15	- UVIC		
10*23260	9-18-10	G COMMISSIONER	TH EXPLORATION LLC	1/8+	988	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AC LOUP	1 10 10	- contraction of	11 CAP COLORINOI CEC	4,01	500	1 10	3023	ing in	our a	1975	nyrs.	1	10/15	- IVI			- Office				1 million (1997)	
10*24650	9-18-10	6 TIMOTHY & COURTWRIGHT AND KAREN COURTWRIG	HT TH EXPLORATION LLC	1/8+	1026	135	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24651	9-18-10	G WILBUR I COURTWRIGHT AND GAIL COURTWRIGHT	TH EXPLORATION LLC		1025	137	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A
10*24652		G DEAN M COURTWRIGHT	TH EXPLORATION LLC	1/8+	1025	139	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A
10*24653	9-18-10	G FRED C COURTWRIGHT	TH EXPLORATION LLC	1/8+			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A
10*24654		G JACOB A COURTWRIGHT	TH EXPLORATION LLC	1/8+			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A
10*24655 10*26720	9-18-10	G FREDA L COURTWRIGHT G ADAM D COURTWRIGHT	TH EXPLORATION LLC TH EXPLORATION LLC	1/8-		145	N/A N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*26725		G HAZEL B KOFFLER AND BALPH KOFFLER	TH EXPLORATION LLC	1/8-			N/A	N/A	N/A.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*26725		G MILLIE F LUND AND DAVID LUND	TH EXPLORATION LLC	1/8-			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*26727	9-18-10	G CHARLOTTE R MCMILLEN AND MARK E MCMILLEN	TH EXPLORATION LLC	1/8+			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*25728		G WRETHA M RICE AND AARON RICE	TH EXPLORATION LLC	1/8-	1041	193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A
10*27352	9-18-10	G MOYCE E ROSPERT AND RICHARD ROSPERT	TH EXPLORATION LLC	1/8-	1053	546	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A	N/A
10*27353		G *ROBERT E RIGGLE JR AND TAMI S RIGGLE	TH EXPLORATION LLC	1/8-	1054	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A
10*27354		G *MARK D RIGGLE AND ADCIA RIGGLE	TH EXPLORATION LLC	1/8-	1053	634	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A	N/A	N/A
10*27355	9-18-10	G *KATRY L SULLIVAN AND MICHAEL SULLIVAN G *LARRY G TAYLOR AND ROXANNE D TAYLOR	TH EXPLORATION LLC TH EXPLORATION LLC	1/8-	1053	628	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A
10*2/615	9-18-10	G *REBECCA K HICKS	TH EXPLORATION U.C.	1/8-	1054	308	N/A N/A	N/A N/A	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27947		G STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC		1063		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*28158	9-18-10	G STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8-			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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										South Penn Natural												
									Unrecorded transfer				the second se									
									South Penn Oil		n: Dallis Snyder, et ux		Elva Robinson &						CNG Producing	the second second second		
								And the second second	Company to Hope-	239/81 - Working		John H. Robinson		Katherine A. Henry		1			Company enaged its	Dominion Exploration		
								South Penn Gi	Natural Gas Compan		et al to John II,	and Charles F. Eagor		& Harry E. Cronin Jr.		Carl D. Perkins &	Hope Natural Gas	CNG Development	name to Dominion	and Production Inc.	0.000	A second second
							15 Rovers to Scoth	Company to South	ARTI in/to the gas	South Penn Oil	Bobinson and		Charles F. Reed &	to Charles E Beed &	Kathryn C. Reed	Dorothy Louise Perkin		Company merged into		changed its name to	Consol Gas Company	CNX Gas Company LLC to
							Penn Oll Company:		leasehold rights of	Company & Hope	George F. Eagon:	Robinson & Mary	Harry R. Cronin Ir:	Kathryn C. Reed;	widow to Carl		Consolidated Gas Suppl		Production Inc.	Consol Gas Company:	merged into CNX Gas	TH Exploration U.C.
10*23194	9-12-40	H ALBERT HARTLEY AND CHRISTOPHER HARTLEY) S ROGERS	1/8+	60	160	60/162	Company: 209/552	subject inasehold.	Natural Gas Company	1/443	Ellen Davis: 3/495	4/35	397/495	Perkins: 434/441	Co: 484/281	Corp: 374/234	Company	effective 4/11/2000	19/546	Company ILC: 11/415	42/149
		and a second sec		- ALACT	1	1000	100 200	10000000000000000000000000000000000000	Such of Broodstond	and a state of the	1	The second second second second	1.1.2	and damage	Contraction of the second				-			
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																	Chesapeake Appalachia		Statoil USA Onshore	SWN Exchange	SWN Production Compar	statoil 155 Cinchore
			1	1										1			LLC to Statoll USA	Chesapeake Appalachia	Properties Inc to SWA	Titleholdre LLC merged Into SWN Production	LLC to TH Exploration LLC	C: Properties Inc to TIL
CONTRACT.	Time .	V Internet State	and the first second second	1.10	in the		lati	and the second second	100		1	1.0		in the second		ini	Onshore Properties Inc: 24/67	Company: 33/110	LLC: 33/424	Company LLC: 19/624	36/431	Exploration LLC: 38/455
10*15937 10*17964	9-19-1	SHIRLEY KODNTZ	CHESAPEAKE APPALACHIA LL		707	619	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A 51/A	24/67 N/A	Company: 33/110 N/A	N/A	N/A	N/A	N/A
10*17964	9-19-1 9-19-1	BOUNTY MINERALS LLC AIDEN BOYD YOUNG JENNIFER A YOUNG, PETITIONER	TH EXPLORATION LLC		928		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A
10*28489	9-19-1	1 CAROLYN I YOUNG	TH EXPLORATION LLC	1/8-	966		N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*28555		1 HOLLY A YOUNG	TH EXPLORATION LLC		1075		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*28555		1 CRYSTAL DAWN YOUNG			1076		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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ease ID	Parcel	Tags Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed B	look/Page	Assignment															
28657	9-19-1	I PENNY YODER AND KEVIN LYNN YODER	TH EXPLORATION LLC	1/8)	1076	53	N/A	N/A.	N/A	N/A	N/A											
28659	9-19-1	MELISSA D FLETCHER & SCOTT A FLETCHER	TH EXPLORATION LLC	1/81	1076	56	N/A															
8762	9-19-1	1 ALEXA B YOUNG	TH EXPLORATION LLC	1/8+	1076	404	N/A															
8813	9-19-1	I CLARA SUE YOUNG	TH EXPLORATION LLC	1/8+	1077	465	N/A															
28815	9-19-1	I LELAND SINCLAIR YOUNG	TH EXPLORATION LLC	1/8+	1077	462	N/A															
8816	9-19-1	I LOIS ELAINE WICKHAM	TH EXPLORATION LLC	1/8+	1078	10	N/A															
28817	9 19-1	I NEIL ROBERT YOUNG	TH EXPLORATION LLC	1/8+	1078	15	N/A															
28819	9-19-1	I MARK A WALKER	TH EXPLORATION LLC	1/8+	1077	35	N/A															
28820	9-19-1	1 MICHAELA WALKER	TH EXPLORATION LLC	1/8+	1077	39	N/A															
*28821	9.19.1	I CHAD A YOUNG	TH EXPLORATION LLC	1/8+	1077	37	N/A															
29010	9-19-1	I LARRY & BONAR AND DEBRA L BONAR	TH EXPLORATION LLC	1/8+	1083	555	N/A															
29011	9-19-1	MICHAELS OTT AND SYBIL OTT	TH EXPLORATION ILC	1/8+	1063	559	N/A															
29012	9-19-1	I GRANT D RICHARDS AND KERRI S RICHARDS	TH EXPLORATION LLC	1/8+	1083	551	N/A	N/A	R/A	N/A												
29014	9.19.1	1 CARLA J SIMMS	TH EXPLORATION LLC	1/8+		194	N/A															
29016	9 19 1	1 SUSAN C YOUNG	TH EXPLORATION LLC	1/8+	1083	374	N/A															
29176	9.19.1	I RONALD W YOUNG	TH EXPLORATION LLC	1/8+	1085	188	N/A															
29177	9-19-1	I ERICIYOUNG	TH EXPLORATION LLC	1/8+	1085	188	N/A	N/A N/A	N/A N/A						N/A N/A	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A
29178	9-19-1	I RONALD R YOUNG AND GERALDINE YOUNG	TH EXPLORATION LLC	1/8+			N/A N/A			N/A	N/A	N/A	N/A	N/A		N/A N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A
29237	9-19-1	I RONALD R YOUNG			1085	185		N/A	1977	N/A N/A	N/A	N/A	N/A	N/A	N/A							
29383		I PALICE EWINIAND	TH EXPLORATION LLC	1/8+	1090	212	N/A		N/A N/A	N/A	N/A	N/A	N/A									
18610		I NEIL ROBERT YOUNG		1/8-		159	N/A			N/A	N/A	N/A										
18614			TH EXPLORATION LLC	1/8-	934	636	N/A	N/A N/A	N/A N/A	N/A	N/A	N/A										
		J MICHAEL A WALKER J MARK A WALKER	TH EXPLORATION LLC	1/8-	934	607	N/A	10,71	N/A N/A	N/A	N/A	N/A										
18615			TH EXPLORATION LLC	1/8+	934	609	N/A	1	N/A N/A	N/A	N/A											
		J CHAD A YOUNG	TH EXPLORATION LLC	1/8+	934	611	N/A		N/A	N/A												
18625		J LOIS ELAINE WICKHAM	TH EXPLORATION LLC	1/8+		632	N/A	N/A N/A	N/A N/A	N/A												
18626	9-19-2	1 CLARA SUE YOUNG	TH EXPLORATION LLC	1/8+	934	634	N/A			N/A												
19409	9-19-2	J CAROLYN J YOUNG	TH EXPLORATION LLC	1/8+			N/A															
19667	9-19-2	J ERIC J YOUNG	TH EXPLORATION LLC	1/8+	937	375	N/A	N/A N/A														
19669	9-19-2	J RONALD W YOUNG	TH EXPLORATION LLC	1/8+	937	373	N/A	N/A.	N/A													
19670	9.19.2	I RONALD R YOUNG AND GERALDINE YOUNG	TH EXPLORATION LLC	1/8+	937	368	N/A															
19671	9-19-2	J MELISSA D FLETCHER & SCOTT A FLETCHER	TH EXPLORATION LLC	1/8+	938	316	N/A															
21343	9-19-2	I LELAND SINCLAIR YOUNG	TH EXPLORATION LLC	1/8+	945	649	N/A															
21489	9-19-2	J ALEXA B YOUNG	TH EXPLORATION LLC	1/8+	957	299	N/A	N/A.	N/A													
21518	9-19-2	J SUSAN CYOUNG	TH EXPLORATION LLC	1/8+	949	203	N/A															
21568	9-19-2	I LARRY R BONAR AND DEBRA L BONAR	TH EXPLORATION LLC	1/8+	957	399	N/A															
21573	9-19-2	J CARLA J SIMMS	TH EXPLORATION LLC	1/8+	957	397	N/A															
21576	9-19-2	J AUCE F WINLAND	TH EXPLORATION LLC	1/8+	957	395	N/A	N/A.	N/A													
1577	9-19-2	1 MICHAELS OTT AND SYBIL OTT	TH EXPLORATION LLC	1/8+	957	446	N/A	N/A.	N/A	N/A	N/A	N/A										
1739	9-19-2	J CRYSTAL DAWN YOUNG	TH EXPLORATION LLC	1/8-		413	N/A															
1740	9-19-2	J HOLLY A YOUNG	TH EXPLORATION LLC	1/8+	957	415	N/A															
1742	9.19-2	J GRANT D RICHARDS AND KERRI S RICHARDS	TH EXPLORATION LLC	1/8-	957	456	N/A															
1743	9-19-2	J SHIRLEY KOONTZ POA KELLI KOONTZ BENUINE	TH EXPLORATION LLC	1/8+	957	454	N/A															
22022	9/19-2	J PENNY YODER AND KEVIN LYNN YODER	TH EXPLORATION LLC	1/8+	952	356	N/A															
22057	9-19-2	J RONALD R YOUNG	TH EXPLORATION LLC		960		N/A															
2600	9-19-2	AIDEN BOYD YOUNG JENNIFER A YOUNG, PETITIONER	TH EXPLORATION LLC	1/8-	966	462	N/A	N/A	N/A	IN/A	N/A	NZA	N/A	N/A								

DPS LAND SERVICES CORP 6000 TOWN CENTER BOULEVARD, SUITE 145 CANONSBURG, PA 15317-5841 BOUNDO 36 PAGE 0535

> Jan Pest MARSHALL County 02:05:39 PM Instrument No 1415451 Document Type ASN Pages Recorded 7 Book-Page 36-535 Recording Fee \$7.00 Additional \$6.00

STATE OF WEST VIRGINIA COUNTY OF MARSHALL

ASSIGNMENT AND CONVEYANCE

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This Assignment and Conveyance (this "Assignment") is from GULFPORT ENERGY CORPORATION, a Delaware corporation ("Gulfport"), and FOSSIL CREEK OHIO, LLC, a Delaware limited liability company ("Fossil Creek" and, together with Gulfport, "Assignors"), to TH Exploration, LLC, a Texas limited liability company ("Assignee"), and is executed on September 23, 2016 (the "Effective Date"). Assignors 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 Assignors and the Assignee dated June 24, 2016 (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, each Assignor hereby GRANTS, BARGAINS, ASSIGNS, CONVEYS AND TRANSFERS unto Assignee its right, title and interest in and to the oil and gas leases described in more detail on <u>Exhibit A</u> attached hereto (the "Leases") and any surface use agreements that relate to such Leases insofar as such surface use agreements relate to the portion of lands covered by such Leases (collectively with the Leases, 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 1.4 <u>Assignment Subject to Acreage Trade Agreement</u>. 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 Assignors, 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 <u>Special Warranty of Title</u>. Each 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 Assignors or any of their respective 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 AND VII</u> OF THE ACREAGE TRADE AGREEMENT OR THIS ASSIGNMENT, ASSIGNORS MAKE NO, AND HEREBY EXPRESSLY DISCLAIM, ANY

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RECEIVED Office of Oil and Gas

FEB 2 5 2021

WV Department of Environmental Protection

6000 TOAN CENTER BULEVARD, SUITE 145 CHEMSERG PA 15517-5241

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ASSIGNMENT AND BILL OF SALE

This ASSIGNMENT AND BILL OF SALE (this "Assignment") dated as of December 1, 2020 (the "Execution Date"), is made by and between EQT PRODUCTION COMPANY, a Pennsylvania corporation, with an address at 625 Liberty Avenue, Suite 1700, Pittsburgh, Pennsylvania 15222 ("EQT"), and TH EXPLORATION, LLC, a Texas limited liability company, with an address at 1320 S. University Drive, Suite 500, Fort Worth, Texas 76107 ("TH") pursuant to the terms of that certain Acreage Trade Agreement by and among EQT, TH and TH Exploration II, LLC ("TH II"), dated July 8, 2020 (the "Agreement"). EQT and TH may be referred to herein together as the "Partier", and each individually as a "Party".

RECITALS

WHEREAS, EQT desires to transfer, convey and assign to TH certain of EQT's oil and gas leasehold interests located in Marshall County, West Virginia set forth on <u>Exhibit A</u> attached hereto and incorporated herein ("EQT Leases") in accordance with this Assignment and the Agreement; and

WHEREAS, TH desires to receive from EQT, all of EQT's right, title and interest in and to the EQT Leases in accordance with this Assignment and the Agreement.

NOW, THEREFORE, for and in consideration of the mutual promises contained herein and in the Agreement, the benefits to be derived by each Party hereunder and under the Agreement, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

ARTICLE I DEFINED TERMS

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1.1 Definitions. Capitalized terms used herein and not otherwise defined throughout this Assignment shall have the meanings given such terms in the Agreement.

ARTICLE II ASSIGNMENT OF ASSETS

2.1 Assignment. Subject to the terms and conditions of this Assignment and the Agreement, EQT does hereby assign, convey and transfer to TH all of the right, title and interest of EQT in and to the following (collectively for purposes of this Assignment, the "EQT Asses"):

(a) Subject to the conveyance of the Wells Assets from EQT to TH II as described in the Agreement, the EQT Leases and appurtenances thereto (including rights of access and to install facilities), all Hydrocarbons within, produced from, derived from, or sold from the EQT Leases (and all proceeds related thereto), on and after the Valuation Date, and all Surface Contracts including but not limited to those set forth on <u>Exhibit B</u> attached hereto and incorporated herein (the "EQT Surface Contracts") related to the EQT Leases and such Hydrocarbons; and

(b) Copies of deeds, files and all other ownership information directly related to the acquisition, operations and maintenance of the EQT Leases, lease files for the EQT Leases

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ASSIGNMENT AND CONVEYANCE

This Assignment and Conveyance (this "Assignment") is from STATOIL USA ONSHORE PROPERTIES INC., a Delaware corporation ("Assignor"), to TH Exploration, LLC, a Texas limited liability company ("Assignee"), and is executed on August 22, 2016 (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 <u>Section 3.7</u>) shall have the meanings given such terms in that certain Acreage Trade Agreement between the Assignor and the Assignee dated June 19, 2016 (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 the Target Formations and 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"). Assignor does hereby reserve unto itself the right and subsurface easement to drill through the Leasehold Rights to access the those depths and formations in the Leases other than the Target Formations and (y) to shoot seismic, sonic, or other energy or waves through the Leasehold Rights and to receive, record and evaluate such energy or waves, including those reflected from or in any way pertaining to the reserved depths, and to utilize any and all other exploration technologies that image the subsurface of the leasehold including the reserved depths and to receive, record and evaluate all images resulting therefrom.

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 1.4 <u>Assignment Subject to Acreage Trade Agreement</u>. 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 <u>Special Warranty of Title</u>. Assignor hereby agrees to warrant and defend Defensible Title to the Leases unto Assignee, its successors and assigns, against every Person whomsoever lawfully claiming or to claim the same or any part thereof by, through or under Assignor or any of its Affiliates, but not otherwise.

Section 2.2 Disclaimers of Warranties and Representations.

(a) EXCEPT AS EXPRESSLY REPRESENTED OTHERWISE IN <u>SECTION</u> <u>VI</u> OF THE ACREAGE TRADE AGREEMENT OR THIS ASSIGNMENT, ASSIGNOR MAKES NO, AND HEREBY EXPRESSLY DISCLAIMS, ANY REPRESENTATION OR WARRANTY, EXPRESS, IMPLIED OR STATUTORY, INCLUDING AS TO (I) TITLE TO THE LEASEHOLD RIGHTS, (II) THE CONTENTS, CHARACTER OR NATURE OF ANY

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ASSIGNMENT AND CONVEYANCE

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

ARTICLE 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 <u>Assignment Subject to Acreage Trade Agreement</u>. 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 <u>Special Warranty of Title</u>. Assignor hereby agrees to warrant and defend Defensible Title to the Leases unto Assignee, its successors and assigns, against every Person whomsoever lawfully claiming or to claim the same or any part thereof by, through or under Assignor or any of its Affiliates, but not otherwise.

Section 2.2 Disclaimers of Warranties and Representations.

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

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MEMORANDUM OF PARTIAL ASSIGNMENT OF OIL AND GAS LEASES

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STATE OF <u>WEST VIRGINIA</u>

COUNTY OF MARSHALL

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

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

In the Assignment dated effective as of the _____ day of <u>Noverber</u>, 2019 (hereinafter, the "<u>Effective Date</u>") and this Memorandum, Assignor does hereby **GRANT**, **BARGAIN**, **SELL**, **CONVEY**, **TRANSFER and ASSIGN** unto Assignee, all right, title and interest in and to the Oil and Gas Leases **INSOFAR AND ONLY INSOFAR** as each lease and parcel covers those formations lying between two hundred (200) feet above and two hundred (200) feet below the formations commonly known to as the Utica/Point Pleasant Shale formations, or the stratigraphic equivalent thereof (such depths and formations being referred to as the "<u>Assigned Formations</u>"). The Assigned Formations are included with and part of the Assigned Rights as defined in the Assignment.

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

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

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

This Memorandum is made expressly subject to the terms and conditions of the Purchase and Sale Agreement dated September 23, 2019, by and between the Parties, all of which are fully incorporated herein by reference (the "<u>Purchase Agreement</u>").

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

[TWO SIGNATURE PAGES TO FOLLOW]

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PARTIAL QUITCLAIM ASSIGNMENT OF OIL AND GAS LEASE

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This PARTIAL QUITCLAIM ASSIGNMENT OF OIL AND GAS LEASE (this "Assignment"), made the <u>31</u> day of May, 2018 (hereinafter, "<u>Effective Date</u>"), is by and between CNX GAS COMPANY LLC, a Virginia limited liability company, whose address is 1000 CONSOL Energy Drive, Suite 400, Canonsburg, Pennsylvania 15317 (hereinafter "<u>Assignor</u>") and TH EXPLORATION, LLC, a Texas limited liability company, whose address is 1320 S. University Drive, Suite 500, Fort Worth, TX 76107 (hereinafter "<u>Assignee</u>"). All references in this Assignment to "<u>Party</u>" or "<u>Parties</u>" shall be deemed at all times to mean Assignor or Assignee or both. Capitalized terms used but not defined herein shall have the meaning given such terms in the Acreage Trade Agreement, by and between Assignor and Assignee dated April 9, 2018.

WHEREAS, Assignor desires to assign to Assignee, and Assignee desires to receive from Assignor, all of Assignor's right, title and interest in and to that Oil & Gas Lease(s) as same may have been previously or will in the future be modified, extended, or amended (hereinafter, "<u>Lease</u>"), covering certain tracts of land (hereinafter, "<u>Lands</u>") located in Marshall County, West Virginia; such Lease and Lands covered thereby being more particularly described on <u>Exhibit "A"</u> attached hereto and made a part hereof insofar and only insofar as such Lease covers the Target Formations (as defined below).

NOW, THEREFORE, for and in consideration of TEN AND NO/100 DOLLARS (\$10.00) and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Assignor does hereby ASSIGN and TRANSFER to Assignee, without warranty of any kind or nature, the following "<u>Assigned</u> <u>Rights</u>":

- (a) all of Assignor's right, title and interest, if any, in and to the to the Lease set forth on <u>Exhibit A</u> attached hereto INSOFAR AND ONLY INSOFAR as to the particular Target Formation(s) (defined below) described and delineated on <u>Exhibit A</u>:
 - (i) "<u>Target Formation(s)</u>" means, with respect to the Lease, two hundred feet (200') above the top and two hundred feet (200') below the base of the Marcellus Formation or the Utica Formation or both, as specified on the Lease on <u>Exhibit A</u>. For the purposes of this Assignment, the Marcellus Formation shall be defined as the formation

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