



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

Thursday, July 28, 2022
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 VAN WINKLE N-1HM
47-051-02363-00-00

Extended Lateral Length

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: VAN WINKLE N-1HM
Farm Name: XCL MIDSTREAM OPERATING, LLC
U.S. WELL NUMBER: 47-051-02363-00-00
Horizontal 6A New Drill
Date Modification Issued: 7/28/2022

Promoting a healthy environment.

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

1) Well Operator: Tug Hill Operating, LLC 494510851 Marshall Meade Glen Easton 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Van Winkle N-1HM Well Pad Name: Hunter Pethtel

3) Farm Name/Surface Owner: TH Exploration, LLC Public Road Access: County Route 74

4) Elevation, current ground: 753' Elevation, proposed post-construction: 753'

5) Well Type (a) Gas Oil Underground Storage
Other _____

(b) If Gas Shallow Deep _____
Horizontal _____

6) Existing Pad: Yes or No Yes

7) **Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):**

Marcellus is the target formation at a depth of 6,069' - 6,119', thickness of 50' and anticipated pressure of approx. 3800 psi.

8) **Proposed Total Vertical Depth:** 6,219'

9) Formation at Total Vertical Depth: Onondaga

10) **Proposed Total Measured Depth:** 22,034'

11) **Proposed Horizontal Leg Length:** 14,157.08'

12) **Approximate Fresh Water Strata Depths:** 70; 414'

13) Method to Determine Fresh Water Depths: Based on the depth of Pittsburgh Coal seam, per WVGES mapping contours

14) **Approximate Saltwater Depths:** 869'

15) **Approximate Coal Seam Depths:** Sewickley Coal - 313' and Pittsburgh Coal - 408'

16) Approximate Depth to Possible Void (coal mine, karst, other): None anticipated

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No

(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

RECEIVED
Office of Oil and Gas
JUN 27 2022
WV Department of
Environmental Protection

18)

CASING AND TUBING PROGRAM

<u>TYPE</u>	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	30"	NEW	BW	BW	120'	120'	259ft ³ (CTS)
Fresh Water/Coal	13 3/8"	NEW	J55	54.5#	515'	515'	708ft ³ (CTS)
Intermediate	9 5/8"	NEW	J55	36#	2,256'	2,256'	732ft ³ (CTS)
Production	5 1/2"	NEW	P110	20#	22,034'	22,034'	5,623ft ³ (CTS)
Tubing	2 3/8"	NEW	P110	4.7#		7,406'	
Liners							

MSK 3/29/2022

<u>TYPE</u>	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	30"	36"	1.0	2,333	1,866	CLASS A	1.2
Fresh Water/ Coal	13 3/8"	17 1/2"	.38	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 and TD Pilot Hole 100' into the Onondaga. Log vertical section and run a solid cement plug back to proposed KOP (6,906'). Drill curve and lateral per proposed well plan, run and cement production casing. Perform CBL from 60 deg to surface, make cleanout run, and stimulate.

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

Well to be completed with approximately 35,400,000 lb proppant and 640,000 bbl of water. Max rate = 80 bpm; max psi = 9,000#.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 16.63 acres

22) Area to be disturbed for well pad only, less access road (acres): 4.87 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.

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

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

25) Proposed borehole conditioning procedures:

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

*Note: Attach additional sheets as needed.

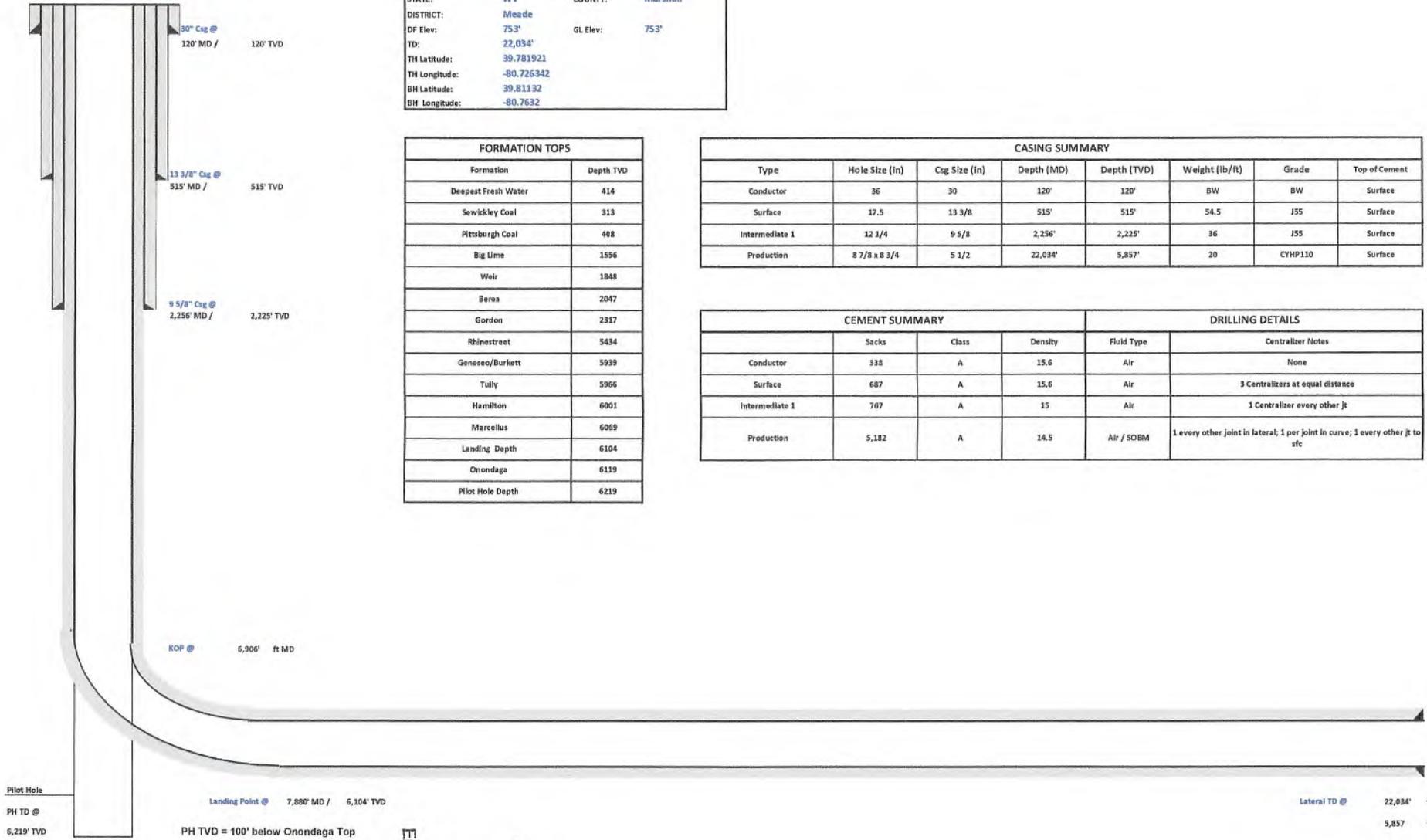


WELL NAME: Van Winkle N-3HM
 STATE: WV COUNTY: Marshall
 DISTRICT: Meade
 DF Elev: 753' GL Elev: 753'
 TD: 22,034'
 TH Latitude: 39.781921
 TH Longitude: -80.726342
 BH Latitude: 39.81132
 BH Longitude: -80.7632

FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	414
Sewickley Coal	313
Pittsburgh Coal	408
Big Lime	1556
Weir	1848
Berea	2047
Gordon	2317
Rhinestreet	5434
Genesee/Burkett	5939
Tully	5966
Hamilton	6001
Marcellus	6059
Landing Depth	6104
Onondaga	6119
Pilot Hole Depth	6219

CASING SUMMARY							
Type	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cement
Conductor	36	30	120'	120'	BW	BW	Surface
Surface	17.5	13 3/8	515'	515'	54.5	J55	Surface
Intermediate 1	12 1/4	9 5/8	2,256'	2,225'	36	J55	Surface
Production	8 7/8 x 8 3/4	5 1/2	22,034'	5,857'	20	CYHP110	Surface

CEMENT SUMMARY				DRILLING DETAILS	
	Sacks	Class	Density	Fluid Type	Centralizer Notes
Conductor	338	A	15.6	Air	None
Surface	687	A	15.6	Air	3 Centralizers at equal distance
Intermediate 1	767	A	15	Air	1 Centralizer every other jt
Production	5,182	A	14.5	Air / SOBM	1 every other joint in lateral; 1 per joint in curve; 1 every other jt to sfc



RECEIVED
 Office of Oil and Gas
 WV Department of Environmental Protection
 JUN 27 2022



Tug Hill Operating, LLC Casing and Cement Program

Van Winkle N-1HM

Casing

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	13 3/8"	J55	17 1/2"	515'	CTS
Intermediate	9 5/8"	J55	12 1/4"	2,256'	CTS
Production	5 1/2"	CYHP110	8 7/8 x 8 3/4"	22,034'	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

RECEIVED
Office of Oil and Gas
JUN 27 2022
WV Department of
Environmental Protection



TUG HILL
OPERATING

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

Well Name: Van Winkle N-1HM

Pad Name: Hunter Pethtel Pad

County: Marshall

UTM (meters), NAD83, Zone 17

Northing: 4,403,588.88

Easting: 523,433.50

Maury J. Knapp
3/29/2022

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

Jerry V. DeRosa, Director EH&S Affairs

(724) 338-2029 (office)

(412) 736-5767 (cellular)

24-HOUR EMERGENCY PHONE NUMBER

(800) 921-9745

**HUNTER PETHTEL LEASE
VAN WINKLE N 1HM WELL
TUG HILL OPERATING**

PARCEL	SURFACE ADJOINER	ACRES
5-9-13	KAREN M. KAZEMKA (NKA KAREN M. WILSON)	3.69
5-9-14	DENNIS P. CADMUS	136 POLES
5-9-15	DENNIS P. CADMUS	3.85
5-9-16	SHEENA ROSE	1.65
5-9-17	DENNIS P. CADMUS	28.063
5-9-24	DENNIS P. CADMUS	21 AC. 49 P.
5-10-4.2	JACK E. RECTOR	2.887
5-10-4.3	ANTHONY A. & KAREN L. ANKROM	5.697
5-10-4.7	LINDA BECHTOLD, ET AL	2.110
5-10-4.8	SAMUEL FRANKLIN	1.8808
5-10-4.9	JAMES E. & KAREN M. WILSON	0.8692
5-10-4.10	SHEENA ROSE	0.803
5-10-4.11	JASON E. BONNETTE	1.5
5-10-6	WILLIAM F. RULONG, ET AL	P/O 1.00
5-10-8.1	SAMUEL D. & BECKY ROBINSON	1.511
9-10-1.1	CONNIE S. CUNNINGHAM	0.482
9-10-1.2	JOSHUA A. & SHANNON N. HOYT	2.436
9-10-1.3	FINLEY D. MONTGOMERY, ET UX	20.294
9-10-2.1	SHERRY VAN SCYOC YOCUM & BLAINE VAN SCYOC	5.00
9-10-2.2	WALTER J. FECAT, JR., ET UX	5.00
9-10-10	LOUIS DELBERT VAN SCYOC	24.50
9-10-12	JOSEPH LEE CROW	11.279
9-10-13	JOSEPH LEE CROW	12.18
9-10-20	JOSHUA A. & SHANNON N. HOYT	9.942
9-10-21	JAMES & VICKIE J. MASON	2.00
9-10-22	JAMES & VICKIE J. MASON	1.169
9-13-4.1	H & L EQUIPMENT, LLC	0.449

TAG	SURFACE OWNER	PARCEL	ACRES
A	TH EXPLORATION	9-13-5.3	16.10
B	XCL MIDSTREAM OPERATING, LLC	9-13-5	168.73
C	LOUIS AULENBACHER	9-13-4	100.191
D	CAROL VAN SCYOC EST	9-10-2	206.988
E	CAROL VAN SCYOC EST	9-10-1	118.087
F	HERBERT M. AULENBACHER, JR.	5-10-9	141.43
G	STATE OF WEST VIRGINIA (FISH CREEK)	N/A	N/A
H	WILLIAM F. RULONG, ET AL	5-10-8	70.6672
I	WILLIAM F. RULONG, ET AL	5-10-7	22.872
J	WILLIAM F. RULONG, ET AL	5-10-5	27.5
K	SHEENA ROSE	5-10-4	65.16
L	SHEENA ROSE	5-10-4.12	20.07
M	JASON J. STEED	5-9-13.2	135.61
N	ROBERT GREGORY MCQUIRE, ET UX	5-9-12	78.28
O	PATRICIA McCLINTOCK	5-9-7	110.02
P	PATRICIA McCLINTOCK	5-9-6	101
Q	JAMES REDMENN LEGG, II ET AL	5-9-3	49

NOTES ON SURVEY

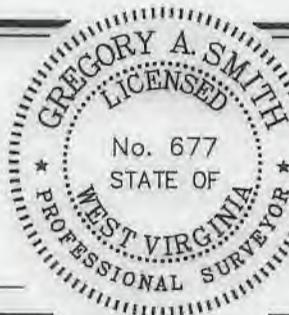
- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'.
- BASED ON WV DOT COUNTY ROUTE 74 IS A 40' STRIP OF LAND ACQUIRED IN NUMEROUS DEEDS.



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5634
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
 254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296
 slsvv.com

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 677 *Gregory A. Smith*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE JANUARY 20, 20 21
 REVISED JUNE 1, 2022

OPERATORS WELL NO. VAN WINKLE N 1HM
 API WELL NO. 47 - 051 - 02363 MOD
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8952P1HMR.dwg
VAN WINKLE N 1HM-REV3
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'

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

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 753.50' WATERSHED FISH CREEK (HUC 10)
 DISTRICT MEADE COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'
 SURFACE OWNER TH EXPLORATION, LLC ACREAGE 16.10 ±
 ROYALTY OWNER DENNIS HUNTER, ET AL - SEE WV-6A1 ACREAGE 190.12 ±
 PROPOSED WORK: LEASE NO. SEE WV-6A1
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
 ESTIMATED DEPTH TVD: 6,219' / TMD: 22,034'

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN
 ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5098 WASHINGTON ST. W, STE 407
 FORT WORTH, TX 76107 CHARLESTON, WV 25313-1561

T.H. LATITUDE 39°47'30"
 B.H. LATITUDE 39°50'00"
 (S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)
 NAD'83 S.P.C.(FT) N. 469,267.73 E. 1,623,863.71
 NAD'83 GEO. LAT-(N) 39.781921 LONG-(W) 80.726342
 NAD'83 UTM (M) N. 4,403,588.85 E. 523,433.52
LANDING POINT
 NAD'83 S.P.C.(FT) N. 467,710.3 E. 1,620,472.3
 NAD'83 GEO. LAT-(N) 39.777518 LONG-(W) 80.738332
 NAD'83 UTM (M) N. 4,403,097.1 E. 522,408.2
BOTTOM HOLE
 NAD'83 S.P.C.(FT) N. 480118.9 E. 1,613,656.8
 NAD'83 GEO. LAT-(N) 39.811320 LONG-(W) 80.763200
 NAD'83 UTM (M) N. 4,406,842.7 E. 520,268.7



REFERENCES

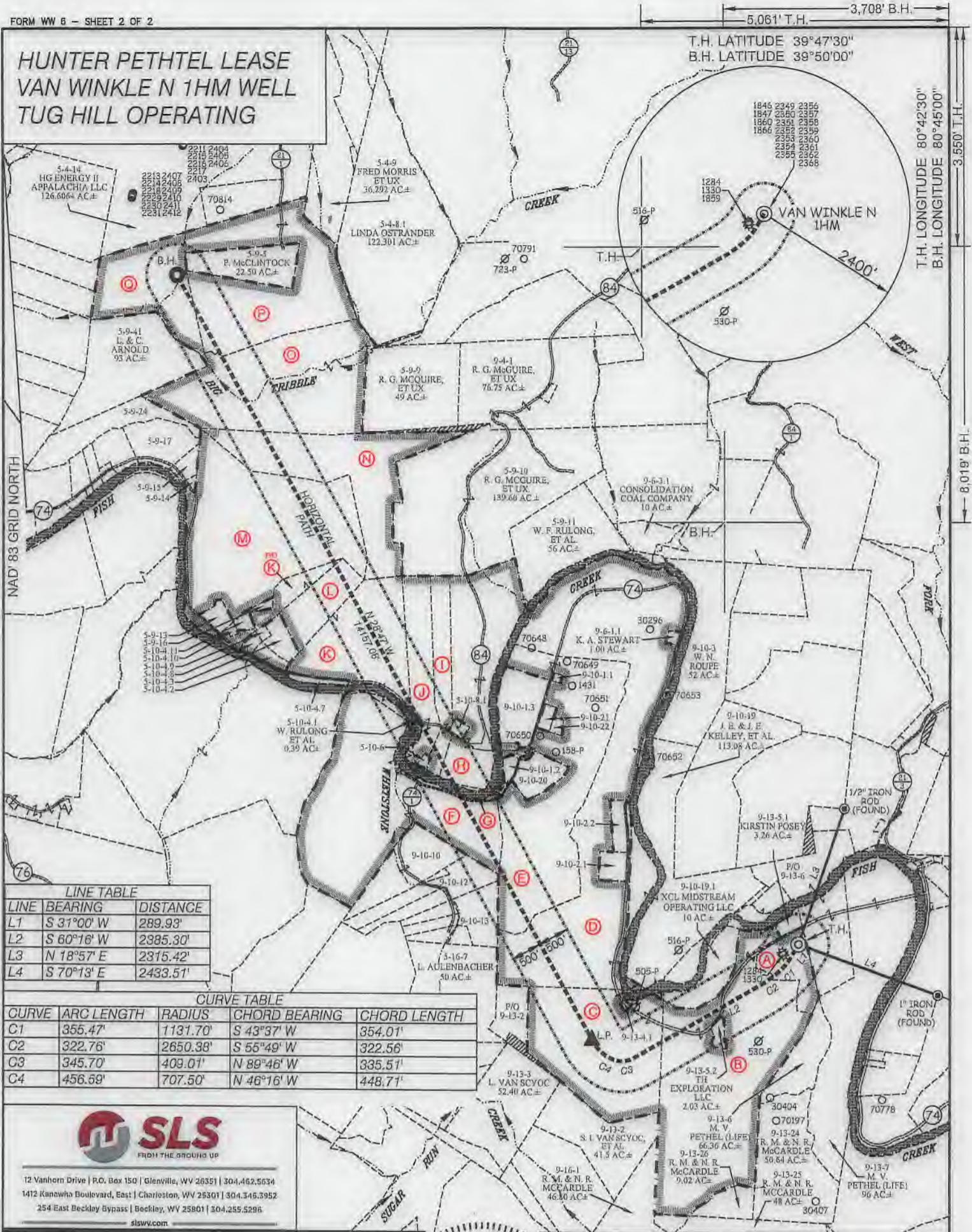


5,061' T.H. 3,708' B.H.
 T.H. LONGITUDE 80°42'30"
 B.H. LONGITUDE 80°45'00"
 3,550' T.H.
 8,019' B.H.

HUNTER PETHEL LEASE VAN WINKLE N 1HM WELL TUG HILL OPERATING

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

T.H. LONGITUDE 80°42'30"
B.H. LONGITUDE 80°45'00"



LINE	BEARING	DISTANCE
L1	S 31°00' W	289.93'
L2	S 60°16' W	2385.30'
L3	N 18°57' E	2315.42'
L4	S 70°13' E	2433.51'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	355.47'	1131.70'	S 43°37' W	354.01'
C2	322.76'	2650.38'	S 55°49' W	322.56'
C3	345.70'	409.01'	N 89°46' W	335.51'
C4	456.59'	707.50'	N 46°16' W	448.71'



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5634
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
 254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296
 slswv.com

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)			
NAD'83 S.P.C.(FT)	N. 469,287.73	E. 1,823,883.71	
NAD'83 GEO.	LAT-(N) 39.781921	LONG-(W) 80.726342	
NAD'83 UTM (M)	N. 4,403,588.85	E. 523,433.52	
LANDING POINT			
NAD'83 S.P.C.(FT)	N. 467,710.3	E. 1,620,472.3	
NAD'83 GEO.	LAT-(N) 39.777518	LONG-(W) 80.738332	
NAD'83 UTM (M)	N. 4,403,097.1	E. 522,408.2	
BOTTOM HOLE			
NAD'83 S.P.C.(FT)	N. 480,118.9	E. 1,613,656.8	
NAD'83 GEO.	LAT-(N) 39.811320	LONG-(W) 80.763200	
NAD'83 UTM (M)	N. 4,406,842.7	E. 520,288.7	



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

P.S. 677 *Gregory A. Smith*

LEGEND	
LEASE LINE	
SURFACE LINE	
WELL LATERAL	
OFFSET LINE	
TIE LINE	
CREEK	
ROAD	
COUNTY ROUTE	
PROPOSED WELL	
EXISTING WELL	
PERMITTED WELL	
TAX MAP-PARCEL	00-00
SURFACE OWNER (SEE TABLE)	
LEASE # (SEE WW-5A1)	

SCALE 1" = 2000' FILE NO. 8952P1HMR.dwg
 VAN WINKLE N 1HM-REV3
 DATE JANUARY 20, 20 21
 REVISED JUNE 1, 2022
 OPERATORS WELL NO. VAN WINKLE N 1HM
 API WELL NO. 47 - 051 - 02363 MOD
 STATE COUNTY PERMIT

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

DESIGNATED AGENT DARREN BROWN
 CT CORPORATION
 ADDRESS 5098 WASHINGTON ST. W, STE 407
 CHARLESTON, WV 25313-1561

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

COUNTY NAME
 PERMIT

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

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

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

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

*See attached pages

***Co-tenancy utilization – 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 *Amy Morris*
 Its: Permitting Specialist - Appalachia Region RECEIVED
Office of

WW-6A1 Supplement

Operator's Well No. Van Winkle N - 1HM

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book	Page	Assignment	Assignment	Assignment
10*31312	9-13-5.3	A	DENNIS W HUNTER AND KATHY A HUNTER	CENTRAL MICHIGAN EXPLORATION LLC	1/8+	668	155	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31312	9-13-5	B	DENNIS W HUNTER AND KATHY A HUNTER	CENTRAL MICHIGAN EXPLORATION LLC	1/8+	668	155	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*19250	9-13-4	C	LOUIS AULENBACHER	CHEVRON USA INC	1/8+	902	444	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*22355	9-13-4	C	DEL T KELLEY AND DEBORAH A KELLEY	AMERICAN PETROLEUM PARTNERS LLC	1/8+	916	84	N/A	N/A	American Petroleum Partners LLC to TH Exploration LLC: 42/109
10*22362	9-13-4	C	TOD M KELLEY	AMERICAN PETROLEUM PARTNERS LLC	1/8+	916	81	N/A	N/A	American Petroleum Partners LLC to TH Exploration LLC: 42/109
10*22382	9-13-4	C	BETTY LOU KAMPE	AMERICAN PETROLEUM PARTNERS LLC	1/8+	919	399	N/A	N/A	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109
10*19894	9-10-2	D	CAROL L VANSYOC	TH EXPLORATION LLC	1/8+	941	392	N/A	N/A	N/A
10*19894	9-10-1	E	CAROL L VANSYOC	TH EXPLORATION LLC	1/8+	941	392	N/A	N/A	N/A
10*19249	5-10-9	F	HERBERT M AULENBACHER	CHEVRON USA INC	1/8+	914	551	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*23458	FISH CREEK	G	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	TH EXPLORATION LLC	1/8+	1019	373	N/A	N/A	N/A
10*27752	FISH CREEK	G	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	TH EXPLORATION LLC	1/8+	1068	550	N/A	N/A	N/A
10*18726	5-10-8	H	EMILY K RULONG AND WILLIAM F RULONG SR	TH EXPLORATION LLC	1/8+	941	441	N/A	N/A	N/A
10*18837	5-10-8	H	THE RODGERS FAMILY TRUST	TH EXPLORATION LLC	1/8+	935	122	N/A	N/A	N/A
10*18943	5-10-8	H	BRANDY SUE MOORE AND DELMAS L MOORE	TH EXPLORATION LLC	1/8+	940	124	N/A	N/A	N/A
10*19607	5-10-8	H	DAVA HARTLEY SMITH	TH EXPLORATION LLC	1/8+	944	186	N/A	N/A	N/A
10*19666	5-10-8	H	RALPH TERRY AND MONICA TERRY	TH EXPLORATION LLC	1/8+	944	182	N/A	N/A	N/A
10*22324	5-10-8	H	RHONDA RISDEN	TH EXPLORATION LLC	1/8+	965	600	N/A	N/A	N/A
10*22542	5-10-8	H	VINCE E OSER AND KAY J OSER	TH EXPLORATION LLC	1/8+	966	198	N/A	N/A	N/A
10*23487	5-10-8	H	ELMER RICHARDSON ET AL CAROLYN FLANNERY SP COMM	TH EXPLORATION LLC	1/8+	1009	255	N/A	N/A	N/A
10*23491	5-10-8	H	GENERAL RECEIVER OF MARSHALL COUNTY	TH EXPLORATION LLC	1/8+	1014	498	N/A	N/A	N/A
10*26513	5-10-8	H	CLIFFORD C HARTLEY AND BARBARA T HARTLEY	TH EXPLORATION LLC	1/8+	1034	226	N/A	N/A	N/A
10*27959	5-10-8	H	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1063	594	N/A	N/A	N/A
10*28119	5-10-8	H	WILMA JEAN OSER	TH EXPLORATION LLC	1/8+	1057	328	N/A	N/A	N/A
10*28563	5-10-8	H	MARGARET TOLER	TH EXPLORATION LLC	1/8+	1074	630	N/A	N/A	N/A
10*28616	5-10-8	H	SILVIA J NEEHOUSE	TH EXPLORATION LLC	1/8+	1075	37	N/A	N/A	N/A
10*28617	5-10-8	H	RICKY E DAVIS AIF ALISA M DAVIS	TH EXPLORATION LLC	1/8+	1075	35	N/A	N/A	N/A
10*28812	5-10-8	H	ROBERT N BAKER AND THERESA L BAKER	TH EXPLORATION LLC	1/8+	1077	33	N/A	N/A	N/A
10*28855	5-10-8	H	PAMELA J WHORTON AND ROBERT D WHORTON	TH EXPLORATION LLC	1/8+	1077	264	N/A	N/A	N/A
10*28926	5-10-8	H	DAVID M AND SHERRY L TOLER	TH EXPLORATION LLC	1/8+	1078	13	N/A	N/A	N/A
10*28950	5-10-8	H	ANTHONY C BENEDETTA AND MARY A BENEDETTA	TH EXPLORATION LLC	1/8+	1078	188	N/A	N/A	N/A
10*28969	5-10-8	H	HARRY MCCrackEN AND BETH ANN MCCrackEN	TH EXPLORATION LLC	1/8+	1078	436	N/A	N/A	N/A

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book	Page	Assignment	Assignment	Assignment
10*28988	5-10-8	H	HAROLD L GOUDY AND DONNA D GOUDY	TH EXPLORATION LLC	1/8+	1080	536	N/A	N/A	N/A
10*28989	5-10-8	H	SANDRA K LYTTON AND CHARLES E LYTTON	TH EXPLORATION LLC	1/8+	1080	538	N/A	N/A	N/A
10*28993	5-10-8	H	CALVIN MCGUIRE	TH EXPLORATION LLC	1/8+	1080	541	N/A	N/A	N/A
10*28994	5-10-8	H	JENNIFER T PUMPA AND RICHARD PUMPA	TH EXPLORATION LLC	1/8+	1080	543	N/A	N/A	N/A
10*28995	5-10-8	H	ELLEN SCHMIDT	TH EXPLORATION LLC	1/8+	1080	545	N/A	N/A	N/A
10*28996	5-10-8	H	SHAWN MARIE SEWGARD AND JERRY SWEGARD	TH EXPLORATION LLC	1/8+	1083	124	N/A	N/A	N/A
10*29043	5-10-8	H	DONALD LESTER GOUDY JR AND BILLIE GOUDY	TH EXPLORATION LLC	1/8+	1083	121	N/A	N/A	N/A
10*29044	5-10-8	H	GARREN RAY GOUDY AND HOLLEE J GOUDY	TH EXPLORATION LLC	1/8+	1083	377	N/A	N/A	N/A
10*29073	5-10-8	H	JOEL B MATHIS II AND DEBORAH MATHIS	TH EXPLORATION LLC	1/8+	1083	563	N/A	N/A	N/A
10*29206	5-10-8	H	PAMELA R BENEDETTA	TH EXPLORATION LLC	1/8+	1085	598	N/A	N/A	N/A
10*29245	5-10-8	H	AMFLO ENTERPRISES LLC CO BARRY STIFFLER	TH EXPLORATION LLC	1/8+	1086	508	N/A	N/A	N/A
10*29267	5-10-8	H	ELNORA M BARANICH	TH EXPLORATION LLC	1/8+	1090	141	N/A	N/A	N/A
10*29394	5-10-8	H	WILLIAM ELLIOTT AND MARY MARCIA ELLIOTT	TH EXPLORATION LLC	1/8+	1096	303	N/A	N/A	N/A
10*29512	5-10-8	H	KERRY R AND BARBARA MOORE	TH EXPLORATION LLC	1/8+	1096	305	N/A	N/A	N/A
10*29643	5-10-8	H	JAMES AND DEBRA LEE MATHIS	TH EXPLORATION LLC	1/8+	1100	83	N/A	N/A	N/A
10*29664	5-10-8	H	DALE BRUCE MOORE	TH EXPLORATION LLC	1/8+	1100	89	N/A	N/A	N/A
10*29669	5-10-8	H	JEFFREY & MELISSA M MOORE	TH EXPLORATION LLC	1/8+	1100	91	N/A	N/A	N/A
10*29721	5-10-8	H	CHARLES MICHAEL & TRACEY L BAKER	TH EXPLORATION LLC	1/8+	1100	250	N/A	N/A	N/A
10*29795	5-10-8	H	LOUIS M BENEDETTA	TH EXPLORATION LLC	1/8+	1101	25	N/A	N/A	N/A
10*29801	5-10-8	H	KIRCHGESSNER CONSULTING GROUP*	TH EXPLORATION LLC	1/8+	1100	300	N/A	N/A	N/A
10*29807	5-10-8	H	DANIEL J NABUDA*	TH EXPLORATION LLC	1/8+	1101	294	N/A	N/A	N/A
10*29809	5-10-8	H	RICHARD D & JULIA M REPASKY*	TH EXPLORATION LLC	1/8+	1101	288	N/A	N/A	N/A
10*29813	5-10-8	H	HELEN E ROBINSON	TH EXPLORATION LLC	1/8+	1101	23	N/A	N/A	N/A
10*29833	5-10-8	H	SKYPOINT RESOURCES LLC	TH EXPLORATION LLC	1/8+	1103	556	N/A	N/A	N/A
10*29857	5-10-8	H	DEAN A BENEDETTA*	TH EXPLORATION LLC	1/8+	1102	298	N/A	N/A	N/A
10*29858	5-10-8	H	H3 LLC	TH EXPLORATION LLC	1/8+	1103	567	N/A	N/A	N/A
10*30033	5-10-8	H	DANNY MOORE*	TH EXPLORATION LLC	1/8+	1103	579	N/A	N/A	N/A
10*30036	5-10-8	H	RUSSELL ALBERT WHITE*	TH EXPLORATION LLC	1/8+	1103	585	N/A	N/A	N/A
10*30039	5-10-8	H	MARY RENEE WHITE*	TH EXPLORATION LLC	1/8+	1103	597	N/A	N/A	N/A
10*30041	5-10-8	H	RICHARD NEWMAN WHITE*	TH EXPLORATION LLC	1/8+	1103	591	N/A	N/A	N/A
10*30045	5-10-8	H	ROBERT LEE WHITE JR*	TH EXPLORATION LLC	1/8+	1103	609	N/A	N/A	N/A
10*30075	5-10-8	H	RHONDA SUE DEPAUL*	TH EXPLORATION LLC	1/8+	1103	603	N/A	N/A	N/A
10*31356	5-10-8	H	AMY M TOLER FKN AMY M PARKER	STONE ENERGY CORPORATION	1/8+	874	502	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31357	5-10-8	H	LORI E KESTNER	STONE ENERGY CORPORATION	1/8+	886	251	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31360	5-10-8	H	AVA SMITH	CHEVRON USA INC	1/8+	801	572	Chevron USA Inc to Stone Energy Corporation: 34/143	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31361	5-10-8	H	JAMES W HARTLEY	CHEVRON USA INC	1/8+	801	563	Chevron USA Inc to Stone Energy Corporation: 34/143	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21

WW-6A1 Supplement

Operator's Well No. Van Winkle N - 1HM

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book	Page	Assignment	Assignment	Assignment
10*18726	5-10-7	I	EMILY K RULONG AND WILLIAM F RULONG SR	TH EXPLORATION LLC	1/8+	941	441	N/A	N/A	N/A
10*18837	5-10-7	I	THE RODGERS FAMILY TRUST	TH EXPLORATION LLC	1/8+	935	122	N/A	N/A	N/A
10*18943	5-10-7	I	BRANDY SUE MOORE AND DELMAS L MOORE	TH EXPLORATION LLC	1/8+	940	124	N/A	N/A	N/A
10*19607	5-10-7	I	DAVA HARTLEY SMITH	TH EXPLORATION LLC	1/8+	944	186	N/A	N/A	N/A
10*19666	5-10-7	I	RALPH TERRY AND MONICA TERRY	TH EXPLORATION LLC	1/8+	944	182	N/A	N/A	N/A
10*22324	5-10-7	I	RHONDA RISDEN	TH EXPLORATION LLC	1/8+	965	600	N/A	N/A	N/A
10*22542	5-10-7	I	VINCE E OSER AND KAY J OSER	TH EXPLORATION LLC	1/8+	966	198	N/A	N/A	N/A
10*23487	5-10-7	I	ELMER RICHARDSON ET AL CAROLYN FLANNERY AS SP COMM	TH EXPLORATION LLC	1/8+	1009	255	N/A	N/A	N/A
10*23491	5-10-7	I	GENERAL RECEIVER OF MARSHALL COUNTY	TH EXPLORATION LLC	1/8+	1014	498	N/A	N/A	N/A
10*26513	5-10-7	I	CLIFFORD C HARTLEY AND BARBARA T HARTLEY	TH EXPLORATION LLC	1/8+	1034	226	N/A	N/A	N/A
10*27959	5-10-7	I	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1063	594	N/A	N/A	N/A
10*28119	5-10-7	I	WILMA JEAN OSER	TH EXPLORATION LLC	1/8+	1057	328	N/A	N/A	N/A
10*28563	5-10-7	I	MARGARET TOLER	TH EXPLORATION LLC	1/8+	1074	630	N/A	N/A	N/A
10*28616	5-10-7	I	SILVIA J NEEHOUSE	TH EXPLORATION LLC	1/8+	1075	37	N/A	N/A	N/A
10*28617	5-10-7	I	RICKY E DAVIS AIF ALISA M DAVIS	TH EXPLORATION LLC	1/8+	1075	35	N/A	N/A	N/A
10*28812	5-10-7	I	ROBERT N BAKER AND THERESA L BAKER	TH EXPLORATION LLC	1/8+	1077	33	N/A	N/A	N/A
10*28855	5-10-7	I	PAMELA J WHORTON AND ROBERT D WHORTON	TH EXPLORATION LLC	1/8+	1077	264	N/A	N/A	N/A
10*28926	5-10-7	I	DAVID M AND SHERRY L TOLER	TH EXPLORATION LLC	1/8+	1078	13	N/A	N/A	N/A
10*28950	5-10-7	I	ANTHONY C BENEDETTA AND MARY A BENEDETTA	TH EXPLORATION LLC	1/8+	1078	188	N/A	N/A	N/A
10*28969	5-10-7	I	HARRY MCCrackEN AND BETH ANN MCCrackEN	TH EXPLORATION LLC	1/8+	1078	436	N/A	N/A	N/A
10*28988	5-10-7	I	HAROLD L GOUDY AND DONNA D GOUDY	TH EXPLORATION LLC	1/8+	1080	536	N/A	N/A	N/A
10*28989	5-10-7	I	SANDRA K LYTTON AND CHARLES E LYTTON	TH EXPLORATION LLC	1/8+	1080	538	N/A	N/A	N/A
10*28993	5-10-7	I	CALVIN MCGUIRE	TH EXPLORATION LLC	1/8+	1080	541	N/A	N/A	N/A
10*28994	5-10-7	I	JENNIFER T PUMPA AND RICHARD PUMPA	TH EXPLORATION LLC	1/8+	1080	543	N/A	N/A	N/A
10*28995	5-10-7	I	ELLEN SCHMIDT	TH EXPLORATION LLC	1/8+	1080	545	N/A	N/A	N/A
10*28996	5-10-7	I	SHAWN MARIE SEWGARD AND JERRY SWEGARD	TH EXPLORATION LLC	1/8+	1083	124	N/A	N/A	N/A
10*29043	5-10-7	I	DONALD LESTER GOUDY JR AND BILLIE GOUDY	TH EXPLORATION LLC	1/8+	1083	121	N/A	N/A	N/A
10*29044	5-10-7	I	GARREN RAY GOUDY AND HOLLEE J GOUDY	TH EXPLORATION LLC	1/8+	1083	377	N/A	N/A	N/A
10*29073	5-10-7	I	JOEL B MATHIS II AND DEBORAH MATHIS	TH EXPLORATION LLC	1/8+	1083	563	N/A	N/A	N/A
10*29206	5-10-7	I	PAMELA R BENEDETTA	TH EXPLORATION LLC	1/8+	1085	598	N/A	N/A	N/A
10*29245	5-10-7	I	AMFLO ENTERPRISES LLC CO BARRY STIFFLER	TH EXPLORATION LLC	1/8+	1086	508	N/A	N/A	N/A
10*29267	5-10-7	I	ELNORA M BARANICH	TH EXPLORATION LLC	1/8+	1090	141	N/A	N/A	N/A
10*29394	5-10-7	I	WILLIAM ELLIOTT AND MARY MARCIA ELLIOTT	TH EXPLORATION LLC	1/8+	1096	303	N/A	N/A	N/A
10*29512	5-10-7	I	KERRY R AND BARBARA MOORE	TH EXPLORATION LLC	1/8+	1096	305	N/A	N/A	N/A
10*29643	5-10-7	I	JAMES AND DEBRA LEE MATHIS	TH EXPLORATION LLC	1/8+	1100	83	N/A	N/A	N/A
10*29664	5-10-7	I	DALE BRUCE MOORE	TH EXPLORATION LLC	1/8+	1100	89	N/A	N/A	N/A
10*29669	5-10-7	I	JEFFREY & MELISSA M MOORE	TH EXPLORATION LLC	1/8+	1100	91	N/A	N/A	N/A
10*29721	5-10-7	I	CHARLES MICHAEL & TRACEY L BAKER	TH EXPLORATION LLC	1/8+	1100	250	N/A	N/A	N/A
10*29795	5-10-7	I	LOUIS M BENEDETTA	TH EXPLORATION LLC	1/8+	1101	25	N/A	N/A	N/A
10*29801	5-10-7	I	KIRCHGESSNER CONSULTING GROUP*	TH EXPLORATION LLC	1/8+	1100	300	N/A	N/A	N/A
10*29807	5-10-7	I	DANIEL J NABUDA*	TH EXPLORATION LLC	1/8+	1101	294	N/A	N/A	N/A
10*29809	5-10-7	I	RICHARD D & JULIA M REPASKY*	TH EXPLORATION LLC	1/8+	1101	288	N/A	N/A	N/A
10*29813	5-10-7	I	HELEN E ROBINSON	TH EXPLORATION LLC	1/8+	1101	23	N/A	N/A	N/A

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book	Page	Assignment	Assignment	Assignment
10*29833	5-10-7	I	SKYPOINT RESOURCES LLC	TH EXPLORATION LLC	1/8+	1103	556	N/A	N/A	N/A
10*29857	5-10-7	I	DEAN A BENEDETTA*	TH EXPLORATION LLC	1/8+	1102	298	N/A	N/A	N/A
10*29858	5-10-7	I	H3 LLC	TH EXPLORATION LLC	1/8+	1103	567	N/A	N/A	N/A
10*30033	5-10-7	I	DANNY MOORE*	TH EXPLORATION LLC	1/8+	1103	579	N/A	N/A	N/A
10*30036	5-10-7	I	RUSSELL ALBERT WHITE*	TH EXPLORATION LLC	1/8+	1103	585	N/A	N/A	N/A
10*30039	5-10-7	I	MARY RENEE WHITE*	TH EXPLORATION LLC	1/8+	1103	597	N/A	N/A	N/A
10*30041	5-10-7	I	RICHARD NEWMAN WHITE*	TH EXPLORATION LLC	1/8+	1103	591	N/A	N/A	N/A
10*30045	5-10-7	I	ROBERT LEE WHITE JR*	TH EXPLORATION LLC	1/8+	1103	609	N/A	N/A	N/A
10*30075	5-10-7	I	RHONDA SUE DEPAUL*	TH EXPLORATION LLC	1/8+	1103	603	N/A	N/A	N/A
10*31356	5-10-7	I	AMY M TOLER FKN AMY M PARKER	STONE ENERGY CORPORATION	1/8+	874	502	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31357	5-10-7	I	LORI E KESTNER	STONE ENERGY CORPORATION	1/8+	886	251	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31360	5-10-7	I	AVA SMITH	CHEVRON USA INC	1/8+	801	572	Chevron USA Inc to Stone Energy Corporation: 34/143	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31361	5-10-7	I	JAMES W HARTLEY	CHEVRON USA INC	1/8+	801	563	Chevron USA Inc to Stone Energy Corporation: 34/143	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*18350	5-10-5	J	PEGGY SUE HILL DOLIN FORDYCE	TH EXPLORATION LLC	1/8+	931	401	N/A	N/A	N/A
10*18385	5-10-5	J	RICHARD A DOLIN AND MARGARET ANN DOLIN	TH EXPLORATION LLC	1/8+	932	496	N/A	N/A	N/A
10*18388	5-10-5	J	ELIZABETH R MERCER AKA ROSE LEMASTERS MERCER	TH EXPLORATION LLC	1/8+	932	465	N/A	N/A	N/A
10*18389	5-10-5	J	HERSHEL DUTTON AND KATHY DOLIN DUTTON	TH EXPLORATION LLC	1/8+	932	459	N/A	N/A	N/A
10*18390	5-10-5	J	DOLLY M BOYER AND HUBERT R BOYER	TH EXPLORATION LLC	1/8+	932	462	N/A	N/A	N/A
10*18391	5-10-5	J	CAROL A JONES	TH EXPLORATION LLC	1/8+	932	456	N/A	N/A	N/A
10*18392	5-10-5	J	RUSSELL C LEMASTERS	TH EXPLORATION LLC	1/8+	932	453	N/A	N/A	N/A
10*18393	5-10-5	J	BRANDON S FORRESTER AND CASSIDY M FORRESTER	TH EXPLORATION LLC	1/8+	932	450	N/A	N/A	N/A
10*18394	5-10-5	J	BEATRICA P MADDEN & JOHN R MADDEN SR	TH EXPLORATION LLC	1/8+	932	447	N/A	N/A	N/A
10*18395	5-10-5	J	KELLY JO DOLIN	TH EXPLORATION LLC	1/8+	932	612	N/A	N/A	N/A
10*18473	5-10-5	J	MARY ALICE THOMAS MELLOTT	TH EXPLORATION LLC	1/8+	933	133	N/A	N/A	N/A
10*18581	5-10-5	J	EMMA KATHERINE GILBERT	TH EXPLORATION LLC	1/8+	935	1	N/A	N/A	N/A
10*18582	5-10-5	J	MARGARET GILBERT	TH EXPLORATION LLC	1/8+	934	648	N/A	N/A	N/A
10*18723	5-10-5	J	TERRI K SONDERGARD	TH EXPLORATION LLC	1/8+	938	525	N/A	N/A	N/A
10*18726	5-10-5	J	EMILY K RULONG AND WILLIAM F RULONG SR	TH EXPLORATION LLC	1/8+	941	441	N/A	N/A	N/A
10*18728	5-10-5	J	TRACY J GILBERT	TH EXPLORATION LLC	1/8+	938	458	N/A	N/A	N/A
10*18837	5-10-5	J	THE RODGERS FAMILY TRUST	TH EXPLORATION LLC	1/8+	935	122	N/A	N/A	N/A
10*18838	5-10-5	J	ROBERT A BAKER	TH EXPLORATION LLC	1/8+	937	403	N/A	N/A	N/A
10*18943	5-10-5	J	BRANDY SUE MOORE AND DELMAS L MOORE	TH EXPLORATION LLC	1/8+	940	124	N/A	N/A	N/A
10*18944	5-10-5	J	CAROLE A GILBERT	TH EXPLORATION LLC	1/8+	940	121	N/A	N/A	N/A
10*19026	5-10-5	J	MARSHA LASHARE BOVEE	CHEVRON USA INC	1/8+	805	21	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book	Page	Assignment	Assignment	Assignment
10*19027	5-10-5	J	BRENDA G KITCHENS	CHEVRON USA INC	1/8+	804	383	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19029	5-10-5	J	MARK ANTHONY LASHARE	CHEVRON USA INC	1/8+	804	641	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19052	5-10-5	J	TIMOTHY JOHNSON	CHEVRON USA INC	1/8+	818	18	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19253	5-10-5	J	BARBARA A FARMER	AB RESOURCES LLC	1/8+	757	391	N/A	AB Resources LLC to Chevron USA Inc: 29/277	Chevron USA Inc to TH Exploration LLC: 40/127
10*19468	5-10-5	J	NANCY C LONG AND RONALD LONG	TH EXPLORATION LLC	1/8+	942	577	N/A	N/A	N/A
10*19469	5-10-5	J	DONALD E GILBERT	TH EXPLORATION LLC	1/8+	942	600	N/A	N/A	N/A
10*19470	5-10-5	J	BARBARA M CHESNUT AND WAYNE H CHESNUT	TH EXPLORATION LLC	1/8+	942	581	N/A	N/A	N/A
10*19471	5-10-5	J	CANDY JO BAKER	TH EXPLORATION LLC	1/8+	942	585	N/A	N/A	N/A
10*19501	5-10-5	J	LARRY RAY GILBERT	TH EXPLORATION LLC	1/8+	942	596	N/A	N/A	N/A
10*19607	5-10-5	J	DAVA HARTLEY SMITH	TH EXPLORATION LLC	1/8+	944	186	N/A	N/A	N/A
10*19666	5-10-5	J	RALPH TERRY AND MONICA TERRY	TH EXPLORATION LLC	1/8+	944	182	N/A	N/A	N/A
10*19838	5-10-5	J	ROBERT ALLAN PATERSON AND LEZLIE PATERSON	TH EXPLORATION LLC	1/8+	945	625	N/A	N/A	N/A
10*19888	5-10-5	J	EMMA JEAN LASHARE WILSON	TH EXPLORATION LLC	1/8+	945	622	N/A	N/A	N/A
10*19889	5-10-5	J	BRITTANY N LEMASTERS	TH EXPLORATION LLC	1/8+	945	488	N/A	N/A	N/A
10*19977	5-10-5	J	MILDRED ALICE GILBERT SAPP AND EDGAR SAPP	TH EXPLORATION LLC	1/8+	947	571	N/A	N/A	N/A
10*21184	5-10-5	J	TERRY LEE SOVINSKY AND DAWN S SOVINSKY	TH EXPLORATION LLC	1/8+	952	155	N/A	N/A	N/A
10*21186	5-10-5	J	SYLVIA A GILBERT KRAFFT	TH EXPLORATION LLC	1/8+	952	152	N/A	N/A	N/A
10*21915	5-10-5	J	MICHAEL WAYNE THOMAS AND DARLA R THOMAS	TH EXPLORATION LLC	1/8+	960	7	N/A	N/A	N/A
10*21921	5-10-5	J	MARLENE HRIVNAK	TH EXPLORATION LLC	1/8+	960	9	N/A	N/A	N/A
10*22324	5-10-5	J	RHONDA RISDEN	TH EXPLORATION LLC	1/8+	965	600	N/A	N/A	N/A
10*22491	5-10-5	J	MARK A THOMAS AND MICHELLE D J THOMAS	TH EXPLORATION LLC	1/8+	964	487	N/A	N/A	N/A
10*22542	5-10-5	J	VINCE E OSER AND KAY J OSER	TH EXPLORATION LLC	1/8+	966	198	N/A	N/A	N/A
10*22719	5-10-5	J	ROMAN CATHOLIC DIOCESE OF WHEELING BY MICHAEL J BRANSFIELD BISHOP	TH EXPLORATION LLC	1/8+	968	292	N/A	N/A	N/A
10*22781	5-10-5	J	PAMELA J THOMAS KNIRSCH	TH EXPLORATION LLC	1/8+	972	19	N/A	N/A	N/A
10*22815	5-10-5	J	VIRGINIA R THOMAS	TH EXPLORATION LLC	1/8+	972	21	N/A	N/A	N/A
10*23347	5-10-5	J	MICHAEL BAUM	TH EXPLORATION LLC	1/8+	985	8	N/A	N/A	N/A
10*23487	5-10-5	J	ELMER RICHARDSON ET AL CAROLYN FLANNERY AS SPECIAL COMMISSIONER	TH EXPLORATION LLC	1/8+	1009	255	N/A	N/A	N/A
10*23491	5-10-5	J	GENERAL RECEIVER OF MARSHALL COUNTY ATTN: BERNIE TWIGG	TH EXPLORATION LLC	1/8+	1014	498	N/A	N/A	N/A
10*25700	5-10-5	J	ANGEL M ROLLINS	TH EXPLORATION LLC	1/8+	1033	302	N/A	N/A	N/A
10*26513	5-10-5	J	CLIFFORD C HARTLEY AND BARBARA T HARTLEY	TH EXPLORATION LLC	1/8+	1034	226	N/A	N/A	N/A
10*26566	5-10-5	J	KATIE LASHARE	TH EXPLORATION LLC	1/8+	1038	458	N/A	N/A	N/A
10*26586	5-10-5	J	CATHY D SOVINSKY	TH EXPLORATION LLC	1/8+	1034	567	N/A	N/A	N/A
10*26587	5-10-5	J	JAMES L LITMAN AND CAROLE J LITMAN	TH EXPLORATION LLC	1/8+	1034	570	N/A	N/A	N/A
10*26588	5-10-5	J	TRAVIS H GREER AND BETTY J GREER	TH EXPLORATION LLC	1/8+	1034	561	N/A	N/A	N/A
10*26815	5-10-5	J	RONALD G BAKER	TH EXPLORATION LLC	1/8+	1038	193	N/A	N/A	N/A
10*26816	5-10-5	J	BARBARA JO JOHNSON AND STEVEN R JOHNSON	TH EXPLORATION LLC	1/8+	1038	199	N/A	N/A	N/A
10*26817	5-10-5	J	WILLIAM RICHARD HEISER	TH EXPLORATION LLC	1/8+	1039	493	N/A	N/A	N/A

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book	Page	Assignment	Assignment	Assignment
10*26938	5-10-5	J	TIMOTHY LASHARE	TH EXPLORATION LLC	1/8+	1046	444	N/A	N/A	N/A
10*27528	5-10-5	J	LAWRENCE ROBERT EARLEWINE	TH EXPLORATION LLC	1/8+	1060	191	N/A	N/A	N/A
10*27599	5-10-5	J	LORI KAY JARVIS	TH EXPLORATION LLC	1/8+	1060	587	N/A	N/A	N/A
10*27959	5-10-5	J	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1063	594	N/A	N/A	N/A
10*28119	5-10-5	J	WILMA JEAN OSER	TH EXPLORATION LLC	1/8+	1057	328	N/A	N/A	N/A
10*28524	5-10-5	J	MONICA ANDERSON	TH EXPLORATION LLC	1/8+	1073	377	N/A	N/A	N/A
10*28525	5-10-5	J	MONICA ANDERSON	TH EXPLORATION LLC	1/8+	1073	375	N/A	N/A	N/A
10*28532	5-10-5	J	JONI HEBERT	TH EXPLORATION LLC	1/8+	1073	379	N/A	N/A	N/A
10*28563	5-10-5	J	MARGARET TOLER	TH EXPLORATION LLC	1/8+	1074	630	N/A	N/A	N/A
10*28616	5-10-5	J	SILVIA J NEEHOUSE	TH EXPLORATION LLC	1/8+	1075	37	N/A	N/A	N/A
10*28617	5-10-5	J	RICKY E DAVIS AIF ALISA M DAVIS	TH EXPLORATION LLC	1/8+	1075	35	N/A	N/A	N/A
10*28812	5-10-5	J	ROBERT N BAKER AND THERESA L BAKER	TH EXPLORATION LLC	1/8+	1077	33	N/A	N/A	N/A
10*28855	5-10-5	J	PAMELA J WHORTON AND ROBERT D WHORTON	TH EXPLORATION LLC	1/8+	1077	264	N/A	N/A	N/A
10*28926	5-10-5	J	DAVID M AND SHERRY L TOLER	TH EXPLORATION LLC	1/8+	1078	13	N/A	N/A	N/A
10*28950	5-10-5	J	ANTHONY C BENEDETTA AND MARY A BENEDETTA	TH EXPLORATION LLC	1/8+	1078	188	N/A	N/A	N/A
10*28969	5-10-5	J	HARRY MCCrackEN AND BETH ANN MCCrackEN	TH EXPLORATION LLC	1/8+	1078	436	N/A	N/A	N/A
10*28988	5-10-5	J	HAROLD L GOUDY AND DONNA D GOUDY	TH EXPLORATION LLC	1/8+	1080	536	N/A	N/A	N/A
10*28989	5-10-5	J	SANDRA K LYTTON AND CHARLES E LYTTON	TH EXPLORATION LLC	1/8+	1080	538	N/A	N/A	N/A
10*28993	5-10-5	J	CALVIN MCGUIRE	TH EXPLORATION LLC	1/8+	1080	541	N/A	N/A	N/A
10*28994	5-10-5	J	JENNIFER T PUMPA AND RICHARD PUMPA	TH EXPLORATION LLC	1/8+	1080	543	N/A	N/A	N/A
10*28995	5-10-5	J	ELLEN SCHMIDT	TH EXPLORATION LLC	1/8+	1080	545	N/A	N/A	N/A
10*28996	5-10-5	J	SHAWN MARIE SEWGARD AND JERRY SWEGARD	TH EXPLORATION LLC	1/8+	1083	124	N/A	N/A	N/A
10*29043	5-10-5	J	DONALD LESTER GOUDY JR AND BILLIE GOUDY	TH EXPLORATION LLC	1/8+	1083	121	N/A	N/A	N/A
10*29044	5-10-5	J	GARREN RAY GOUDY AND HOLLEE J GOUDY	TH EXPLORATION LLC	1/8+	1083	377	N/A	N/A	N/A
10*29073	5-10-5	J	JOEL B MATHIS II AND DEBORAH MATHIS	TH EXPLORATION LLC	1/8+	1083	563	N/A	N/A	N/A
10*29206	5-10-5	J	PAMELA R BENEDETTA	TH EXPLORATION LLC	1/8+	1085	598	N/A	N/A	N/A
10*29245	5-10-5	J	AMFLO ENTERPRISES LLC CO BARRY STIFFLER	TH EXPLORATION LLC	1/8+	1086	508	N/A	N/A	N/A
10*29267	5-10-5	J	ELNORA M BARANICH	TH EXPLORATION LLC	1/8+	1090	141	N/A	N/A	N/A
10*29394	5-10-5	J	WILLIAM ELLIOTT AND MARY MARCIA ELLIOTT	TH EXPLORATION LLC	1/8+	1096	303	N/A	N/A	N/A
10*29512	5-10-5	J	KERRY R AND BARBARA MOORE	TH EXPLORATION LLC	1/8+	1096	305	N/A	N/A	N/A
10*29643	5-10-5	J	JAMES AND DEBRA LEE MATHIS	TH EXPLORATION LLC	1/8+	1100	83	N/A	N/A	N/A
10*29664	5-10-5	J	DALE BRUCE MOORE	TH EXPLORATION LLC	1/8+	1100	89	N/A	N/A	N/A
10*29669	5-10-5	J	JEFFREY & MELISSA M MOORE	TH EXPLORATION LLC	1/8+	1100	91	N/A	N/A	N/A
10*29721	5-10-5	J	CHARLES MICHAEL & TRACEY L BAKER	TH EXPLORATION LLC	1/8+	1100	250	N/A	N/A	N/A
10*29722	5-10-5	J	ROBERT E EARLEWINE JR	TH EXPLORATION LLC	1/8+	1034	226	N/A	N/A	N/A
10*29795	5-10-5	J	LOUIS M BENEDETTA	TH EXPLORATION LLC	1/8+	1101	25	N/A	N/A	N/A
10*29797	5-10-5	J	SHIRLEY C EARLEWINE*	TH EXPLORATION LLC	1/8+	1101	273	N/A	N/A	N/A
10*29799	5-10-5	J	TAMMY L & DOUGLAS E GOULDSBERRY*	TH EXPLORATION LLC	1/8+	1101	270	N/A	N/A	N/A
10*29801	5-10-5	J	KIRCHGESSNER CONSULTING GROUP*	TH EXPLORATION LLC	1/8+	1100	300	N/A	N/A	N/A
10*29803	5-10-5	J	LILLIAN H & JOHN Kurpil*	TH EXPLORATION LLC	1/8+	1101	264	N/A	N/A	N/A
10*29805	5-10-5	J	HELEN VIRGINIA MCKOWN*	TH EXPLORATION LLC	1/8+	1101	258	N/A	N/A	N/A
10*29807	5-10-5	J	DANIEL J NABUDA*	TH EXPLORATION LLC	1/8+	1101	294	N/A	N/A	N/A
10*29809	5-10-5	J	RICHARD D & JULIA M REPASKY*	TH EXPLORATION LLC	1/8+	1101	288	N/A	N/A	N/A
10*29811	5-10-5	J	TERESA ANN ZIANTS AND THOMAS F ZIANTS*	TH EXPLORATION LLC	1/8+	1101	282	N/A	N/A	N/A

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book	Page	Assignment	Assignment	Assignment
10*29813	5-10-5	J	HELEN E ROBINSON	TH EXPLORATION LLC	1/8+	1101	23	N/A	N/A	N/A
10*29833	5-10-5	J	SKYPOINT RESOURCES LLC	TH EXPLORATION LLC	1/8+	1103	556	N/A	N/A	N/A
10*29857	5-10-5	J	DEAN A BENEDETTA*	TH EXPLORATION LLC	1/8+	1102	298	N/A	N/A	N/A
10*29858	5-10-5	J	H3 LLC	TH EXPLORATION LLC	1/8+	1103	567	N/A	N/A	N/A
10*29859	5-10-5	J	H3 LLC	TH EXPLORATION LLC	1/8+	1103	559	N/A	N/A	N/A
10*29927	5-10-5	J	DONALD R REYNOLDS	TH EXPLORATION LLC	1/8+	1103	563	N/A	N/A	N/A
10*29928	5-10-5	J	CAROL L DUNCIL EARLEWINE *	TH EXPLORATION LLC	1/8+	1102	304	N/A	N/A	N/A
10*29977	5-10-5	J	KEITH DAWSON*	TH EXPLORATION LLC	1/8+	1103	161	N/A	N/A	N/A
10*30005	5-10-5	J	CHARLES T & MELISSA LASHARE	TH EXPLORATION LLC	1/8+	1103	565	N/A	N/A	N/A
10*30033	5-10-5	J	DANNY MOORE*	TH EXPLORATION LLC	1/8+	1103	579	N/A	N/A	N/A
10*30036	5-10-5	J	RUSSELL ALBERT WHITE*	TH EXPLORATION LLC	1/8+	1103	585	N/A	N/A	N/A
10*30039	5-10-5	J	MARY RENEE WHITE*	TH EXPLORATION LLC	1/8+	1103	597	N/A	N/A	N/A
10*30041	5-10-5	J	RICHARD NEWMAN WHITE*	TH EXPLORATION LLC	1/8+	1103	591	N/A	N/A	N/A
10*30045	5-10-5	J	ROBERT LEE WHITE JR*	TH EXPLORATION LLC	1/8+	1103	609	N/A	N/A	N/A
10*30075	5-10-5	J	RHONDA SUE DEPAUL*	TH EXPLORATION LLC	1/8+	1103	603	N/A	N/A	N/A
10*30093	5-10-5	J	DAVID A JOHNSON*	TH EXPLORATION LLC	1/8+	1104	191	N/A	N/A	N/A
10*31356	5-10-5	J	AMY M TOLER FKN AMY M PARKER	STONE ENERGY CORPORATION	1/8+	874	502	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31357	5-10-5	J	LORI E KESTNER	STONE ENERGY CORPORATION	1/8+	886	251	N/A	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31360	5-10-5	J	AVA SMITH	CHEVRON USA INC	1/8+	801	572	Chevron USA Inc to Stone Energy Corporation: 34/143	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31361	5-10-5	J	JAMES W HARTLEY	CHEVRON USA INC	1/8+	801	563	Chevron USA Inc to Stone Energy Corporation: 34/143	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*19248	5-10-4	K	ALBERT F KAZEMKA	CHEVRON USA INC	1/8+	848	419	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19248	5-10-4.12	L	ALBERT F KAZEMKA	CHEVRON USA INC	1/8+	848	419	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*47051.307.0	5-9-13.2	M	JASON J STEED	TH EXPLORATION LLC	1/8+	894	508	N/A	N/A	N/A
10*47051.305.0	5-9-12	N	ROBERT G & TERRI L MCGUIRE	TH EXPLORATION LLC	1/8+	895	45	N/A	N/A	N/A
10*40132	5-9-7	O	P & D REALTY	TH EXPLORATION LLC	1/8+	1131	334	N/A	N/A	N/A
10*40132	5-9-6	P	P & D REALTY	TH EXPLORATION LLC	1/8+	1131	334	N/A	N/A	N/A
Q081124001	5-9-3	Q	JAMES REDMAN LEGG II	NOBLE ENERGY INC	1/8+	879	580	N/A	Noble Energy Inc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book	Page	Assignment	Assignment	Assignment
10*31360	5-10-5	J	AVA SMITH	CHEVRON USA INC	1/8+	801	572	Chevron USA Inc to Stone Energy Corporation: 34/143	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*31361	5-10-5	J	JAMES W HARTLEY	CHEVRON USA INC	1/8+	801	563	Chevron USA Inc to Stone Energy Corporation: 34/143	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21
10*19248	5-10-4	K	ALBERT F KAZEMKA	CHEVRON USA INC	1/8+	848	419	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19248	5-10-4.12	L	ALBERT F KAZEMKA	CHEVRON USA INC	1/8+	848	419	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*47051.307.0	5-9-13.2	M	JASON J STEED	TH EXPLORATION LLC	1/8+	894	508	N/A	N/A	N/A
10*47051.305.0	5-9-12	N	ROBERT G & TERRI L MCGUIRE	TH EXPLORATION LLC	1/8+	895	45	N/A	N/A	N/A
10*40132	5-9-7	O	P & D REALTY	TH EXPLORATION LLC	1/8+	1131	334	N/A	N/A	N/A
10*40132	5-9-6	P	P & D REALTY	TH EXPLORATION LLC	1/8+	1131	334	N/A	N/A	N/A
Q081124001	5-9-3	Q	JAMES REDMAN LEGG II	NOBLE ENERGY INC	1/8+	879	580	N/A	Noble Energy Inc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
Q081124002	5-9-3	Q	JAMES LEGG II, LESLIE SUSANNE WHITE & JEFFREY LEE LEGG	HG ENERGY II APPALACHIA LLC	1/8+	1041	313	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

*Co-tenancy utilization – 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.

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 "*Parties*", 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 Exhibit A 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

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 Assets*"):

(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 Exhibit B 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

STATE OF WEST VIRGINIA §
§
COUNTY OF MARSHALL §

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "**Assignment**") is made and entered into this 18th day of May, 2018, and made effective December 12, 2017 (the "**Effective Date**"), by and between AMERICAN PETROLEUM PARTNERS OPERATING, LLC, (hereinafter "**Assignor**") and TH EXPLORATION, LLC (hereinafter "**Assignee**") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated December 12, 2017 (the "**Acreage Trade Agreement**"). Capitalized terms used but not defined herein and defined in the Acreage Trade Agreement shall have the meanings given to such terms in the Acreage Trade Agreement.

WITNESSETH:

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

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

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

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

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

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

Marshall County
Jan Pest, Clerk
Instrument 1440860
05/25/2018 @ 02:36:09 PM
ASSIGNMENTS
Book 42 @ Page 109
Pages Recorded 9
Recording Cost \$ 15.00

WI-AGIR-0009

MEMORANDUM OF OPERATING AGREEMENT AND FINANCING STATEMENT

This Memorandum of Operating Agreement and Financing Statement (hereinafter referred to as "Memorandum") is executed to be effective concurrently with that certain Operating Agreement (the "Operating Agreement") by and between TH Exploration, LLC, as Operator, and HG Energy II Appalachia, LLC and TH Exploration II, LLC, as Non-Operators, covering, among other things, the development and production of crude oil, natural gas and associated substances from the leases (hereinafter called the "Contract Area") described on Exhibit "A-1" and Exhibit "A-2" attached hereto and owned by Operator and Non-Operator in the respective percentages of shares indicated on Exhibit "A" to the Operating Agreement.

The Operating Agreement contains an Accounting Procedure, along with provisions giving the parties hereto mutual liens and security interests where one or more parties hereto are or may become Debtors to one or more other parties hereto. This Memorandum incorporates by reference all of the terms and conditions of the Operating Agreement, including but not limited to the lien and security interest provisions.

The purpose of this Memorandum is to place third parties on notice of the Operating Agreement, and to secure and perfect the mutual liens and security interests of the parties hereto.

The Operating Agreement specifically provides and the parties do hereby confirm and agree that:

1. The Operator shall conduct and direct and have full control of all operations on the Contract Area as permitted and required by, and within the limits of, the Operating Agreement.
2. The liability of the parties under the Operating Agreement shall be several, not joint or collective. Each party shall be responsible only for its obligations and shall be liable only for its proportionate share of costs.
3. Each Non-Operator grants to Operator a lien upon its oil and gas rights, oil and gas leases and mineral interests in the Contract Area, and a security interest in its share of oil and/or gas when extracted and its interest in all fixtures, inventory, personal property and equipment located on or used on the Contract Area and in all its contract rights and receivables related thereto and arising therefrom to secure payment of its present and future share of costs and expenses, together with interest thereon at the rate provided in the Accounting Procedure referred to above. To the extent that Operator has a security interest under the Uniform Commercial Code ("Code") of the state or states in which the Contract Area is located, Operator without prejudice and in addition to all other legal, equitable and contractual remedies which are expressly reserved, shall be entitled to exercise the rights and remedies of a secured party under the Code. The bringing of a suit and the obtaining of judgment by Operator for the secured indebtedness shall not be deemed an election of remedies or otherwise affect the rights or security interests for the payment thereof.
4. The Operator grants to Non-Operator a lien and security interest equivalent to that granted to Operator as described in Paragraph 3 above, to secure payment by Operator of its own share of costs and expenses when due.



TUG HILL

June 20, 2022

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

RECEIVED
Office of Oil and Gas

JUN 27 2022

WV Department of
Environmental Protection

VIA USPS

RE: **Van Winkle N-1HM API # 47-051-02363 (H6A Permit Modification)**
Meade District, Marshall County, WV

Dear Wade:

Tug Hill Operating, LLC is submitting a permit modification for its permitted well, Van Winkle N-1HM to add 3,039.76' 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

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,

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

Enclosures

CK# 057579
Amt \$ 2500
Date 6/16/22

Permit Modification

Received date: 6/27/22

Well Name: Van Winkle N-1HM

Operator: Tus Hill

API: 51-023103

Pad Name: ~~XXXXXXXXXX~~
Heister Pointed

	MODIFIED PERMIT	ORIGINAL PERMIT
TVD	✓	6220
TMD	22034	19015
HL	14157.08	11,117.32
FW	✓	70,415
SW	✓	870
COAL	✓	314,409
CONDUCTOR	✓	120
FRESHWATER	✓	515
INTERMEDIATE 1	✓	2256
INTERMEDIATE 2	—	—
PRODUCTION	22034	19015

Notes:

A	9-13-5.3 ✓	J	5-10-5 ✓	(CO-T)	A-N
B	13-5 ✓	K	10-4 ✓		
C	13-4 ✓	L	10-4.12 ✓		
D	10-2 ✓	M	9-13.2 ✓		
E	10-1 ✓	N	9-12 ✓		
F	5-10-9 ✓	O	9-7 ✓		
G	NV ✓	P	9-6 ✓		
(CO-T) H	5-10-8 ✓	Q	9-3 ✓		
(CO-T) I	10-7 ✓				



Stansberry, Wade A <wade.a.stansberry@wv.gov>

Modification Horizontal H6A Well Work Permits API: (47-051-02363, 47-051-02365, 47-051-02366)

1 message

Stansberry, Wade A <wade.a.stansberry@wv.gov>

Fri, Jul 29, 2022 at 9:31 AM

To: Amy Morris <amorris@tug-hillop.com>, Eric Buzzard <ebuzzard@marshallcountywv.org>, Strader C Gower <strader.c.gower@wv.gov>, "Gayne J. Knitowski" <gayne.j.knitowski@wv.gov>

I have attached a copy of the newly issued well permit numbers:

- 47-051-02363 - VAN WINKLE N-1HM**
- 47-091-02365 - VAN WINKLE N-2HM**
- 47-051-02366 - VAN WINKLE N-3HM**

These will serve as your copy.

Thank you,

Wade A. Stansberry

Environmental Resource Specialist 3

West Virginia Department of Environmental Protection

Office of Oil & Gas

601 57th St. SE

Charleston, WV 25304

(304) 926-0499 ext. 41115

(304) 926-0452 fax

Wade.A.Stansberry@wv.gov

4 attachments

-  **47-051-02366 - mod.pdf**
1693K
-  **47-051-02363 - mod.pdf**
2439K
-  **47-051-02365 - mod.pdf**
2205K
-  **IR-26 Blank.pdf**
169K