



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

Friday, March 3, 2023
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

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

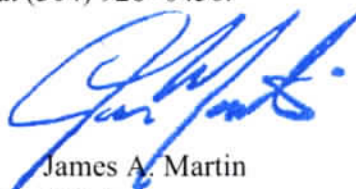
Re: Permit Modification Approval for PENDLETON N-11HU
47-051-02456-00-00

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: PENDLETON N-11HU
Farm Name: ALPINE FARM, LLC
U.S. WELL NUMBER: 47-051-02456-00-00
Horizontal 6A New Drill
Date Modification Issued: 2/3/2023

Promoting a healthy environment.

03/03/2023



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-926-0499 Ext 41239

Randall M. Albert, Chairman
dep.wv.gov

February 14, 2023

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

RE: Application for Deep Well Permit – API #47-051-02456

COMPANY: Tug Hill Operating, LLC


FARM: Alpine Farm, LLC Pendleton N-11HU modification

COUNTY: Marshall DISTRICT: Franklin QUAD: Glen Easton

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

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

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

Sincerely,

Susan Rose
Administrator

**Van Winkle N-16HU 47-051-02349; Van Winkle N-19HU 47-051-02352; Van Winkle S-20HU 47-051-02353; Van Winkle N-17HU 47-051-02350; Van Winkle N-18HU 47-051-02351; Van Winkle S-21HU 47-051-02354; Van Winkle S-22HU 47-051-02355; Van Winkle S-23HU 47-051-02356; Pendleton N-16HU 47-051-02441; Pendleton N-8HU 47-051-02454; Pendleton N-10HU 47-051-02455; Pendleton S-12HU 47-051-02457; Pendleton S-13HU 47-051-02458; Pendleton S-14HU 47-051-02459; Pendleton S-15HU 47-051-02460; Hendrickson N-7HU 47-051-02479; Hendrickson N-8HU 47-051-02480; Hendrickson N-9HU 47-051-02481; Hendrickson S-10HU 47-051-02482; Hendrickson S-11HU 47-051-02483; Hendrickson S-12HU 47-051-02484; MND 20 BU 47-051-02012; MND 20 CU 47-051-02013; MND 20 DU 47-051-02014; MND 20 EU 47-051-02045; Old Crow N-17HU 47-051-02122; Old Crow N-18HU 47-051-02123; Old Crow N-19HU 47-051-02270; Old Crow N-20HU 47-051-02191; Old Crow N-21HU 47-051-02335

03/03/2023

MODIFICATION

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 Franklin Glen Easton 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Pendleton N-11HU Well Pad Name: Pendleton

3) Farm Name/Surface Owner: Alpine Farm, LLC Public Road Access: Rines Ridge Road (County Route 76)

4) Elevation, current ground: 1,272.08' Elevation, proposed post-construction: 1,272.08'

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):
Point Pleasant is the target formation at a depth of 11,543' - 11,660', thickness of 117' and anticipated pressure of approx. 7,500 psi.

8) Proposed Total Vertical Depth: 11,810'

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 34,860'

11) Proposed Horizontal Leg Length: 22,368.87'

12) Approximate Fresh Water Strata Depths: 70; 914'

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

14) Approximate Saltwater Depths: 1,427'

15) Approximate Coal Seam Depths: Sewickley Coal - 816' and Pittsburgh Coal - 908'

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
JAN 24 2023
WV Department of
Environmental Protection

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	30"	NEW	BW	BW	120'	120'	FT^3(CTS)
Fresh Water/Coal	20"	NEW	J55	106.5#	1,040'	1,040'	1,674FT^3(CTS)
Intermediate 1	13 3/8"	NEW	J55	54.5#	2,800'	2,800'	1,974FT^3(CTS)
Intermediate 2	9 5/8"	NEW	HPP110	47#	10,814'	10,814'	3,526FT^3(CTS)
Production	5 1/2"	NEW	P110	23#	34,860'	34,860'	8,170FT^3(CTS)
Tubing	2 7/8"	NEW	P110	6.5#		11,662'	
Liners							

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

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 Point Pleasant and TD Pilot Hole 150' into the Trenton. Log vertical section and run a solid cement plug back to proposed KOP (11,162'). 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 56,000,000 lb. proppant and 1,000,000 bbl of water. Max rate = 80bpm; max psi = 9,000#.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 26.23 acres

22) Area to be disturbed for well pad only, less access road (acres): 6.88 acres

23) Describe centralizer placement for each casing string:

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

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

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

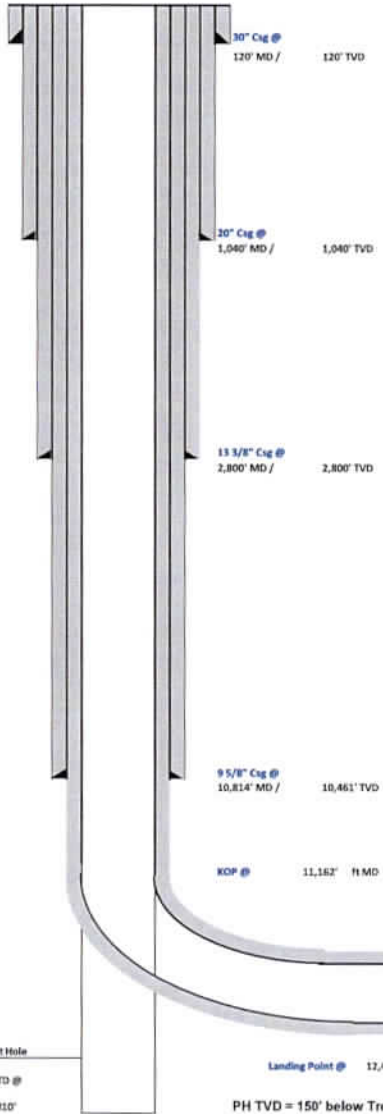
25) Proposed borehole conditioning procedures:

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

*Note: Attach additional sheets as needed.



WELL NAME:	Pendleton N-11HU		
STATE:	WV	COUNTY:	Marshall
DISTRICT:	Franklin		
DF Elev:	1,272'	GL Elev:	1,272'
TD:	34,860'		
TH Latitude:	39.75344		
TH Longitude:	-80.733785		
BH Latitude:	39.812008		
BH Longitude:	-80.766704		



FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	914'
Sewickley Coal	816'
Pittsburgh Coal	908'
Big Lime	2,181'
Berea	2,666'
Tully	6,562'
Marcellus	6,662'
Onondaga	6,712'
Salina	7,415'
Lockport	8,520'
Utica	11,294'
Point Pleasant	11,543'
Landing Depth	11,593'
Trenton	11,660'
Pilot Hole TD	11,810'

CASING SUMMARY							
Type	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cement
Conductor	36	30	120'	120'	8W	8W	Surface
Surface	26	20	1,040'	1,040'	106.5	J55	Surface
Intermediate 1	17 1/2	13 3/8	2,800'	2,800'	54.5	J55	Surface
Intermediate 2	12 1/4	9 5/8	10,814'	10,461'	47	HPP110	Surface
Production	8 1/2	5 1/2	34,860'	11,202'	23	HCP110	Surface

CEMENT SUMMARY				DRILLING DETAILS	
Type	Sacks	Class	Density (ppg)	Fluid Type	Centralizer Notes
Conductor	338	A	15.6	Air	None
Surface	1,805	A	15.6	Air	3 Centralizers at equal distance
Intermediate 1	2,140	A	15.6	Air	1 Centralizer every other joint
Intermediate 2	3,217	A	14.5	Air	1 Centralizer every other joint
Production	8,471	A	16.5	Air / SOBMM	1 every other joint in lateral; 1 per joint in curve; 1 every other joint to surface

Pilot Hole
PH TD @ 11,810'

Landing Point @ 12,486' MD / 11,593' TVD
PH TVD = 150' below Trenton Top

Lateral TD @ 34,860' R MD
11,202' R TVD

Strader Power
01/12/2023

4705102456

4705102456



Tug Hill Operating, LLC Casing and Cement Program

Pendleton N-11HU

Casing

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	20"	J55	26"	1,040'	CTS
Intermediate 1	13 3/8"	J55	17 1/2"	2,800'	CTS
Intermediate 2	9 5/8"	HPP110	12 1/4"	10,814'	CTS
Production	5 1/2"	HCP110	8 1/2"	34,860'	CTS

Cement

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

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

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

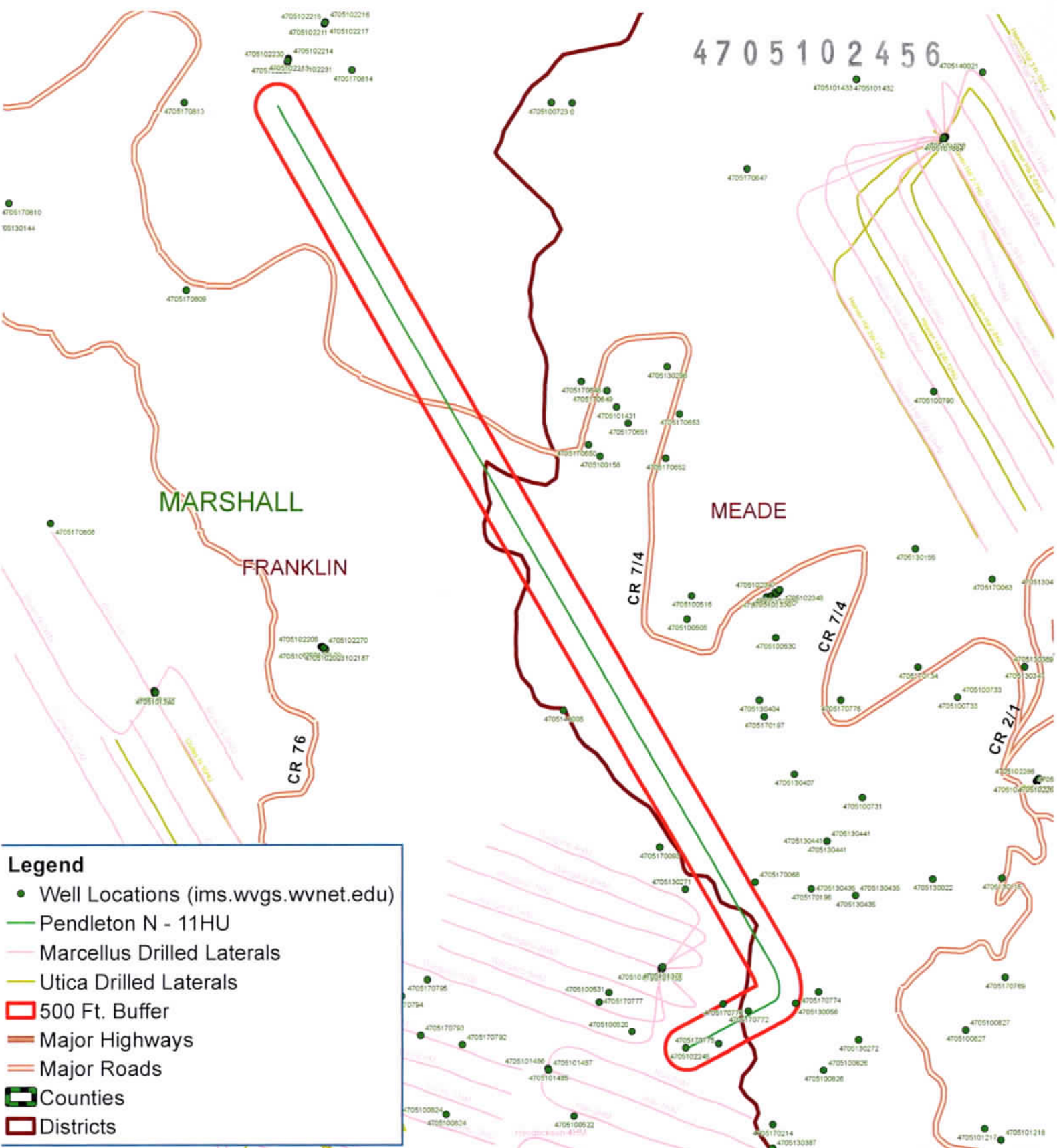
Intermediate 2: Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 14.5 ppg, Y=1.35

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

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

Strader Gower
01/12/2023

03/03/2023



4705102456

Legend

- Well Locations (ims.wvgs.wvnet.edu)
- Pendleton N - 11HU
- Marcellus Drilled Laterals
- Utica Drilled Laterals
- 500 Ft. Buffer
- Major Highways
- Major Roads
- ▭ Counties
- ▭ Districts



Pendleton N - 11HU Franklin District Marshall County, WV



Map Prepared by:

EPS
LAND SERVICES

03/03/2023

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

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

Data Sources Reviewed:

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

Contacted Adam Picard 724-485-9331, apicard@dpslandservices.com, DPS GIS (1/5/2023) to have him make maps of the wellbores with his information. DPS utilizes WVGES maps for their mapping seems it is the best publicly available. See attached map he provided.

Request maps for:

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

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

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

Wells within 500' Buffer

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

API Number	Operator Name	Total Depth	Perforated Fms	Producing zones not perforated	Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation	Comments
4705170772	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing of the proposed Point Pleasant well.	State records are incomplete.
4705170775	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing of the proposed Point Pleasant well.	State records are incomplete.
4705170776	unknown	unknown	unknown	unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be affected by fracturing of the proposed Point Pleasant well.	State records are incomplete.
4705102245	Tug Hill Operating, LLC.	11787' TVD (proposed)	none	none	No, this well will not be drilled to the proposed depth or perforated. This is a canceled permit.	Permit canceled by Tug Hill Operating, LLC.

4705102456

API Number	Operator Name	Total Depth	Perforated Fms	Producing zones not perforated	Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation	Comments
4705130056	Manufacturers Light & Heat Co.	2895' TVD	Gordon	unknown	No, this well is not deep enough to be within the expected fracture propagation from the proposed Point Pleasant stimulation. Well is plugged.	Well was plugged in 1935.

4705102456

WV Geological & Economic Survey:

Well: County = 51 Permit = 70772

Report Time: Thursday, May 26, 2022 11:49:34 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170772	Marshall	70772	Meade	Glen Easton	Cameron	39.755751	-80.728825	523229.7	4400683.7

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170772	-/-	unknown	Prpty Map	G & M Marlin		1248				----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF
4705170772	-/-	-/-						unclassified	unclassified	not available	unknown	unknown							

WV Geological & Economic Survey:

Well: County = 51 Permit = 70775

Report Time: Thursday, May 26, 2022 11:49:53 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170775	Marshall	70775	Franklin	Glen Easton	Cameron	39.753718	-80.73127	523020.9	4400457.5

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170775	-/-	unknown	Prpty Map	Herbert Kelley						----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF
4705170775	-/-	-/-						unclassified	unclassified	not available	unknown	unknown							

WV Geological & Economic Survey:

Well: County = 51 Permit = 70776

Report Time: Thursday, May 26, 2022 11:50:07 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705170776	Marshall	70776	Franklin	Glen Easton	Cameron	39.756185	-80.730894	523052.3	4400731.4

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705170776	-/-	unknown	Prpty Map	Herbert Alley		1262				----- unknown -----			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF
4705170776	-/-	-/-						unclassified	unclassified	not available	unknown	unknown							

4705102456

WV Geological & Economic Survey:

Well: County = 51 Permit = 02245

Report Time: Thursday, May 26, 2022 11:50:23 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4705102245	Marshall	2245	Franklin	Glen Easton	Cameron	39.753455	-80.733897	522795.9	4400427.6

Bottom Hole Location Information:

API	EP_FLAG	UTME	UTMN	LON_DD	LAT_DD
4705102245	1 As Proposed	520896.4	4403611.2	-80.755969	39.782188

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM
4705102245	--	Dvtd Orgnl Loc	Cancelled	Alpine Farm LLC		N-9HU	Pendleton		Eli A & Fannie Mae Wengerd et al	Tug Hill Operating, LLC	11787	Pt Pleasant Fm

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AF
4705102245	--	--	1272	Ground Level																

47051022456

WV Geological & Economic Survey

Well: County = 51 Permit = 30056

Report Time: Thursday, May 26, 2022 11:50:36 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LOD_DD	UTME	UTMN
4705130056	Marshall	30056	Meade	Glen Easton	Cameron	39.756218	-80.725051	523552.8	4400736.5

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4705130056	-/-		Original Loc	Completed	John Shuttler	1	1275		M L & H Co	Manufacturers Light & Heat Co.			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT
4705130056	-/-	-/-			Unnamed	UDev undf:Ber/LoHURN	Gordon	unclassified	unclassified	Gas	Cable Tool	unknown	2895		2895		0	0

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4705130056	-/-	Pay	Gas	Vertical		Gordon	2882	Gordon	0	0			

There is no Production Gas data for this well

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

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

There is no Production Water data for this well

There is no Stratigraphy data for this well

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

Plugging Information:

API	PLG_DT	DEPTH_PBT
4705130056	-/-1935	0

4705102456



Well: Pendleton N-11 HU (slot G)
 Site: Pendleton
 Project: Marshall County, West Virginia NAD83 UTM 17N
 Design: rev3
 Rig:

SECTION DETAILS

sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
2	3100.00	0.00	0.000	3100.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 2'/100' build
3	3600.00	10.00	61.730	3597.47	20.61	38.33	2.00	61.73	3.54	Begin 10.00° tangent
4	7055.02	10.00	61.730	7000.00	304.77	566.73	0.00	0.00	52.35	Begin 2'/100' build
5	7758.38	24.07	61.399	7670.81	402.84	747.34	2.00	-0.55	69.89	Begin 24.07° tangent
6	11161.66	24.07	61.399	10778.25	1067.21	1965.85	0.00	0.00	190.78	Begin 6'/100' build/turn
7	11922.54	50.00	352.427	11403.60	1450.89	2069.18	6.00	-90.89	500.98	Begin 8'/100' build/turn
8	12495.65	91.00	329.959	11593.00	1943.06	1886.99	8.00	-32.18	1024.92	Begin 91.00° lateral
9	34860.40	91.00	329.959	11202.15	21300.46	-9307.67	0.00	0.00	23245.26	PBHL/TD 34860.40 MD 11202.15 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Pendleton N-11HU PBHL r3 - plan hits target center	11202.15	21300.46	-9307.67	14458364.503	1705930.280	39.812008000	-80.766704000
Pendleton N-11HU LP 50 E r1 - plan hits target center	11593.00	1943.06	1886.99	14439007.144	1717124.913	39.758760582	-80.727050097

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

System Datum: Mean Sea Level
 Depth Reference: GL @ 1272.00ft
 Surface location

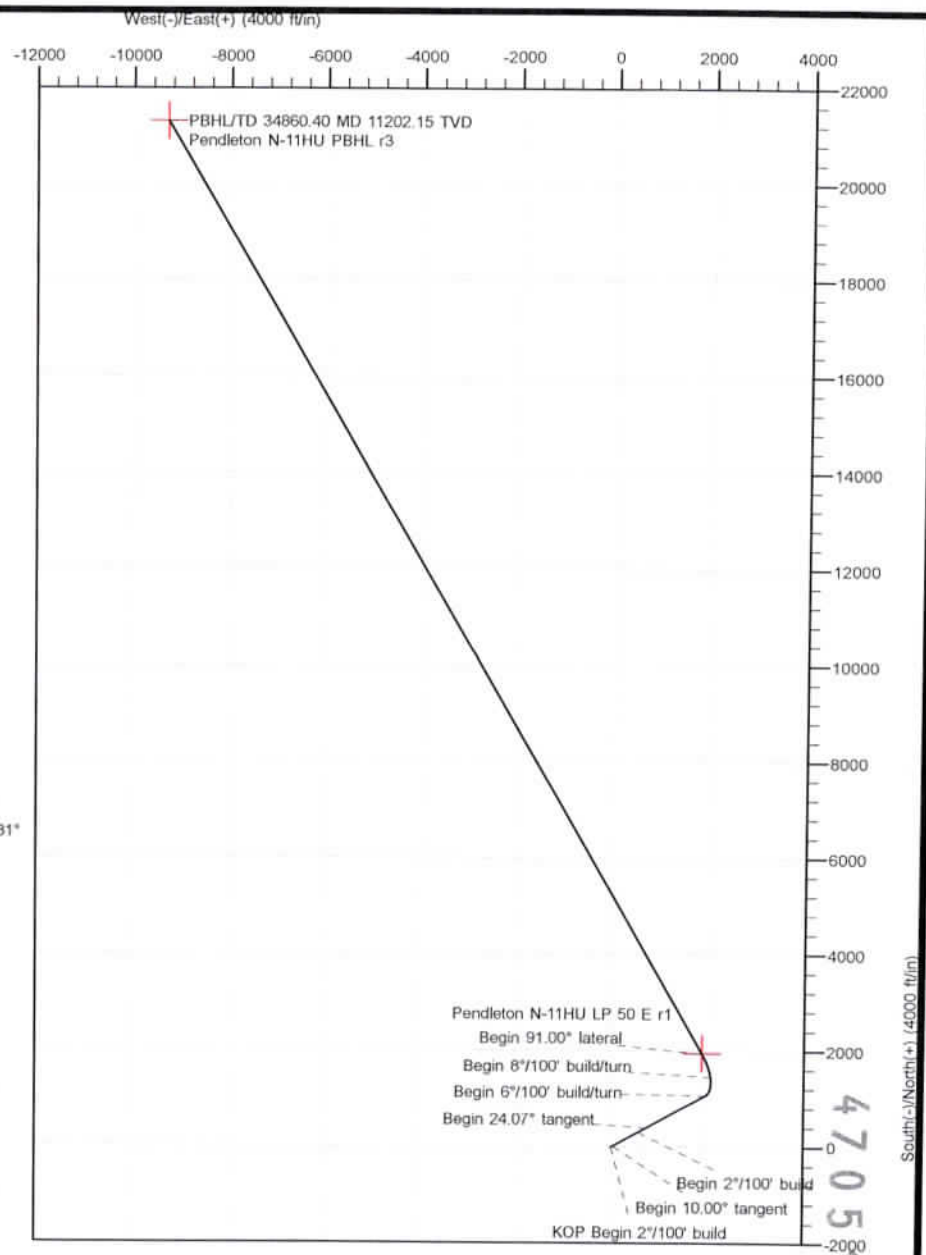
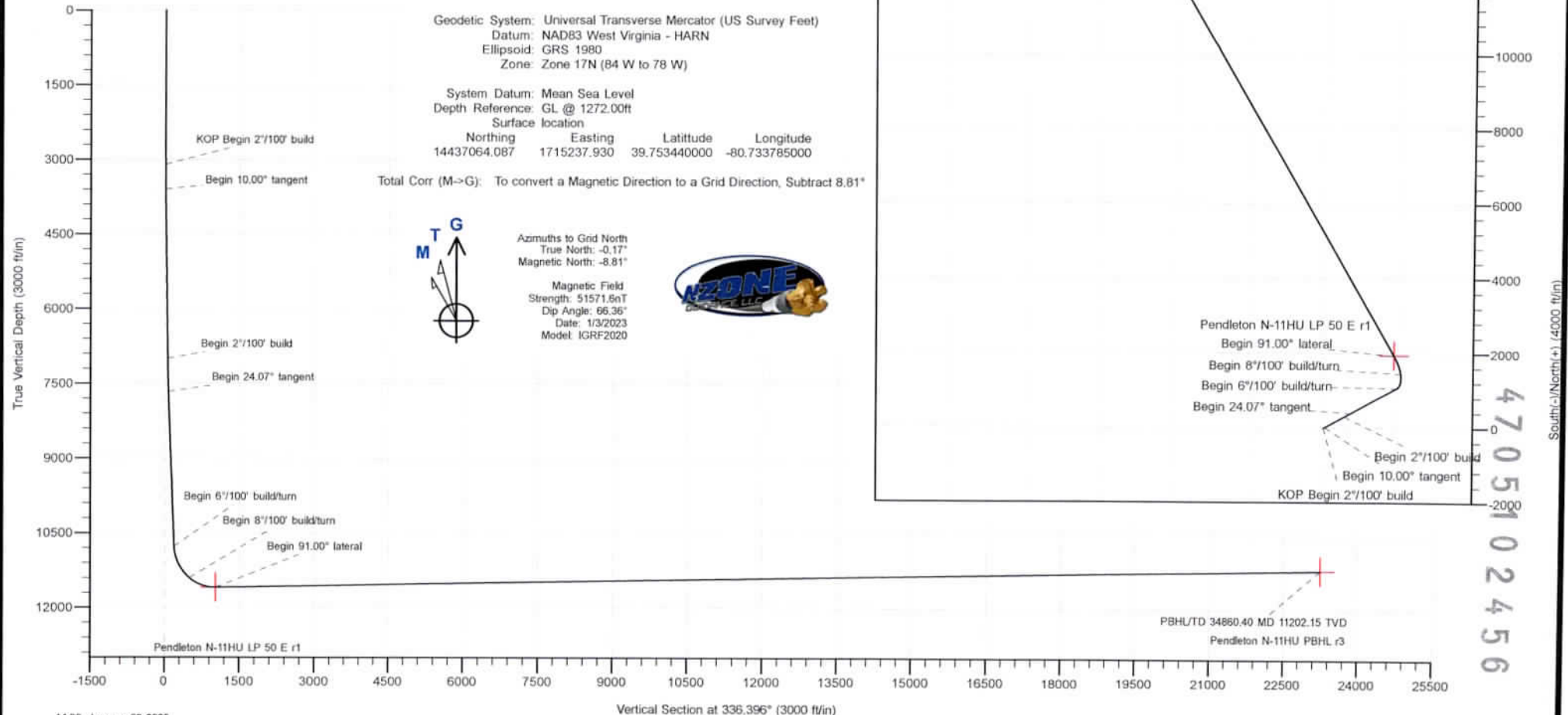
Northing	Easting	Latitude	Longitude
14437064.087	1715237.930	39.753440000	-80.733785000

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.81°



Azimuths to Grid North
 True North: -0.17°
 Magnetic North: -8.81°

Magnetic Field
 Strength: 51571.6nT
 Dip Angle: 66.36°
 Date: 1/3/2023
 Model: IGRF2020



4705102456

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well Pendleton N-11 HU (slot G)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-11 HU (slot G)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

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

Site	Pendleton				
Site Position:		Northing:	14,437,088.243 usft	Latitude:	39.753506850
From:	Lat/Long	Easting:	1,715,175.249 usft	Longitude:	-80.734007760
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Pendleton N-11 HU (slot G)					
Well Position	+N/-S	0.00 ft	Northing:	14,437,064.087 usft	Latitude:	39.753440000
	+E/-W	0.00 ft	Easting:	1,715,237.929 usft	Longitude:	-80.733785000
Position Uncertainty	0.00 ft		Wellhead Elevation:	ft	Ground Level:	1,272.00 ft
Grid Convergence:	0.17 °					

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	1/3/2023	-8.64	66.36	51,571.57957667

Design	rev3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	336.396

Plan Survey Tool Program	Date	1/3/2023		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	34,860.40 rev3 (Original Hole)	MWD	
			MWD - Standard	

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well Pendleton N-11 HU (slot G)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-11 HU (slot G)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,100.00	0.00	0.000	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,600.00	10.00	61.730	3,597.47	20.61	38.33	2.00	2.00	0.00	61.73	
7,055.02	10.00	61.730	7,000.00	304.77	566.73	0.00	0.00	0.00	0.00	
7,758.38	24.07	61.399	7,670.81	402.84	747.34	2.00	2.00	-0.05	-0.55	
11,161.66	24.07	61.399	10,778.25	1,067.21	1,965.85	0.00	0.00	0.00	0.00	
11,922.54	50.00	352.427	11,403.60	1,450.89	2,069.18	6.00	3.41	-9.06	-90.89	
12,495.65	91.00	329.959	11,593.00	1,943.06	1,886.99	8.00	7.15	-3.92	-32.18	
34,860.40	91.00	329.959	11,202.15	21,300.46	-9,307.67	0.00	0.00	0.00	0.00	Pendleton N-11HU PE

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well Pendleton N-11 HU (slot G)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-11 HU (slot G)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.000	0.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
100.00	0.00	0.000	100.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
200.00	0.00	0.000	200.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
300.00	0.00	0.000	300.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
400.00	0.00	0.000	400.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
500.00	0.00	0.000	500.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
600.00	0.00	0.000	600.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
700.00	0.00	0.000	700.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
800.00	0.00	0.000	800.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
900.00	0.00	0.000	900.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
1,100.00	0.00	0.000	1,100.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
1,200.00	0.00	0.000	1,200.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
1,300.00	0.00	0.000	1,300.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
1,400.00	0.00	0.000	1,400.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
1,500.00	0.00	0.000	1,500.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
1,600.00	0.00	0.000	1,600.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
1,700.00	0.00	0.000	1,700.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
1,800.00	0.00	0.000	1,800.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
1,900.00	0.00	0.000	1,900.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
2,000.00	0.00	0.000	2,000.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
2,100.00	0.00	0.000	2,100.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
2,200.00	0.00	0.000	2,200.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
2,300.00	0.00	0.000	2,300.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
2,400.00	0.00	0.000	2,400.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
2,500.00	0.00	0.000	2,500.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
2,600.00	0.00	0.000	2,600.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
2,700.00	0.00	0.000	2,700.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
2,800.00	0.00	0.000	2,800.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
2,900.00	0.00	0.000	2,900.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
3,000.00	0.00	0.000	3,000.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
3,100.00	0.00	0.000	3,100.00	0.00	0.00	14,437,064.087	1,715,237.929	39.753440000	-80.733785000	
KOP Begin 2°/100' build										
3,200.00	2.00	61.730	3,199.98	0.83	1.54	14,437,064.914	1,715,239.466	39.753442258	-80.733779523	
3,300.00	4.00	61.730	3,299.84	3.31	6.15	14,437,067.393	1,715,244.075	39.753449027	-80.733763098	
3,400.00	6.00	61.730	3,399.45	7.43	13.82	14,437,071.520	1,715,251.751	39.753460300	-80.733735744	
3,500.00	8.00	61.730	3,498.70	13.20	24.55	14,437,077.292	1,715,262.484	39.753476064	-80.733697496	
3,600.00	10.00	61.730	3,597.47	20.61	38.33	14,437,084.701	1,715,276.260	39.753496298	-80.733648400	
Begin 10.00° tangent										
3,700.00	10.00	61.730	3,695.95	28.84	53.63	14,437,092.925	1,715,291.554	39.753518759	-80.733593899	
3,800.00	10.00	61.730	3,794.43	37.06	68.92	14,437,101.150	1,715,306.848	39.753541221	-80.733539397	
3,900.00	10.00	61.730	3,892.91	45.29	84.21	14,437,109.374	1,715,322.141	39.753563683	-80.733484896	
4,000.00	10.00	61.730	3,991.39	53.51	99.51	14,437,117.599	1,715,337.435	39.753586144	-80.733430395	
4,100.00	10.00	61.730	4,089.87	61.74	114.80	14,437,125.823	1,715,352.728	39.753608606	-80.733375893	
4,200.00	10.00	61.730	4,188.35	69.96	130.09	14,437,134.047	1,715,368.022	39.753631068	-80.733321392	
4,300.00	10.00	61.730	4,286.83	78.18	145.39	14,437,142.272	1,715,383.316	39.753653529	-80.733266890	
4,400.00	10.00	61.730	4,385.31	86.41	160.68	14,437,150.496	1,715,398.609	39.753675991	-80.733212388	
4,500.00	10.00	61.730	4,483.79	94.63	175.97	14,437,158.721	1,715,413.903	39.753698452	-80.733157887	
4,600.00	10.00	61.730	4,582.27	102.86	191.27	14,437,166.945	1,715,429.197	39.753720914	-80.733103385	
4,700.00	10.00	61.730	4,680.75	111.08	206.56	14,437,175.170	1,715,444.490	39.753743375	-80.733048883	
4,800.00	10.00	61.730	4,779.23	119.31	221.86	14,437,183.394	1,715,459.784	39.753765837	-80.732994382	
4,900.00	10.00	61.730	4,877.72	127.53	237.15	14,437,191.618	1,715,475.077	39.753788298	-80.732939880	
5,000.00	10.00	61.730	4,976.20	135.76	252.44	14,437,199.843	1,715,490.371	39.753810760	-80.732885378	

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well Pendleton N-11 HU (slot G)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-11 HU (slot G)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,100.00	10.00	61.730	5,074.68	143.98	267.74	14,437,208.067	1,715,505.665	39.753833221	-80.732830876	
5,200.00	10.00	61.730	5,173.16	152.20	283.03	14,437,216.292	1,715,520.958	39.753855682	-80.732776374	
5,300.00	10.00	61.730	5,271.64	160.43	298.32	14,437,224.516	1,715,536.252	39.753878144	-80.732721872	
5,400.00	10.00	61.730	5,370.12	168.65	313.82	14,437,232.741	1,715,551.545	39.753900605	-80.732667371	
5,500.00	10.00	61.730	5,468.60	176.88	328.91	14,437,240.965	1,715,566.839	39.753923066	-80.732612869	
5,600.00	10.00	61.730	5,567.08	185.10	344.20	14,437,249.190	1,715,582.133	39.753945527	-80.732558367	
5,700.00	10.00	61.730	5,665.56	193.33	359.50	14,437,257.414	1,715,597.426	39.753967989	-80.732503864	
5,800.00	10.00	61.730	5,764.04	201.55	374.79	14,437,265.638	1,715,612.720	39.753990450	-80.732449362	
5,900.00	10.00	61.730	5,862.52	209.78	390.09	14,437,273.863	1,715,628.013	39.754012911	-80.732394860	
6,000.00	10.00	61.730	5,961.00	218.00	405.38	14,437,282.087	1,715,643.307	39.754035372	-80.732340358	
6,100.00	10.00	61.730	6,059.48	226.22	420.67	14,437,290.312	1,715,658.601	39.754057833	-80.732285856	
6,200.00	10.00	61.730	6,157.97	234.45	435.97	14,437,298.536	1,715,673.894	39.754080294	-80.732231354	
6,300.00	10.00	61.730	6,256.45	242.67	451.26	14,437,306.761	1,715,689.188	39.754102755	-80.732176851	
6,400.00	10.00	61.730	6,354.93	250.90	466.55	14,437,314.985	1,715,704.481	39.754125216	-80.732122349	
6,500.00	10.00	61.730	6,453.41	259.12	481.85	14,437,323.209	1,715,719.775	39.754147677	-80.732067847	
6,600.00	10.00	61.730	6,551.89	267.35	497.14	14,437,331.434	1,715,735.069	39.754170138	-80.732013344	
6,700.00	10.00	61.730	6,650.37	275.57	512.43	14,437,339.658	1,715,750.362	39.754192599	-80.731958842	
6,800.00	10.00	61.730	6,748.85	283.80	527.73	14,437,347.883	1,715,765.656	39.754215060	-80.731904340	
6,900.00	10.00	61.730	6,847.33	292.02	543.02	14,437,356.107	1,715,780.949	39.754237521	-80.731849837	
7,000.00	10.00	61.730	6,945.81	300.24	558.32	14,437,364.332	1,715,796.243	39.754259982	-80.731795335	
7,055.02	10.00	61.730	7,000.00	304.77	566.73	14,437,368.857	1,715,804.658	39.754272341	-80.731765345	
Begin 2°/100' build										
7,100.00	10.90	61.684	7,044.23	308.64	573.91	14,437,372.724	1,715,811.841	39.754282900	-80.731739748	
7,200.00	12.90	61.604	7,142.08	318.43	592.06	14,437,382.517	1,715,829.985	39.754309647	-80.731675087	
7,300.00	14.90	61.546	7,239.14	329.87	613.18	14,437,393.952	1,715,851.109	39.754340877	-80.731599805	
7,400.00	16.90	61.501	7,335.31	342.93	637.26	14,437,407.014	1,715,875.188	39.754376550	-80.731513993	
7,500.00	18.90	61.465	7,430.47	357.60	664.26	14,437,421.687	1,715,902.193	39.754416624	-80.731417755	
7,600.00	20.90	61.436	7,524.49	373.87	694.16	14,437,437.953	1,715,932.089	39.754461049	-80.731311210	
7,700.00	22.90	61.412	7,617.27	391.71	726.91	14,437,455.793	1,715,964.841	39.754509773	-80.731194487	
7,758.38	24.07	61.399	7,670.81	402.84	747.34	14,437,466.926	1,715,985.266	39.754540180	-80.731121696	
Begin 24.07° tangent										
7,800.00	24.07	61.399	7,708.82	410.96	762.24	14,437,475.051	1,716,000.168	39.754562371	-80.731068587	
7,900.00	24.07	61.399	7,800.12	430.49	798.04	14,437,494.573	1,716,035.972	39.754615687	-80.730940986	
8,000.00	24.07	61.399	7,891.43	450.01	833.85	14,437,514.094	1,716,071.776	39.754669003	-80.730813386	
8,100.00	24.07	61.399	7,982.74	469.53	869.65	14,437,533.616	1,716,107.580	39.754722319	-80.730685785	
8,200.00	24.07	61.399	8,074.05	489.05	905.46	14,437,553.137	1,716,143.384	39.754775635	-80.730558184	
8,300.00	24.07	61.399	8,165.35	508.57	941.26	14,437,572.659	1,716,179.188	39.754828951	-80.730430583	
8,400.00	24.07	61.399	8,256.66	528.09	977.06	14,437,592.180	1,716,214.992	39.754882267	-80.730302982	
8,500.00	24.07	61.399	8,347.97	547.62	1,012.87	14,437,611.702	1,716,250.796	39.754935582	-80.730175380	
8,600.00	24.07	61.399	8,439.27	567.14	1,048.67	14,437,631.223	1,716,286.600	39.754988897	-80.730047778	
8,700.00	24.07	61.399	8,530.58	586.66	1,084.48	14,437,650.745	1,716,322.404	39.755042212	-80.729920176	
8,800.00	24.07	61.399	8,621.89	606.18	1,120.28	14,437,670.266	1,716,358.208	39.755095528	-80.729792574	
8,900.00	24.07	61.399	8,713.19	625.70	1,156.08	14,437,689.788	1,716,394.012	39.755148842	-80.729664972	
9,000.00	24.07	61.399	8,804.50	645.22	1,191.89	14,437,709.309	1,716,429.816	39.755202157	-80.729537369	
9,100.00	24.07	61.399	8,895.81	664.74	1,227.69	14,437,728.831	1,716,465.620	39.755255472	-80.729409767	
9,200.00	24.07	61.399	8,987.12	684.27	1,263.50	14,437,748.352	1,716,501.424	39.755308786	-80.729282164	
9,300.00	24.07	61.399	9,078.42	703.79	1,299.30	14,437,767.874	1,716,537.228	39.755362101	-80.729154561	
9,400.00	24.07	61.399	9,169.73	723.31	1,335.10	14,437,787.395	1,716,573.032	39.755415415	-80.729026957	
9,500.00	24.07	61.399	9,261.04	742.83	1,370.91	14,437,806.917	1,716,608.836	39.755468729	-80.728899354	
9,600.00	24.07	61.399	9,352.34	762.35	1,406.71	14,437,826.438	1,716,644.640	39.755522043	-80.728771750	
9,700.00	24.07	61.399	9,443.65	781.87	1,442.52	14,437,845.960	1,716,680.444	39.755575356	-80.728644146	
9,800.00	24.07	61.399	9,534.96	801.40	1,478.32	14,437,865.481	1,716,716.248	39.755628670	-80.728516542	
9,900.00	24.07	61.399	9,626.27	820.92	1,514.12	14,437,885.003	1,716,752.052	39.755681983	-80.728388938	

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well Pendleton N-11 HU (slot G)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-11 HU (slot G)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,000.00	24.07	61.399	9,717.57	840.44	1,549.93	14,437,904.525	1,716,787.856	39.755735297	-80.728261333
10,100.00	24.07	61.399	9,808.88	859.96	1,585.73	14,437,924.046	1,716,823.660	39.755788610	-80.728133729
10,200.00	24.07	61.399	9,900.19	879.48	1,621.54	14,437,943.568	1,716,859.464	39.755841923	-80.728006124
10,300.00	24.07	61.399	9,991.49	899.00	1,657.34	14,437,963.089	1,716,895.268	39.755895236	-80.727878519
10,400.00	24.07	61.399	10,082.80	918.52	1,693.14	14,437,982.611	1,716,931.072	39.755948549	-80.727750914
10,500.00	24.07	61.399	10,174.11	938.05	1,728.95	14,438,002.132	1,716,966.876	39.756001861	-80.727623308
10,600.00	24.07	61.399	10,265.41	957.57	1,764.75	14,438,021.654	1,717,002.680	39.756055174	-80.727495703
10,700.00	24.07	61.399	10,356.72	977.09	1,800.56	14,438,041.175	1,717,038.483	39.756108486	-80.727368097
10,800.00	24.07	61.399	10,448.03	996.61	1,836.36	14,438,060.697	1,717,074.287	39.756161798	-80.727240491
10,900.00	24.07	61.399	10,539.34	1,016.13	1,872.17	14,438,080.218	1,717,110.091	39.756215110	-80.727112884
11,000.00	24.07	61.399	10,630.64	1,035.65	1,907.97	14,438,099.740	1,717,145.895	39.756268422	-80.726985278
11,100.00	24.07	61.399	10,721.95	1,055.18	1,943.77	14,438,119.261	1,717,181.699	39.756321734	-80.726857671
11,161.66	24.07	61.399	10,778.25	1,067.21	1,965.85	14,438,131.297	1,717,203.775	39.756354605	-80.726778993
Begin 6°/100' build/turn									
11,200.00	24.13	55.766	10,813.25	1,075.37	1,979.20	14,438,139.451	1,717,217.122	39.756376885	-80.726731415
11,250.00	24.53	48.544	10,858.82	1,087.99	1,995.43	14,438,152.076	1,717,233.355	39.756411419	-80.726673519
11,300.00	25.25	41.623	10,904.19	1,102.84	2,010.30	14,438,166.923	1,717,248.221	39.756452071	-80.726620461
11,350.00	26.28	35.138	10,949.22	1,119.87	2,023.75	14,438,183.953	1,717,261.680	39.756498726	-80.726572387
11,400.00	27.58	29.163	10,993.81	1,139.03	2,035.77	14,438,203.119	1,717,273.695	39.756551259	-80.726529429
11,450.00	29.11	23.728	11,037.82	1,160.28	2,046.31	14,438,224.367	1,717,284.233	39.756609525	-80.726491704
11,500.00	30.84	18.820	11,081.13	1,183.56	2,055.34	14,438,247.640	1,717,293.264	39.756673364	-80.726459315
11,550.00	32.74	14.407	11,123.63	1,208.79	2,062.84	14,438,272.874	1,717,300.765	39.756742601	-80.726432352
11,600.00	34.78	10.440	11,165.21	1,235.92	2,068.79	14,438,300.001	1,717,306.715	39.756817047	-80.726410888
11,650.00	36.93	6.870	11,205.73	1,264.86	2,073.17	14,438,328.944	1,717,311.096	39.756896498	-80.726394983
11,700.00	39.18	3.647	11,245.11	1,295.54	2,075.97	14,438,359.626	1,717,313.898	39.756980735	-80.726384679
11,750.00	41.51	0.726	11,283.22	1,327.88	2,077.19	14,438,391.962	1,717,315.113	39.757069527	-80.726380005
11,800.00	43.90	358.064	11,319.96	1,361.78	2,076.81	14,438,425.863	1,717,314.737	39.757162633	-80.726380975
11,850.00	46.36	355.627	11,355.23	1,397.15	2,074.85	14,438,461.236	1,717,312.772	39.757259795	-80.726387584
11,900.00	48.86	353.383	11,388.94	1,433.90	2,071.30	14,438,497.986	1,717,309.222	39.757360748	-80.726399816
11,922.54	50.00	352.427	11,403.60	1,450.89	2,069.18	14,438,514.974	1,717,307.106	39.757407422	-80.726407160
Begin 8°/100' build/turn									
11,950.00	51.87	350.940	11,420.91	1,471.98	2,066.09	14,438,536.069	1,717,304.019	39.757465380	-80.726417916
12,000.00	55.32	348.418	11,450.58	1,511.56	2,058.87	14,438,575.644	1,717,296.792	39.757574124	-80.726443201
12,050.00	58.81	346.100	11,477.76	1,552.48	2,049.60	14,438,616.560	1,717,287.523	39.757686569	-80.726475737
12,100.00	62.35	343.947	11,502.32	1,594.53	2,038.33	14,438,658.618	1,717,276.257	39.757802166	-80.726515365
12,150.00	65.91	341.930	11,524.14	1,637.53	2,025.12	14,438,701.613	1,717,263.050	39.757923053	-80.726561893
12,200.00	69.50	340.023	11,543.11	1,681.25	2,010.04	14,438,745.336	1,717,247.964	39.758040554	-80.726615095
12,250.00	73.11	338.204	11,559.13	1,725.49	1,993.15	14,438,789.573	1,717,231.075	39.758162184	-80.726674710
12,300.00	76.74	336.453	11,572.14	1,770.03	1,974.54	14,438,834.109	1,717,212.464	39.758284649	-80.726740448
12,350.00	80.37	334.753	11,582.06	1,814.64	1,954.30	14,438,878.728	1,717,192.222	39.758407352	-80.726811990
12,400.00	84.02	333.090	11,588.85	1,859.13	1,932.52	14,438,923.211	1,717,170.448	39.758529698	-80.726888987
12,450.00	87.67	331.449	11,592.47	1,903.26	1,909.32	14,438,967.342	1,717,147.247	39.758651088	-80.726971063
12,495.65	91.00	329.959	11,593.00	1,943.06	1,886.99	14,439,007.144	1,717,124.914	39.758760583	-80.727050096
Begin 91.00° lateral									
12,500.00	91.00	329.959	11,592.93	1,946.83	1,884.81	14,439,010.909	1,717,122.737	39.758770940	-80.727057802
12,600.00	91.00	329.959	11,591.18	2,033.38	1,834.76	14,439,097.462	1,717,072.682	39.759009057	-80.727234972
12,700.00	91.00	329.959	11,589.43	2,119.93	1,784.70	14,439,184.015	1,717,022.627	39.759247174	-80.727412143
12,800.00	91.00	329.959	11,587.68	2,206.48	1,734.65	14,439,270.568	1,716,972.572	39.759485290	-80.727589315
12,900.00	91.00	329.959	11,585.94	2,293.04	1,684.59	14,439,357.121	1,716,922.517	39.759723407	-80.727766489
13,000.00	91.00	329.959	11,584.19	2,379.59	1,634.54	14,439,443.674	1,716,872.463	39.759961523	-80.727943663
13,100.00	91.00	329.959	11,582.44	2,466.14	1,584.48	14,439,530.227	1,716,822.408	39.760199639	-80.728120839
13,200.00	91.00	329.959	11,580.69	2,552.70	1,534.43	14,439,616.780	1,716,772.353	39.760437753	-80.728298016
13,300.00	91.00	329.959	11,578.95	2,639.25	1,484.37	14,439,703.333	1,716,722.298	39.760675868	-80.728475195

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well Pendleton N-11 HU (slot G)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-11 HU (slot G)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,400.00	91.00	329.959	11,577.20	2,725.80	1,434.32	14,439,789.886	1,716,672.243	39.760913983	-80.728652374
13,500.00	91.00	329.959	11,575.45	2,812.36	1,384.26	14,439,876.439	1,716,622.189	39.761152098	-80.728829555
13,600.00	91.00	329.959	11,573.70	2,898.91	1,334.21	14,439,962.992	1,716,572.134	39.761390212	-80.729006737
13,700.00	91.00	329.959	11,571.96	2,985.46	1,284.15	14,440,049.545	1,716,522.079	39.761628327	-80.729183920
13,800.00	91.00	329.959	11,570.21	3,072.02	1,234.10	14,440,136.098	1,716,472.024	39.761866440	-80.729361105
13,900.00	91.00	329.959	11,568.46	3,158.57	1,184.04	14,440,222.651	1,716,421.969	39.762104554	-80.729538290
14,000.00	91.00	329.959	11,566.71	3,245.12	1,133.99	14,440,309.204	1,716,371.914	39.762342667	-80.729715477
14,100.00	91.00	329.959	11,564.97	3,331.68	1,083.93	14,440,395.757	1,716,321.860	39.762580780	-80.729892665
14,200.00	91.00	329.959	11,563.22	3,418.23	1,033.88	14,440,482.310	1,716,271.805	39.762818893	-80.730069854
14,300.00	91.00	329.959	11,561.47	3,504.78	983.82	14,440,568.863	1,716,221.750	39.763057006	-80.730247045
14,400.00	91.00	329.959	11,559.72	3,591.34	933.77	14,440,655.416	1,716,171.695	39.763295118	-80.730424237
14,500.00	91.00	329.959	11,557.97	3,677.89	883.71	14,440,741.969	1,716,121.640	39.763533230	-80.730601429
14,600.00	91.00	329.959	11,556.23	3,764.44	833.66	14,440,828.522	1,716,071.586	39.763771341	-80.730778624
14,700.00	91.00	329.959	11,554.48	3,851.00	783.60	14,440,915.075	1,716,021.531	39.764009453	-80.730955819
14,800.00	91.00	329.959	11,552.73	3,937.55	733.55	14,441,001.628	1,715,971.476	39.764247564	-80.731133016
14,900.00	91.00	329.959	11,550.98	4,024.10	683.49	14,441,088.181	1,715,921.421	39.764485675	-80.731310213
15,000.00	91.00	329.959	11,549.24	4,110.65	633.44	14,441,174.734	1,715,871.365	39.764723785	-80.731487412
15,100.00	91.00	329.959	11,547.49	4,197.21	583.38	14,441,261.287	1,715,821.310	39.764961895	-80.731664613
15,200.00	91.00	329.959	11,545.74	4,283.76	533.33	14,441,347.840	1,715,771.256	39.765200005	-80.731841814
15,300.00	91.00	329.959	11,543.99	4,370.31	483.27	14,441,434.393	1,715,721.201	39.765438115	-80.732019017
15,400.00	91.00	329.959	11,542.25	4,456.87	433.22	14,441,520.946	1,715,671.146	39.765676224	-80.732196221
15,500.00	91.00	329.959	11,540.50	4,543.42	383.16	14,441,607.499	1,715,621.091	39.765914334	-80.732373426
15,600.00	91.00	329.959	11,538.75	4,629.97	333.11	14,441,694.052	1,715,571.036	39.766152444	-80.732550632
15,700.00	91.00	329.959	11,537.00	4,716.53	283.05	14,441,780.605	1,715,520.982	39.766390551	-80.732727840
15,800.00	91.00	329.959	11,535.26	4,803.08	233.00	14,441,867.158	1,715,470.927	39.766628659	-80.732905048
15,900.00	91.00	329.959	11,533.51	4,889.63	182.94	14,441,953.711	1,715,420.872	39.766866767	-80.733082258
16,000.00	91.00	329.959	11,531.76	4,976.19	132.89	14,442,040.264	1,715,370.817	39.767104875	-80.733259469
16,100.00	91.00	329.959	11,530.01	5,062.74	82.83	14,442,126.817	1,715,320.762	39.767342983	-80.733436682
16,200.00	91.00	329.959	11,528.26	5,149.29	32.78	14,442,213.370	1,715,270.708	39.767581090	-80.733613895
16,300.00	91.00	329.959	11,526.52	5,235.85	-17.28	14,442,299.922	1,715,220.653	39.767819197	-80.733791110
16,400.00	91.00	329.959	11,524.77	5,322.40	-67.33	14,442,386.475	1,715,170.598	39.768057304	-80.733968326
16,500.00	91.00	329.959	11,523.02	5,408.95	-117.39	14,442,473.028	1,715,120.543	39.768295410	-80.734145544
16,600.00	91.00	329.959	11,521.27	5,495.51	-167.44	14,442,559.581	1,715,070.488	39.768533516	-80.734322762
16,700.00	91.00	329.959	11,519.53	5,582.06	-217.50	14,442,646.134	1,715,020.433	39.768771622	-80.734499982
16,800.00	91.00	329.959	11,517.78	5,668.61	-267.55	14,442,732.687	1,714,970.379	39.769009727	-80.734677203
16,900.00	91.00	329.959	11,516.03	5,755.16	-317.61	14,442,819.240	1,714,920.324	39.769247833	-80.734854425
17,000.00	91.00	329.959	11,514.28	5,841.72	-367.66	14,442,905.793	1,714,870.269	39.769485938	-80.735031648
17,100.00	91.00	329.959	11,512.54	5,928.27	-417.72	14,442,992.346	1,714,820.214	39.769724042	-80.735208873
17,200.00	91.00	329.959	11,510.79	6,014.82	-467.77	14,443,078.899	1,714,770.159	39.769962147	-80.735386099
17,300.00	91.00	329.959	11,509.04	6,101.38	-517.83	14,443,165.452	1,714,720.105	39.770200251	-80.735563326
17,400.00	91.00	329.959	11,507.29	6,187.93	-567.88	14,443,252.005	1,714,670.050	39.770438355	-80.735740554
17,500.00	91.00	329.959	11,505.55	6,274.48	-617.94	14,443,338.558	1,714,619.995	39.770676459	-80.735917783
17,600.00	91.00	329.959	11,503.80	6,361.04	-667.99	14,443,425.111	1,714,569.940	39.770914562	-80.736095014
17,700.00	91.00	329.959	11,502.05	6,447.59	-718.05	14,443,511.664	1,714,519.885	39.771152665	-80.736272246
17,800.00	91.00	329.959	11,500.30	6,534.14	-768.10	14,443,598.217	1,714,469.830	39.771390768	-80.736449479
17,900.00	91.00	329.959	11,498.56	6,620.70	-818.16	14,443,684.770	1,714,419.776	39.771628870	-80.736626713
18,000.00	91.00	329.959	11,496.81	6,707.25	-868.21	14,443,771.323	1,714,369.721	39.771866973	-80.736803949
18,100.00	91.00	329.959	11,495.06	6,793.80	-918.26	14,443,857.876	1,714,319.666	39.772105075	-80.736981186
18,200.00	91.00	329.959	11,493.31	6,880.36	-968.32	14,443,944.429	1,714,269.611	39.772343176	-80.737158424
18,300.00	91.00	329.959	11,491.56	6,966.91	-1,018.37	14,444,030.982	1,714,219.556	39.772581278	-80.737335663
18,400.00	91.00	329.959	11,489.82	7,053.46	-1,068.43	14,444,117.535	1,714,169.502	39.772819379	-80.737512903
18,500.00	91.00	329.959	11,488.07	7,140.02	-1,118.48	14,444,204.088	1,714,119.447	39.773057480	-80.737690145
18,600.00	91.00	329.959	11,486.32	7,226.57	-1,168.54	14,444,290.641	1,714,069.392	39.773295580	-80.737867388
18,700.00	91.00	329.959	11,484.57	7,313.12	-1,218.59	14,444,377.194	1,714,019.337	39.773533681	-80.738044632

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well Pendleton N-11 HU (slot G)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-11 HU (slot G)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
18,800.00	91.00	329.959	11,482.83	7,399.68	-1,268.65	14,444,463.747	1,713,969.282	39.773771781	-80.738221877
18,900.00	91.00	329.959	11,481.08	7,486.23	-1,318.70	14,444,550.300	1,713,919.227	39.774009880	-80.738399124
19,000.00	91.00	329.959	11,479.33	7,572.78	-1,368.76	14,444,636.853	1,713,869.173	39.774247980	-80.738576372
19,100.00	91.00	329.959	11,477.58	7,659.33	-1,418.81	14,444,723.406	1,713,819.118	39.774486079	-80.738753620
19,200.00	91.00	329.959	11,475.84	7,745.89	-1,468.87	14,444,809.959	1,713,769.063	39.774724178	-80.738930871
19,300.00	91.00	329.959	11,474.09	7,832.44	-1,518.92	14,444,896.512	1,713,719.008	39.774962277	-80.739108122
19,400.00	91.00	329.959	11,472.34	7,918.99	-1,568.98	14,444,983.065	1,713,668.953	39.775200375	-80.739285375
19,500.00	91.00	329.959	11,470.59	8,005.55	-1,619.03	14,445,069.618	1,713,618.899	39.775438473	-80.739462628
19,600.00	91.00	329.959	11,468.85	8,092.10	-1,669.09	14,445,156.171	1,713,568.844	39.775676571	-80.739639883
19,700.00	91.00	329.959	11,467.10	8,178.65	-1,719.14	14,445,242.724	1,713,518.789	39.775914669	-80.739817140
19,800.00	91.00	329.959	11,465.35	8,265.21	-1,769.20	14,445,329.277	1,713,468.734	39.776152766	-80.739994397
19,900.00	91.00	329.959	11,463.60	8,351.76	-1,819.25	14,445,415.830	1,713,418.679	39.776390863	-80.740171656
20,000.00	91.00	329.959	11,461.86	8,438.31	-1,869.31	14,445,502.383	1,713,368.625	39.776628960	-80.740348916
20,100.00	91.00	329.959	11,460.11	8,524.87	-1,919.36	14,445,588.936	1,713,318.570	39.776867056	-80.740526177
20,200.00	91.00	329.959	11,458.36	8,611.42	-1,969.42	14,445,675.489	1,713,268.515	39.777105152	-80.740703438
20,300.00	91.00	329.959	11,456.61	8,697.97	-2,019.47	14,445,762.042	1,713,218.460	39.777343248	-80.740880702
20,400.00	91.00	329.959	11,454.86	8,784.53	-2,069.53	14,445,848.595	1,713,168.405	39.777581344	-80.741057967
20,500.00	91.00	329.959	11,453.12	8,871.08	-2,119.58	14,445,935.148	1,713,118.350	39.777819439	-80.741235233
20,600.00	91.00	329.959	11,451.37	8,957.63	-2,169.64	14,446,021.701	1,713,068.296	39.778057534	-80.741412500
20,700.00	91.00	329.959	11,449.62	9,044.19	-2,219.69	14,446,108.254	1,713,018.241	39.778295629	-80.741589768
20,800.00	91.00	329.959	11,447.87	9,130.74	-2,269.75	14,446,194.807	1,712,968.186	39.778533723	-80.741767038
20,900.00	91.00	329.959	11,446.13	9,217.29	-2,319.80	14,446,281.360	1,712,918.131	39.778771818	-80.741944309
21,000.00	91.00	329.959	11,444.38	9,303.84	-2,369.86	14,446,367.913	1,712,868.076	39.779009911	-80.742121581
21,100.00	91.00	329.959	11,442.63	9,390.40	-2,419.91	14,446,454.466	1,712,818.022	39.779248005	-80.742298854
21,200.00	91.00	329.959	11,440.88	9,476.95	-2,469.97	14,446,541.019	1,712,767.967	39.779486099	-80.742476129
21,300.00	91.00	329.959	11,439.14	9,563.50	-2,520.02	14,446,627.572	1,712,717.912	39.779724192	-80.742653405
21,400.00	91.00	329.959	11,437.39	9,650.06	-2,570.08	14,446,714.125	1,712,667.857	39.779962285	-80.742830682
21,500.00	91.00	329.959	11,435.64	9,736.61	-2,620.13	14,446,800.678	1,712,617.802	39.780200377	-80.743007960
21,600.00	91.00	329.959	11,433.89	9,823.16	-2,670.19	14,446,887.231	1,712,567.747	39.780438469	-80.743185239
21,700.00	91.00	329.959	11,432.15	9,909.72	-2,720.24	14,446,973.784	1,712,517.693	39.780676561	-80.743362520
21,800.00	91.00	329.959	11,430.40	9,996.27	-2,770.30	14,447,060.337	1,712,467.638	39.780914653	-80.743539802
21,900.00	91.00	329.959	11,428.65	10,082.82	-2,820.35	14,447,146.890	1,712,417.583	39.781152745	-80.743717085
22,000.00	91.00	329.959	11,426.90	10,169.38	-2,870.41	14,447,233.443	1,712,367.528	39.781390836	-80.743894369
22,100.00	91.00	329.959	11,425.15	10,255.93	-2,920.46	14,447,319.996	1,712,317.473	39.781628927	-80.744071655
22,200.00	91.00	329.959	11,423.41	10,342.48	-2,970.52	14,447,406.549	1,712,267.419	39.781867017	-80.744248941
22,300.00	91.00	329.959	11,421.66	10,429.04	-3,020.57	14,447,493.102	1,712,217.364	39.782105108	-80.744426229
22,400.00	91.00	329.959	11,419.91	10,515.59	-3,070.63	14,447,579.655	1,712,167.309	39.782343198	-80.744603518
22,500.00	91.00	329.959	11,418.16	10,602.14	-3,120.68	14,447,666.208	1,712,117.254	39.782581288	-80.744780809
22,600.00	91.00	329.959	11,416.42	10,688.70	-3,170.74	14,447,752.761	1,712,067.199	39.782819377	-80.744958100
22,700.00	91.00	329.959	11,414.67	10,775.25	-3,220.79	14,447,839.314	1,712,017.145	39.783057466	-80.745135393
22,800.00	91.00	329.959	11,412.92	10,861.80	-3,270.85	14,447,925.867	1,711,967.090	39.783295555	-80.745312687
22,900.00	91.00	329.959	11,411.17	10,948.36	-3,320.90	14,448,012.420	1,711,917.035	39.783533644	-80.745489983
23,000.00	91.00	329.959	11,409.43	11,034.91	-3,370.96	14,448,098.973	1,711,866.980	39.783771732	-80.745667279
23,100.00	91.00	329.959	11,407.68	11,121.46	-3,421.01	14,448,185.526	1,711,816.925	39.784009821	-80.745844577
23,200.00	91.00	329.959	11,405.93	11,208.01	-3,471.07	14,448,272.079	1,711,766.870	39.784247908	-80.746021876
23,300.00	91.00	329.959	11,404.18	11,294.57	-3,521.12	14,448,358.632	1,711,716.816	39.784485996	-80.746199176
23,400.00	91.00	329.959	11,402.44	11,381.12	-3,571.18	14,448,445.185	1,711,666.761	39.784724083	-80.746376477
23,500.00	91.00	329.959	11,400.69	11,467.67	-3,621.23	14,448,531.738	1,711,616.706	39.784962170	-80.746553780
23,600.00	91.00	329.959	11,398.94	11,554.23	-3,671.29	14,448,618.291	1,711,566.651	39.785200257	-80.746731084
23,700.00	91.00	329.959	11,397.19	11,640.78	-3,721.34	14,448,704.844	1,711,516.596	39.785438344	-80.746908389
23,800.00	91.00	329.959	11,395.45	11,727.33	-3,771.40	14,448,791.397	1,711,466.542	39.785676430	-80.747085695
23,900.00	91.00	329.959	11,393.70	11,813.89	-3,821.45	14,448,877.950	1,711,416.487	39.785914516	-80.747263002
24,000.00	91.00	329.959	11,391.95	11,900.44	-3,871.51	14,448,964.503	1,711,366.432	39.786152601	-80.747440311
24,100.00	91.00	329.959	11,390.20	11,986.99	-3,921.56	14,449,051.056	1,711,316.377	39.786390687	-80.747617621

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well Pendleton N-11 HU (slot G)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-11 HU (slot G)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
24,200.00	91.00	329.959	11,388.45	12,073.55	-3,971.62	14,449,137.609	1,711,266.322	39.786628772	-80.747794932
24,300.00	91.00	329.959	11,386.71	12,160.10	-4,021.67	14,449,224.162	1,711,216.267	39.786666857	-80.747972244
24,400.00	91.00	329.959	11,384.96	12,246.65	-4,071.72	14,449,310.715	1,711,166.213	39.787104941	-80.748149558
24,500.00	91.00	329.959	11,383.21	12,333.21	-4,121.78	14,449,397.268	1,711,116.158	39.787343025	-80.748326873
24,600.00	91.00	329.959	11,381.46	12,419.76	-4,171.83	14,449,483.821	1,711,066.103	39.787581109	-80.748504189
24,700.00	91.00	329.959	11,379.72	12,506.31	-4,221.89	14,449,570.374	1,711,016.048	39.787819193	-80.748681506
24,800.00	91.00	329.959	11,377.97	12,592.87	-4,271.94	14,449,656.927	1,710,965.993	39.788057277	-80.748858824
24,900.00	91.00	329.959	11,376.22	12,679.42	-4,322.00	14,449,743.480	1,710,915.939	39.788295360	-80.749036144
25,000.00	91.00	329.959	11,374.47	12,765.97	-4,372.05	14,449,830.033	1,710,865.884	39.788533443	-80.749213465
25,100.00	91.00	329.959	11,372.73	12,852.52	-4,422.11	14,449,916.586	1,710,815.829	39.788771525	-80.749390787
25,200.00	91.00	329.959	11,370.98	12,939.08	-4,472.16	14,450,003.139	1,710,765.774	39.789009608	-80.749568110
25,300.00	91.00	329.959	11,369.23	13,025.63	-4,522.22	14,450,089.692	1,710,715.719	39.789247690	-80.749745435
25,400.00	91.00	329.959	11,367.48	13,112.18	-4,572.27	14,450,176.245	1,710,665.665	39.789485771	-80.749922761
25,500.00	91.00	329.959	11,365.74	13,198.74	-4,622.33	14,450,262.798	1,710,615.610	39.789723853	-80.750100087
25,600.00	91.00	329.959	11,363.99	13,285.29	-4,672.38	14,450,349.351	1,710,565.555	39.789961934	-80.750277416
25,700.00	91.00	329.959	11,362.24	13,371.84	-4,722.44	14,450,435.904	1,710,515.500	39.790200015	-80.750454745
25,800.00	91.00	329.959	11,360.49	13,458.40	-4,772.49	14,450,522.457	1,710,465.445	39.790438096	-80.750632076
25,900.00	91.00	329.959	11,358.74	13,544.95	-4,822.55	14,450,609.010	1,710,415.390	39.790676176	-80.750809408
26,000.00	91.00	329.959	11,357.00	13,631.50	-4,872.60	14,450,695.563	1,710,365.336	39.790914256	-80.750986741
26,100.00	91.00	329.959	11,355.25	13,718.06	-4,922.66	14,450,782.116	1,710,315.281	39.791152336	-80.751164075
26,200.00	91.00	329.959	11,353.50	13,804.61	-4,972.71	14,450,868.669	1,710,265.226	39.791390416	-80.751341410
26,300.00	91.00	329.959	11,351.75	13,891.16	-5,022.77	14,450,955.222	1,710,215.171	39.791628495	-80.751518747
26,400.00	91.00	329.959	11,350.01	13,977.72	-5,072.82	14,451,041.775	1,710,165.116	39.791866574	-80.751696085
26,500.00	91.00	329.959	11,348.26	14,064.27	-5,122.88	14,451,128.328	1,710,115.062	39.792104653	-80.751873424
26,600.00	91.00	329.959	11,346.51	14,150.82	-5,172.93	14,451,214.881	1,710,065.007	39.792342731	-80.752050765
26,700.00	91.00	329.959	11,344.76	14,237.38	-5,222.99	14,451,301.434	1,710,014.952	39.792580809	-80.752228106
26,800.00	91.00	329.959	11,343.02	14,323.93	-5,273.04	14,451,387.987	1,709,964.897	39.792818887	-80.752405449
26,900.00	91.00	329.959	11,341.27	14,410.48	-5,323.10	14,451,474.540	1,709,914.842	39.793056965	-80.752582793
27,000.00	91.00	329.959	11,339.52	14,497.04	-5,373.15	14,451,561.093	1,709,864.787	39.793295042	-80.752760138
27,100.00	91.00	329.959	11,337.77	14,583.59	-5,423.21	14,451,647.646	1,709,814.733	39.793533119	-80.752937485
27,200.00	91.00	329.959	11,336.03	14,670.14	-5,473.26	14,451,734.199	1,709,764.678	39.793771196	-80.753114833
27,300.00	91.00	329.959	11,334.28	14,756.69	-5,523.32	14,451,820.752	1,709,714.623	39.794009272	-80.753292181
27,400.00	91.00	329.959	11,332.53	14,843.25	-5,573.37	14,451,907.305	1,709,664.568	39.794247349	-80.753469532
27,500.00	91.00	329.959	11,330.78	14,929.80	-5,623.43	14,451,993.858	1,709,614.513	39.794485425	-80.753646883
27,600.00	91.00	329.959	11,329.04	15,016.35	-5,673.48	14,452,080.411	1,709,564.459	39.794723500	-80.753824236
27,700.00	91.00	329.959	11,327.29	15,102.91	-5,723.54	14,452,166.964	1,709,514.404	39.794961576	-80.754001589
27,800.00	91.00	329.959	11,325.54	15,189.46	-5,773.59	14,452,253.517	1,709,464.349	39.795199651	-80.754178944
27,900.00	91.00	329.959	11,323.79	15,276.01	-5,823.65	14,452,340.070	1,709,414.294	39.795437726	-80.754356301
28,000.00	91.00	329.959	11,322.04	15,362.57	-5,873.70	14,452,426.622	1,709,364.239	39.795675800	-80.754533658
28,100.00	91.00	329.959	11,320.30	15,449.12	-5,923.76	14,452,513.175	1,709,314.185	39.795913873	-80.754711017
28,200.00	91.00	329.959	11,318.55	15,535.67	-5,973.81	14,452,599.728	1,709,264.130	39.796151947	-80.754888377
28,300.00	91.00	329.959	11,316.80	15,622.23	-6,023.87	14,452,686.281	1,709,214.075	39.796390021	-80.755065738
28,400.00	91.00	329.959	11,315.05	15,708.78	-6,073.92	14,452,772.834	1,709,164.020	39.796628095	-80.755243100
28,500.00	91.00	329.959	11,313.31	15,795.33	-6,123.98	14,452,859.387	1,709,113.965	39.796866168	-80.755420464
28,600.00	91.00	329.959	11,311.56	15,881.89	-6,174.03	14,452,945.940	1,709,063.910	39.797104241	-80.755597829
28,700.00	91.00	329.959	11,309.81	15,968.44	-6,224.09	14,453,032.493	1,709,013.856	39.797342313	-80.755775195
28,800.00	91.00	329.959	11,308.06	16,054.99	-6,274.14	14,453,119.046	1,708,963.801	39.797580386	-80.755952562
28,900.00	91.00	329.959	11,306.32	16,141.55	-6,324.20	14,453,205.599	1,708,913.746	39.797818458	-80.756129930
29,000.00	91.00	329.959	11,304.57	16,228.10	-6,374.25	14,453,292.152	1,708,863.691	39.798056530	-80.756307300
29,100.00	91.00	329.959	11,302.82	16,314.65	-6,424.31	14,453,378.705	1,708,813.636	39.798294601	-80.756484671
29,200.00	91.00	329.959	11,301.07	16,401.20	-6,474.36	14,453,465.259	1,708,763.582	39.798532672	-80.756662043
29,300.00	91.00	329.959	11,299.33	16,487.76	-6,524.42	14,453,551.812	1,708,713.527	39.798770743	-80.756839416
29,400.00	91.00	329.959	11,297.58	16,574.31	-6,574.47	14,453,638.365	1,708,663.472	39.799008814	-80.757016791
29,500.00	91.00	329.959	11,295.83	16,660.86	-6,624.53	14,453,724.918	1,708,613.417	39.799246884	-80.757194167

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well Pendleton N-11 HU (slot G)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-11 HU (slot G)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
29,600.00	91.00	329.959	11,294.08	16,747.42	-6,674.58	14,453,811.471	1,708,563.362	39.799484955	-80.757371544
29,700.00	91.00	329.959	11,292.33	16,833.97	-6,724.64	14,453,898.024	1,708,513.307	39.799723024	-80.757548922
29,800.00	91.00	329.959	11,290.59	16,920.52	-6,774.69	14,453,984.577	1,708,463.253	39.799961094	-80.757726301
29,900.00	91.00	329.959	11,288.84	17,007.08	-6,824.75	14,454,071.130	1,708,413.198	39.800199163	-80.757903682
30,000.00	91.00	329.959	11,287.09	17,093.63	-6,874.80	14,454,157.683	1,708,363.143	39.800437232	-80.758081064
30,100.00	91.00	329.959	11,285.34	17,180.18	-6,924.86	14,454,244.236	1,708,313.088	39.800675301	-80.758258447
30,200.00	91.00	329.959	11,283.60	17,266.74	-6,974.91	14,454,330.789	1,708,263.033	39.800913370	-80.758435831
30,300.00	91.00	329.959	11,281.85	17,353.29	-7,024.97	14,454,417.342	1,708,212.979	39.801151438	-80.758613217
30,400.00	91.00	329.959	11,280.10	17,439.84	-7,075.02	14,454,503.895	1,708,162.924	39.801389506	-80.758790603
30,500.00	91.00	329.959	11,278.35	17,526.40	-7,125.07	14,454,590.448	1,708,112.869	39.801627573	-80.758967991
30,600.00	91.00	329.959	11,276.61	17,612.95	-7,175.13	14,454,677.001	1,708,062.814	39.801865641	-80.759145381
30,700.00	91.00	329.959	11,274.86	17,699.50	-7,225.18	14,454,763.554	1,708,012.759	39.802103708	-80.759322771
30,800.00	91.00	329.959	11,273.11	17,786.06	-7,275.24	14,454,850.107	1,707,962.704	39.802341775	-80.759500163
30,900.00	91.00	329.959	11,271.36	17,872.61	-7,325.29	14,454,936.660	1,707,912.650	39.802579841	-80.759677556
31,000.00	91.00	329.959	11,269.62	17,959.16	-7,375.35	14,455,023.213	1,707,862.595	39.802817907	-80.759854950
31,100.00	91.00	329.959	11,267.87	18,045.72	-7,425.40	14,455,109.766	1,707,812.540	39.803055973	-80.760032345
31,200.00	91.00	329.959	11,266.12	18,132.27	-7,475.46	14,455,196.319	1,707,762.485	39.803294039	-80.760209741
31,300.00	91.00	329.959	11,264.37	18,218.82	-7,525.51	14,455,282.872	1,707,712.430	39.803532104	-80.760387139
31,400.00	91.00	329.959	11,262.63	18,305.37	-7,575.57	14,455,369.425	1,707,662.376	39.803770170	-80.760564538
31,500.00	91.00	329.959	11,260.88	18,391.93	-7,625.62	14,455,455.978	1,707,612.321	39.804008234	-80.760741938
31,600.00	91.00	329.959	11,259.13	18,478.48	-7,675.68	14,455,542.531	1,707,562.266	39.804246299	-80.760919340
31,700.00	91.00	329.959	11,257.38	18,565.03	-7,725.73	14,455,629.084	1,707,512.211	39.804484363	-80.761096742
31,800.00	91.00	329.959	11,255.63	18,651.59	-7,775.79	14,455,715.637	1,707,462.156	39.804722427	-80.761274146
31,900.00	91.00	329.959	11,253.89	18,738.14	-7,825.84	14,455,802.190	1,707,412.102	39.804960491	-80.761451551
32,000.00	91.00	329.959	11,252.14	18,824.69	-7,875.90	14,455,888.743	1,707,362.047	39.805198555	-80.761628958
32,100.00	91.00	329.959	11,250.39	18,911.25	-7,925.95	14,455,975.296	1,707,311.992	39.805436618	-80.761806365
32,200.00	91.00	329.959	11,248.64	18,997.80	-7,976.01	14,456,061.849	1,707,261.937	39.805674681	-80.761983774
32,300.00	91.00	329.959	11,246.90	19,084.35	-8,026.06	14,456,148.402	1,707,211.882	39.805912743	-80.762161184
32,400.00	91.00	329.959	11,245.15	19,170.91	-8,076.12	14,456,234.955	1,707,161.827	39.806150806	-80.762338595
32,500.00	91.00	329.959	11,243.40	19,257.46	-8,126.17	14,456,321.508	1,707,111.773	39.806388868	-80.762516007
32,600.00	91.00	329.959	11,241.65	19,344.01	-8,176.23	14,456,408.061	1,707,061.718	39.806626930	-80.762693421
32,700.00	91.00	329.959	11,239.91	19,430.57	-8,226.28	14,456,494.614	1,707,011.663	39.806864991	-80.762870836
32,800.00	91.00	329.959	11,238.16	19,517.12	-8,276.34	14,456,581.167	1,706,961.608	39.807103053	-80.763048252
32,900.00	91.00	329.959	11,236.41	19,603.67	-8,326.39	14,456,667.720	1,706,911.553	39.807341114	-80.763225669
33,000.00	91.00	329.959	11,234.66	19,690.23	-8,376.45	14,456,754.273	1,706,861.499	39.807579174	-80.763403088
33,100.00	91.00	329.959	11,232.92	19,776.78	-8,426.50	14,456,840.826	1,706,811.444	39.807817235	-80.763580507
33,200.00	91.00	329.959	11,231.17	19,863.33	-8,476.56	14,456,927.379	1,706,761.389	39.808055295	-80.763757928
33,300.00	91.00	329.959	11,229.42	19,949.88	-8,526.61	14,457,013.932	1,706,711.334	39.808293355	-80.763935350
33,400.00	91.00	329.959	11,227.67	20,036.44	-8,576.67	14,457,100.485	1,706,661.279	39.808531414	-80.764112774
33,500.00	91.00	329.959	11,225.92	20,122.99	-8,626.72	14,457,187.038	1,706,611.224	39.808769474	-80.764290198
33,600.00	91.00	329.959	11,224.18	20,209.54	-8,676.78	14,457,273.591	1,706,561.170	39.809007533	-80.764467624
33,700.00	91.00	329.959	11,222.43	20,296.10	-8,726.83	14,457,360.144	1,706,511.115	39.809245591	-80.764645051
33,800.00	91.00	329.959	11,220.68	20,382.65	-8,776.89	14,457,446.697	1,706,461.060	39.809483650	-80.764822479
33,900.00	91.00	329.959	11,218.93	20,469.20	-8,826.94	14,457,533.250	1,706,411.005	39.809721708	-80.764999909
34,000.00	91.00	329.959	11,217.19	20,555.76	-8,877.00	14,457,619.803	1,706,360.950	39.809959766	-80.765177340
34,100.00	91.00	329.959	11,215.44	20,642.31	-8,927.05	14,457,706.356	1,706,310.896	39.810197824	-80.765354772
34,200.00	91.00	329.959	11,213.69	20,728.86	-8,977.11	14,457,792.909	1,706,260.841	39.810435881	-80.765532205
34,300.00	91.00	329.959	11,211.94	20,815.42	-9,027.16	14,457,879.462	1,706,210.786	39.810673938	-80.765709639
34,400.00	91.00	329.959	11,210.20	20,901.97	-9,077.22	14,457,966.015	1,706,160.731	39.810911995	-80.765887075
34,500.00	91.00	329.959	11,208.45	20,988.52	-9,127.27	14,458,052.568	1,706,110.676	39.811150051	-80.766064512
34,600.00	91.00	329.959	11,206.70	21,075.08	-9,177.33	14,458,139.121	1,706,060.622	39.811388108	-80.766241950
34,700.00	91.00	329.959	11,204.95	21,161.63	-9,227.38	14,458,225.674	1,706,010.567	39.811626164	-80.766419389
34,800.00	91.00	329.959	11,203.21	21,248.18	-9,277.44	14,458,312.227	1,705,960.512	39.811864219	-80.766596829

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well Pendleton N-11 HU (slot G)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1272.00ft
Project:	Marshall County, West Virginia NAD83 UTM 17N	MD Reference:	GL @ 1272.00ft
Site:	Pendleton	North Reference:	Grid
Well:	Pendleton N-11 HU (slot G)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
34,860.40	91.00	329.959	11,202.15	21,300.46	-9,307.67	14,458,364.503	1,705,930.280	39.812008000	-80.766704000
PBHL/TD 34860.40 MD 11202.15 TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Pendleton N-11HU PBHI - hit/miss target - Shape - plan hits target center - Point	0.00	0.000	11,202.15	21,300.46	-9,307.67	14,458,364.503	1,705,930.280	39.812008000	-80.766704000
Pendleton N-11HU LP 5i - plan hits target center - Point	0.00	0.000	11,593.00	1,943.06	1,886.99	14,439,007.144	1,717,124.914	39.758760582	-80.727050097

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
3,100.00	3,100.00	0.00	0.00	KOP Begin 2°/100' build	
3,600.00	3,597.47	20.61	38.33	Begin 10.00° tangent	
7,055.02	7,000.00	304.77	566.73	Begin 2°/100' build	
7,758.38	7,670.81	402.84	747.34	Begin 24.07° tangent	
11,161.66	10,778.25	1,067.21	1,965.85	Begin 6°/100' build/turn	
11,922.54	11,403.60	1,450.89	2,069.18	Begin 8°/100' build/turn	
12,495.65	11,593.00	1,943.06	1,886.99	Begin 91.00° lateral	
34,860.40	11,202.15	21,300.46	-9,307.67	PBHL/TD 34860.40 MD 11202.15 TVD	

4705102456



TUG HILL
OPERATING

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

Well Name: Pendleton N-11HU

Pad Name: Pendleton

County: Marshall

UTM (meters), NAD83, Zone 17

Northing: 4,400,425.91

Easting: 522,805.60

**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

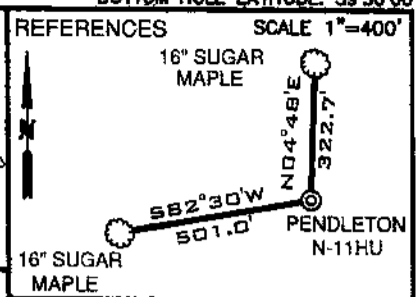
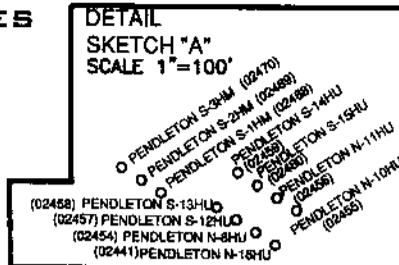
(800) 921-9745

*Just to confirm
Site Specific Data
12/16/22*

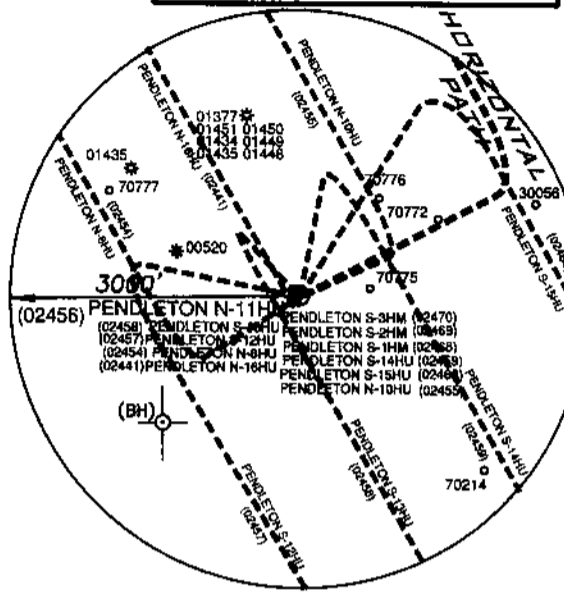
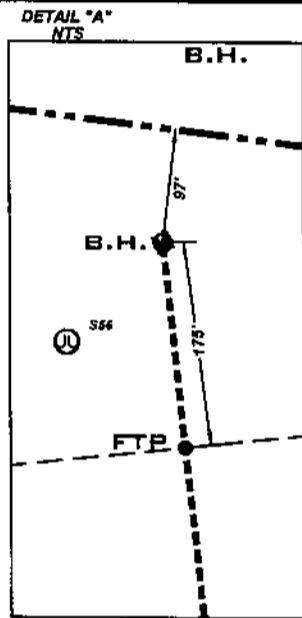
03/03/2023

**PENDLETON N-11HU
UTICA UNIT - 564.526± ACRES
TUG HILL OPERATING**

LEGEND	
	LEASED TRACTS
	SURFACE TRACTS
	WELL LATERAL
	POINT PLEASANT LEGS
	UNIT BOUNDARY
	LEASE # (SEE 6A1 FORM)



CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH
C1	N 48° 41' E	78.29'	170.11'	79.00'
C2	N 24° 41' E	97.16'	270.74'	97.69'
C3	N 07° 50' E	119.99'	507.20'	120.27'
C4	N 03° 27' W	144.59'	876.05'	144.75'
C5	N 15° 06' W	263.87'	1167.66'	264.44'
C6	N 25° 03' W	242.17'	1687.34'	242.38'



- NOTES**
- BORE PATH BASED ON GRID NORTH.
 - NO WATER WELLS WITHIN 250' OF WELL WERE FOUND. NO DWELLINGS WITHIN 625' OF PAD CENTER WERE FOUND.
 - OWNERSHIP TAKEN FROM PUBLIC RECORDS OF MARSHALL COUNTY, WV IN FEBRUARY 2022. COORDINATES AND WELL TIES BASED UPON DIFFERENTIAL GPS MEASUREMENTS.
 - WELL LOCATION REFERENCES ARE BASED UPON THE MAGNETIC MERIDIAN.
 - ALL DEEP WELLS SHOWN ON THIS PLAT.
 - BOUNDARIES ALONG ROADWAYS ARE BASED UPON MEMORANDUM BY DICKIE, MCCAMEY & CHILCOTE P.C. FILE 0058304.0401147
 - LINE FOR S-16-7, 8, 9, 10, 11, & 9-13-3 WERE SURVEYED BY SLS.
 - L.P.1. AND L.T.P. ARE SAME POINT.

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

API	OPERATOR
47-051-02441	Tug Hill Operating, LLC
47-051-02455	Tug Hill Operating, LLC
47-051-02456	Tug Hill Operating, LLC
47-051-02457	Tug Hill Operating, LLC
47-051-02458	Tug Hill Operating, LLC
47-051-02459	Tug Hill Operating, LLC
47-051-02460	Tug Hill Operating, LLC

SURFACE HOLE UTM. NAD83, ZONE 17 IN METERS N) 4,400,425.91 E) 522,805.60
LANDING POINT 1 UTM. NAD83, ZONE 17 IN METERS N) 4,401,018.18 E) 523,380.72
BOTTOM HOLE UTM. NAD83, ZONE 17 IN METERS N) 4,406,918.31 E) 519,968.59

LINE	BEARING	DISTANCE
L1	N 00° 50' E	2,851.35'
L2	N 76° 33' W	2,406.19'
L3	N 62° 41' E	643.70'
L4	N 62° 27' E	205.58'
L5	N 62° 21' E	388.33'

(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER _____
DRAWING NUMBER: **PENDLETON N-11HU REV.3**
SCALE: **1" = 2000'**
MINIMUM DEGREE OF ACCURACY: **1/200**
PROVEN SOURCE OF ELEVATION: **SUBMETER MAPPING**
GRADE GPS

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

David L Jackson



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

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

DATE: **JANUARY 16, 2023**
OPERATORS WELL NO. **PENDLETON N-11HU**
API WELL NO. **47-051-02456**
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION STORAGE ___ DEEP SHALLOW ___
LOCATION ELEVATION **1271.82'** WATERSHED (HUC 10) **FISH CREEK**
DISTRICT **FRANKLIN** COUNTY **MARSHALL**
QUADRANGLE **GLEN EASTON 7.5'** LEASE NUMBER **SEE WW-6A1 Form**
SURFACE OWNER **ALPINE FARM, LLC** ACREAGE **249.07**
OIL & GAS ROYALTY OWNER **ELI A. & FANNIE MAE WENGERD, ET AL** LEASE ACREAGE **249.07**
PROPOSED WORK: DRILL CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE PLUG OFF OLD FORMATION ___
PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE (SPECIFY) _____
TARGET FORMATION **POINT PLEASANT** PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
ESTIMATED DEPTH **TVD: 11,810' TMD: 34,860'**
WELL OPERATOR **TUG HILL OPERATING, LLC** DESIGNATED AGENT **DARREN BROWN, CT CORP**
ADDRESS **1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107** ADDRESS **5098 WASHINGTON STREET WEST, SUITE 407 CHARLESTON, WV 25313-1561**

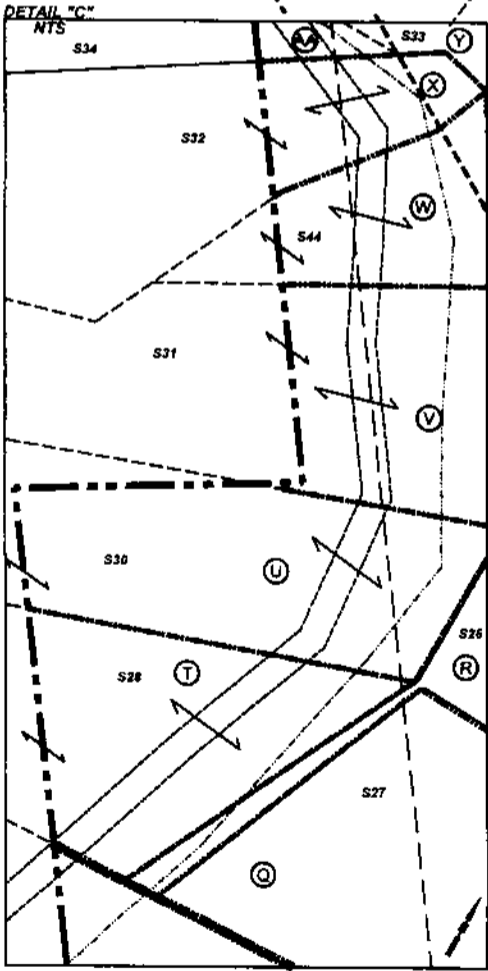
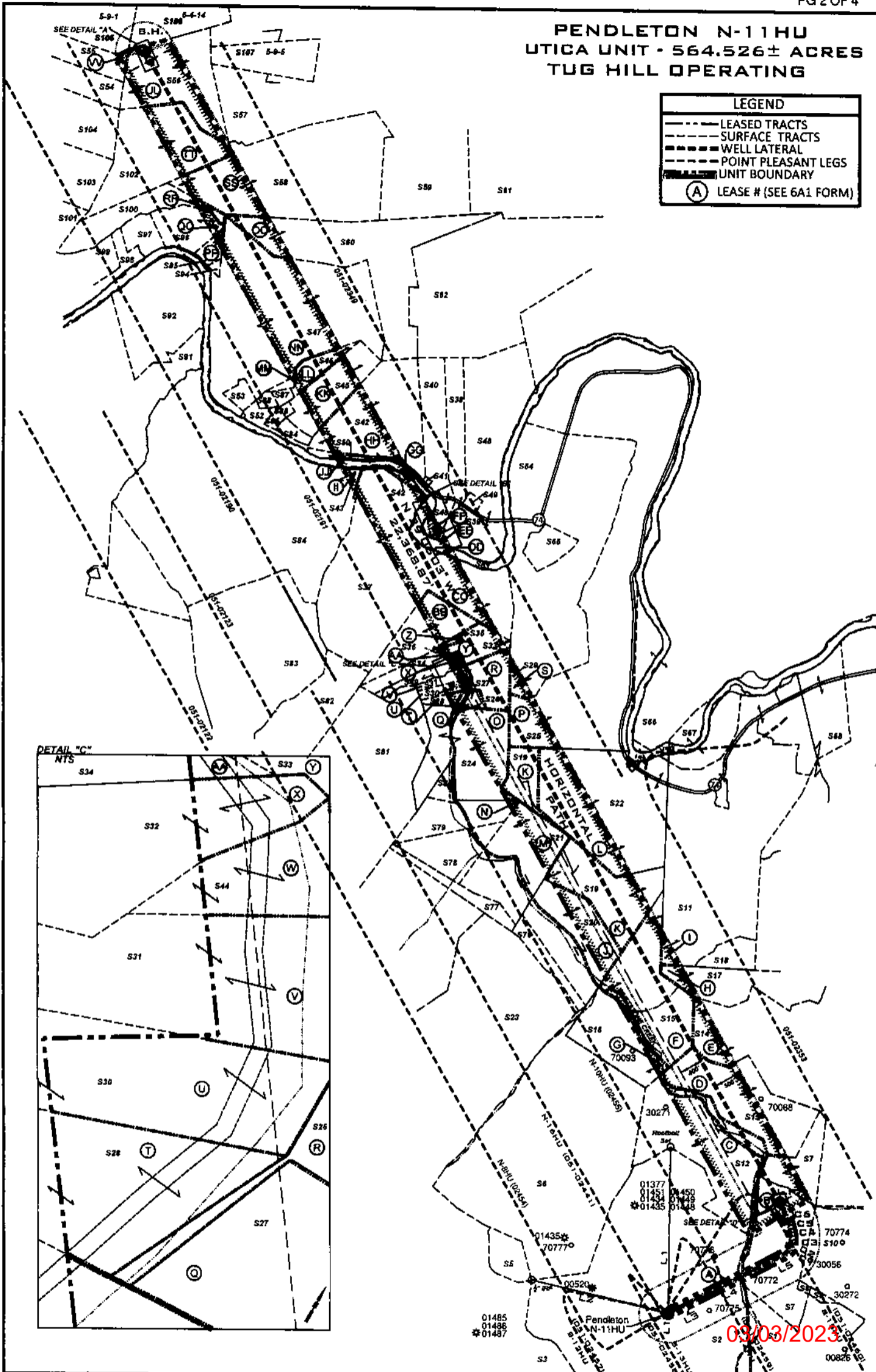
03/03/2023

COUNTY NAME
PERMIT

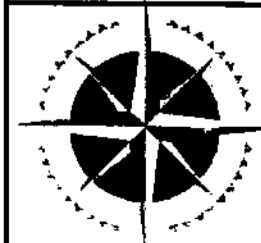
PENDLETON N-11HU
UTICA UNIT - 564.526± ACRES
TUG HILL OPERATING

LEGEND

- LEASE TRACTS
- - - SURFACE TRACTS
- WELL LATERAL
- - - POINT PLEASANT LEGS
- UNIT BOUNDARY
- (A) LEASE # (SEE 6A1 FORM)



09/03/2023



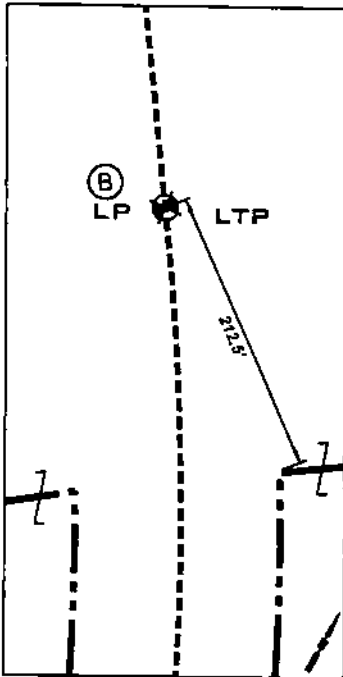
TUG HILL
OPERATING

OPERATOR'S
WELL #1: PENDLETON N-11HU
DISTRICT: Franklin
COUNTY: Marshall
STATE: WV
API: 47-051-02456

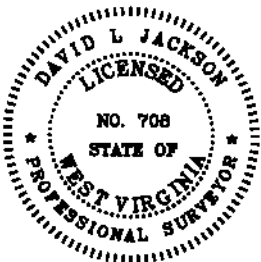
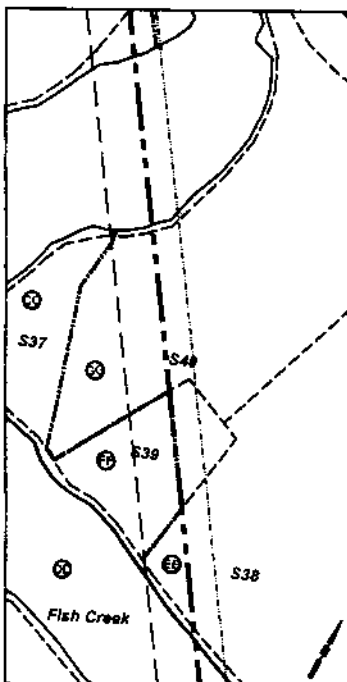
WELL PLAT
PAGE 2 OF 4
DATE: 01/16/2023

**PENDLETON N-11HU
UTICA UNIT - 564.526± ACRES
TUG HILL OPERATING**

DETAIL "D"
NTS



DETAIL "B"
NTS



P.S.
708

David L Jackson

A	S2	05-17-06	ALPINE FARM LLC	249.07
B	S7	09-16-03	BERTHA L. KLUG	71
C	S12	05-17-05	ALPINE FARM LLC	76.96
D	S13	09-16-02	ROBERT & NANCY MCCARDLE	53.40
E	S14	09-16-05	ROBERT M. & NANCY R. MCCARDLE	133
F	S15	09-16-01	ROBERT M. & NANCY R. MCCARDLE	46.80
G	S16	05-16-13	DAVID ALAN RUBICICH ET AL	33.31
H	S17	09-13-25	ROBERT M. & NANCY R. MCCARDLE	48
I	S11	09-13-05	SCOTT D. & KRISTAL HICKMAN	190.12
J	S28	09-13-01	LOUIS VAN SCYOC	46.13
K	S19	09-13-02	SYLVIA J VAN SCYOC & REBECCA K. JOHNSON, WAMETTA V. & NORMAN G. JOHNSON - LIFE	41.5
L	S22	09-13-04	LOUIS AULENBACHER	100.291
M	S21	09-13-03	LOUIS VAN SCYOC	52.4
N	S79	05-16-08	LOUIS AULENBACHER	21
O	S14	05-16-07	LOUIS AULENBACHER	50
P	S15	09-10-02	CAROL VAN SCYOC EST.	207.988
Q	S27	05-10-13.1	DAVID LEE QUIGLEY, JR.	2.88
R	S26	05-10-13	JOSEPH LEE CROW	12.18
S	S29	09-10-01	CAROL VAN SCYOC EST.	118.067
T	S28	05-10-19	LOUIS AULENBACHER	3.208
U	S30	05-10-20	LOUIS AULENBACHER	3.554
V	S31	05-10-21	LOUIS AULENBACHER	3.677
W	S44	05-10-22	LOUIS AULENBACHER	6.461
X	S32	5-10-22.2	BRADLEY L. & CONNIE L. HUBBARD	0.305
Y	S13	05-10-12	JOSEPH LEE CROW	11.279
Z	S35	05-10-11	JOSEPH LEE CROW	1
AA	S34	05-10-12.1	JOHN PAUL SMITH, JR. ET AL	8.86
BB	S36	05-10-10	LOUIS DELBERT VAN SCYOC	24.50
CC	S37	05-10-09	HERBERT M. AULENBACHER, JR.	141.43
DD	S63	FISH CREEK	WV DIVISION OF NATURAL RESOURCES	NA
EE	S38	05-10-07	WILLIAM F. RULONG, ET AL	22.872
FF	S39	05-10-06	WILLIAM F. RULONG, ET AL	0.95
GG	S40	05-10-05	WILLIAM F. RULONG, ET AL	27.5
HH	S42	05-10-04	JASON I. STEED	74.229
II	S84	05-10-03	HERBERT M. AULENBACHER, JR.	225.50
JJ	S50	05-10-4.7	CARL L. & LAURA A. GILBERT	2.11
KK	S45	05-10-04.12	JASON I. STEED	20.07
LL	S46	05-10-04.13	SHEENA ROSE	7.393
MM	S51	05-10-4.14	JASON I. STEED	1.184
NN	S47	05-09-13.2	JASON I. STEED	135.61
OO	S60	05-09-12	ROBERT GREGORY MCGUIRE	78.28
PP	S85	05-09-15	DENNIS P. CADMUS	3.85
QQ	S96	05-09-17	DENNIS P. CADMUS	28.063
RR	S108	05-09-24	DENNIS P. CADMUS	21A48P
SS	S58	05-09-07	PATRICIA MCCLINTOCK	110.02
TT	S102	05-09-41	LLOYD C. & RUTH C. ARNOLD	93
UU	S56	05-09-03	JAMES R., II & DEDE LEGG ET AL	49
VV	S55	05-09-02.1	JEFFREY L. LEGG	20.5
51	09-18-01	THERESA MAE LDING THOMAS ET AL	58.66	
53	05-17-08	ROGER H. HALL, JR	257.50	
54	05-24-02	ROY FRIEDYHO	316.80	
55	05-17-07	ALPINE FARM LLC	10.8	
56	05-17-04	ALPINE FARM LLC	212	
58	09-18-03	BERTHA L. KLUG	1.33	
59	09-18-04	BERTHA L. KLUG	1	
510	09-16-04	BERTHA L. KLUG	73.39	
511	09-13-25	ROBERT M. & NANCY R. MCCARDLE	9.02	
523	05-17-03	SOUTHERN COUNTRY FARMS, INC.	190.132	
541	05-10-04.1	WILLIAM F. RULONG, ET AL	0.38	
543	05-17-1.5	DONNIE R. & LUDIA M. SLAUGHTER	5.607	
548	05-10-08	WILLIAM F. POLUNG ET AL	70.6672	
549	05-10-8.1	SAMUEL D. & BECKY ROBINSON	1.521	
552	05-10-4.10	SHEENA ROSE	3.145	
553	05-09-13	KAREN M. KAZEMKA (NKA KAREN M. WILSON)	3.69	
554	05-09-02	JAMES R. & DEDE LEGG ET AL	23.141	
556	05-09-03	JAMES R., II & DEDE LEGG ET AL	49	
557	05-09-06	PATRICIA MCCLINTOCK	101	
559	05-09-09	ROBERT GREGORY MCGUIRE	49	
561	09-04-01	ROBERT GREGORY MCGUIRE	76.75	
562	05-09-10	ROBERT GREGORY MCGUIRE	139.6	
564	09-16-1.3	FINLEY D. MONTGOMERY ET AL	20.294	
565	09-10-20	JOSHUA A. & SHANNON N. HOYT	9.942	
566	09-10-19	JANET E. & ALAN KELLEY	113.08	
567	09-13-04.1	H & L EQUIPMENT, LLC	0.449	
569	09-10-19.1	DENNIS W. HUMTER	10	
570		SCHOOLLOT		
571	09-13-05	SCOTT D. & KRISTAL HICKMAN	190.12	
572	09-13-06	MARY V. PETHEL (LIFE)	66.34	
575	05-17-03	SOUTHERN COUNTRY FARMS, INC.	190.132	
576	05-16-12	LOUIS VAN SCYOC	10.88	
577	05-16-11	GERTILUDE HOLTZ	9.93	
578	05-16-09	LOUIS AULENBACHER	20	
580	05-16-10	FRANK P. LAUTAR, EST.	5	
581	05-16-06	JOHN SWIERKOS	134.05	
582	05-16-05	JOHN SWIERKOS	52.07	
583	05-10-14	JOHN SWIERKOS	100	
585	05-10-4.8	SAMUEL FRANKLIN	1.8800	
586	05-10-4.9	JAMES E. & KAREN M. WILSON	0.9692	
587	P/O 05-10-04.13	SHEENA ROSE	1.667	
588	05-10-04.11	SHEENA ROSE	1.727	
589	05-10-04.2	JACK E. RECTOR	2.887	
591	05-10-02	WILLIAM A. PRASCH ET AL	52	
592	05-09-20	EDWIN C. MILLER	51.64	
594	05-09-14	DENNIS P. CADMUS	136P	
597	05-09-42	DENNIS P. CADMUS	5.42	
599	05-09-23	DELBERT K. & LINDA K. MYERS	7	
5101	05-09-33	KEITH D. DANIELS	10.332	
5103	05-09-04	LLOYD C. & RUTH C. ARNOLD	18.854	
5104	05-09-35	LLOYD C. & RUTH C. ARNOLD	47	

03/03/2023



OPERATOR'S WELL #1 PENDLETON N-11HU
 DISTRICT: Franklin
 COUNTY: Marshall
 STATE: WV
 API: 47-051-02456

WELL PLAT
 PAGE 3 OF 4
 DATE: 01/16/2023

PENDLETON N-11HU
 UTICA UNIT - 564.526± ACRES
 TUG HILL OPERATING

LEASE ID	TMP	TAG	GRANTOR, LESSOR, RTC.	BOOK/PAGE
10*14114	5-17-6	A	ELI & FANNIE MAE WENGERD	671 323
10*19638	9-16-3	B	GREGORY J HALL, ET AL	944 461
10*14114	5-17-5	C	ELI & FANNIE MAE WENGERD, ET AL	671 323
10*19083	9-16-2	D	RITA RAE STEPHENS, ET AL	683 302
10*27947	9-16-5	E	STONE HILL MINERALS HOLDINGS LLC, ET AL	1063 568
10*21131	9-16-1	F	ROBERT M MCCARDLE & NANCY R MCCARDLE, ET AL	951 621
10*18666	5-16-13	G	LESLIE A RUBCICH, ET AL	936 83
10*27947	9-13-25	H	STONE HILL MINERALS HOLDINGS LLC, ET AL	1063 568
10*31312	9-13-5	I	DENNIS W HUNTER AND KATHY HUNTER	668 155
10*18526	9-13-1	J	ANN TURNER YOUNG SHRIVER, ET AL	933 591
10*19256	9-13-2	K	RACHEL B OSTRANDER, ET AL	915 516
10*19250	9-13-4	L	LOUIS AULENBACHER, ET AL	902 444
10*18526	9-13-3	M	ANN TURNER YOUNG SHRIVER, ET AL	933 591
10*18339	5-16-8	N	RESOURCE MINERALS HEADWATER I LP, ET AL	940 448
10*18339	5-16-7	O	RESOURCE MINERALS HEADWATER I LP, ET AL	940 448
10*19894	9-10-2	P	CAROL L VANSYCOC	941 392
10*18236	5-10-13.1	Q	LESTER M & HELEN J MERCER	928 543
10*18892	5-10-13	R	JOSEPH LEE CROW	966 88
10*19894	9-10-1	S	CAROL L VANSYCOC	941 392
10*21468	5-10-19	T	JOHN A SWIERKOS ZACHARY SWIERKOS POA, ET AL	953 317
10*18396	5-10-20	U	LOUIS AULENBACHER, ET AL	932 468
10*18396	5-10-21	V	LOUIS AULENBACHER, ET AL	932 468
10*18396	5-10-22	W	LOUIS AULENBACHER, ET AL	932 468
10*18396	5-10-22.1	X	LOUIS AULENBACHER	932 468
10*18892	5-10-12	Y	JOSEPH LEE CROW	966 88
10*18302	5-10-11	Z	JOSEPH L CROW JR AND LORRY CROW	929 316
10*21468	5-10-12.1	AA	JOHN A SWIERKOS ZACHARY SWIERKOS POA, ET AL	953 317
10*21468	5-10-10	BB	JOHN A SWIERKOS ZACHARY SWIERKOS POA, ET AL	953 317
10*19249	5-10-9	CC	HERBERT M AULENBACHER	914 551
10*23458	5-10-9999.1	DD	WEST VIRGINIA DIVISION OF NATURAL RESOURCES, ET AL	1019 373
10*18726	5-10-7	EE	EMILY K AND WILLIAM F RULONG SR, ET AL	941 441
10*18726	5-10-6	FF	EMILY K RULONG AND WILLIAM F RULONG SR, ET AL	941 441
10*18350	5-10-5	GG	PEGGY SUE HILL DOLIN FORDYCE, ET AL	931 401
10*19248	5-10-4	HH	ALBERT F KAZEMKA	848 419
10*14918	5-10-3	II	CHESTNUT HOLDINGS INC	836 115
10*18594	5-10-4.7	JJ	LINDA L MCCORMICK AND THOMAS G MCCORMICK	934 641
10*19248	5-10-4.12	KK	ALBERT F KAZEMKA	848 419
10*19248	5-10-4.13	LL	ALBERT F KAZEMKA	848 419
10*19248	5-10-4.14	MM	ALBERT F KAZEMKA	848 419
10*47051.170.0	5-9-13.2	NN	JASON J STEED	865 344
10*47051.144.0	5-9-12	OO	ROBERT G & TERRI L MCGUIRE	867 581
10*18796	5-9-15	PP	DWG OIL AND GAS ACQUISITIONS LLC WILLIAM H GASTON, ET AL	938 476
10*18796	5-9-17	QQ	DWG OIL AND GAS ACQUISITIONS LLC WILLIAM H GASTON, ET AL	938 476
CVX935271	5-9-24	RR	CHARLES W. MILLER AND ESTHER JEAN MILLER, ET AL	853 59
10*29860	5-9-7	SS	P & D REALTY, ET AL	1101 305
10*26046	5-9-41	TT	LLOYD C ARNOLD & JUDITH C ARNOLD	915 628
Q081123002	5-9-3	UU	JAMES REMAN LEGG II ET AL	879 580
Q081124002	5-9-2.1	VV	JEFFREY L LEGG	879 575



P.S. 708 *David L Jackson*

03/03/2023



TUG HILL
 OPERATING

OPERATOR'S
 WELL #1: PENDLETON N-11HU
 DISTRICT: Franklin
 COUNTY: Marshall
 STATE: WV
 API: 47-051-02456

WELL PLAT
 PAGE 4 OF 4
 DATE: 01/16/2023

WW-6A1
(5/13)

Operator's Well No. Pendleton N-11HU

**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
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*See attached pages

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

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

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

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

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

LEASE ID	TMP	TAG	GRANTOR, LESSOR, RTC.	GRANTEE, LESSEE, ETC.	ROYALTY	BOOK/PAGE	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT	ASSIGNMENT		
10*14114	5-17-6	A	ELI & FANNIE MAE WENGERD	GASTAR EXPLORATION USA INC	1/8+	671 323	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*19638	9-16-3	B	GREGORY J HALL	TH EXPLORATION LLC	1/8+	944 461	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19639	9-16-3	B	RANDALL S HALL	TH EXPLORATION LLC	1/8+	944 459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27393	9-16-3	B	VICTOR LEWIS LANHAM	TH EXPLORATION LLC	1/8+	1058 404	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27520	9-16-3	B	MICHAEL L HALL JR AND DIANNE HALL	TH EXPLORATION LLC	1/8+	1060 194	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27558	9-16-3	B	CRYSTAL L CUNNINGHAM AND TIMOTHY CUNNINGHAM	TH EXPLORATION LLC	1/8+	1060 476	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27570	9-16-3	B	ENOCH R HYDE AND ELIZABETH HYDE	TH EXPLORATION LLC	1/8+	1060 478	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27572	9-16-3	B	JOHN W HYDE AND ALYCE F HYDE	TH EXPLORATION LLC	1/8+	1060 481	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27573	9-16-3	B	RUSSELL H HATCHER AND ELIZABETH HATCHER	TH EXPLORATION LLC	1/8+	1061 258	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27833	9-16-3	B	TIMOTHY A HOLLEY AND DEBRA J HOLLEY	TH EXPLORATION LLC	1/8+	1063 256	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29086	9-16-3	B	BETTY L COX	TH EXPLORATION LLC	1/8+	1084 197	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29515	9-16-3	B	NANCY M HYDE	TH EXPLORATION LLC	1/8+	1097 507	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29686	9-16-3	B	FAMILY TREE CORPORATION	TH EXPLORATION LLC	1/8+	1100 254	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29725	9-16-3	B	JANICE GUMP DEBOLT	TH EXPLORATION LLC	1/8+	1100 76	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*14114	5-17-5	C	ELI & FANNIE MAE WENGERD	GASTAR EXPLORATION USA INC	1/8+	671 323	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Merger of Gastar Exploration Inc & Gastar Exploration USA Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*19845	5-17-5	C	MICHAEL WESLEY HALL DNU	TH EXPLORATION LLC	1/8+	946 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19846	5-17-5	C	SHARON L SCHULER AND JOSEPH A SCHULER	TH EXPLORATION LLC	1/8+	946 7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1287845-001	5-17-5	C	KENNETH EUGENE DAKAN AKA GENE & MARGARET E. DAKAN	CHESAPEAKE APPALACHIA LLC	1/8+	690 192	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67			
1287845-002	5-17-5	C	DOROTHY SEDOSKY	CHESAPEAKE APPALACHIA LLC	1/8+	690 156	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67			
1287845-003	5-17-5	C	DOLLYE LEE GUZEK A/K/A DOLLY GUZEK	CHESAPEAKE APPALACHIA LLC	1/8+	690 153	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67			
1287845-004	5-17-5	C	GEORGE WILLIAM MCCAIN	CHESAPEAKE APPALACHIA LLC	1/8+	692 342	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67			

1287845-005	5-17-5	C	RITA RAE STEPHENS	CHESAPEAKE APPALACHIA LLC	1/8+	690	229	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-006	5-17-5	C	MICHAEL EARL RICHARDS	CHESAPEAKE APPALACHIA LLC	1/8+	690	257	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-007	5-17-5	C	VIRGINIA MAE SELMON	CHESAPEAKE APPALACHIA LLC	1/8+	690	239	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-008	5-17-5	C	LESTER M. MERCER AND HELEN J. MERCER	CHESAPEAKE APPALACHIA LLC	1/8+	690	220	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-009	5-17-5	C	LEROY EUGENE RICHARDS	CHESAPEAKE APPALACHIA LLC	1/8+	690	254	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-010	5-17-5	C	BETTY ANN STROSNIDER	CHESAPEAKE APPALACHIA LLC	1/8+	690	147	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-011	5-17-5	C	HILDA IOLA MCCAIN	CHESAPEAKE APPALACHIA LLC	1/8+	692	369	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/into SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67

1287845-012	5-17-5	C	VICTORIA MURPHY	CHESAPEAKE APPALACHIA LLC	1/8+	692	310	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-013	5-17-5	C	HELEN LOUISE MCCAIN GATTS	CHESAPEAKE APPALACHIA LLC	1/8+	690	180	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-014	5-17-5	C	MICHELLE LEE CUSANO PALMER	CHESAPEAKE APPALACHIA LLC	1/8+	692	314	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-015	5-17-5	C	VERONICA DEMELLO	CHESAPEAKE APPALACHIA LLC	1/8+	693	276	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-016	5-17-5	C	LINDSEY R. THOMAS	CHESAPEAKE APPALACHIA LLC	1/8+	692	231	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-017	5-17-5	C	NANCY D. RACKLEY	CHESAPEAKE APPALACHIA LLC	1/8+	692	227	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/338	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-018	5-17-5	C	BECKY ANN ROSS	CHESAPEAKE APPALACHIA LLC	1/8+	692	306	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67

1287845-019	5-17-5	C	CHRISTY JO ROSS WHITE	CHESAPEAKE APPALACHIA LLC	1/8+	692	349	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-020	5-17-5	C	JENNIFER M. FOSTER	CHESAPEAKE APPALACHIA LLC	1/8+	692	318	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-021	5-17-5	C	RONNIE CUSANO AND MELISSA CUSANO	CHESAPEAKE APPALACHIA LLC	1/8+	692	322	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-022	5-17-5	C	JENNIFER LYNN FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	692	218	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/84	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-023	5-17-5	C	JAMES L. FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	693	581	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/84	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-024	5-17-5	C	TAMMY SUE FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	693	585	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 24/84	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-025	5-17-5	C	KATHY WILLIAMS	CHESAPEAKE APPALACHIA LLC	1/8+	694	56	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67

1287845-026	5-17-5	C	LARRY WAYNE FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	694	143	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-027	5-17-5	C	SHARON L. SCHULER AND JOSEPH A. SCHULER	CHESAPEAKE APPALACHIA LLC	1/8+	694	29	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-028	5-17-5	C	MICHAEL WESLEY HALL	CHESAPEAKE APPALACHIA LLC	1/8+	694	34	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-029	5-17-5	C	CHARLES EDWARD FOOCE AND MARY A. FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	694	481	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-030	5-17-5	C	GEORGE DAVID FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	694	485	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 32/247	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
1287845-031	5-17-5	C	MARK A. FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	695	375	Chesapeake Appalachia LLC to Statoilhydro USA Onshore Properties Inc: 23/479	Memorandum of Operating Agreement & Financial Statement between Gastar Exploration USA Inc, Atinum Marcellus I, LLC & Chesapeake Appalachia, LLC: 740/394	Chesapeake Appalachia LLC to SWN Production Company LLC: 33/110	Statoil USA Onshore Properties Inc to SWN Exchange Titleholder LLC: 33/424	SWN Exchange Titleholder LLC merged with/intro SWN Production Company LLC: 19/624	Statoil USA Onshore Properties Inc changed name to Equinor USA Onshore Properties Inc: 2/427	Merger of Gastar Exploration USA Inc with and into Gastar Exploration Inc: 21/41	Gastar Exploration Inc to TH Exploration II LLC: 36/9	Atinum Marcellus I LLC to TH Exploration II LLC: 48/67
10*19083	9-16-2	D	RITA RAE STEPHENS	CHESAPEAKE APPALACHIA LLC	1/8+	683	302	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 22/481	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127

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WELL BORE PARCELS

10*19084	9-16-2	D	GEORGE WILLIAM MCCAIN	CHESAPEAKE APPALACHIA LLC	1/8+	683	308	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 23/26	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19085	9-16-2	D	LESTER M MERCER	CHESAPEAKE APPALACHIA LLC	1/8+	683	305	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 23/26	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19086	9-16-2	D	HILDA IOLA MCCAIN	CHESAPEAKE APPALACHIA LLC	1/8+	684	151	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 22/481	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19087	9-16-2	D	BECKY ANN ROSS	CHESAPEAKE APPALACHIA LLC	1/8+	684	126	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 22/481	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19088	9-16-2	D	CHRISTY JO ROSS WHITE	CHESAPEAKE APPALACHIA LLC	1/8+	685	613	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 22/481	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19090	9-16-2	D	JENNIFER M. FOSTER	CHESAPEAKE APPALACHIA LLC	1/8+	683	314	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 22/481	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19091	9-16-2	D	HELEN LOUISE MCCAIN GATTS	CHESAPEAKE APPALACHIA LLC	1/8+	685	618	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 22/481	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19093	9-16-2	D	LEROY EUGENE RICHARDS	CHESAPEAKE APPALACHIA LLC	1/8+	685	621	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 23/26	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19094	9-16-2	D	MICHAEL EARL RICHARDS	CHESAPEAKE APPALACHIA LLC	1/8+	685	630	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 23/26	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19096	9-16-2	D	RONNIE CUSANO	CHESAPEAKE APPALACHIA LLC	1/8+	683	326	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 22/481	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19112	9-16-2	D	CHARLES E FOOCE AND MARY FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	695	539	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 32/247	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19113	9-16-2	D	GEORGE DAVID FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	695	543	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 32/247	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127

10*19114	9-16-2	D	LARRY WAYNE FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	694	371	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 32/247	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19115	9-16-2	D	KATHY WILLIAMS	CHESAPEAKE APPALACHIA LLC	1/8+	694	522	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 32/247	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19119	9-16-2	D	MICHAEL WESLEY HALL	CHESAPEAKE APPALACHIA LLC	1/8+	694	366	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 32/247	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19120	9-16-2	D	SHARON L SCHULER AND JOSEPH A SCHULER	CHESAPEAKE APPALACHIA LLC	1/8+	694	503	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 32/247	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19122	9-16-2	D	JAMES L FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	696	631	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/84	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19123	9-16-2	D	TAMMY SUE FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	696	635	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/84	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19124	9-16-2	D	JENNIFER LYNN FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	696	627	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 24/84	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*19125	9-16-2	D	MARK A. FOOCE	CHESAPEAKE APPALACHIA LLC	1/8+	694	344	N/A	N/A	N/A	N/A	N/A	Chesapeake Appalachia LLC to Statoil USA Onshore Properties Inc: 23/479	Statoil USA Onshore Properties Inc to Chevron USA Inc: 30/427	Chesapeake Appalachia LLC to Chevron USA Inc: 30/427	Chevron USA Inc to TH Exploration LLC: 40/127
10*21082	9-16-2	D	HUBERT C AND JANE E OTTE	TH EXPLORATION LLC	1/8+	951	618	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21119	9-16-2	D	MICHAEL WESLEY HALL DNU	TH EXPLORATION LLC	1/8+	952	199	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21120	9-16-2	D	SHARON L SCHULER AND JOSEPH A SCHULER	TH EXPLORATION LLC	1/8+	952	201	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21131	9-16-2	D	ROBERT M MCCARDLE & NANCY R MCCARDLE	TH EXPLORATION LLC	1/8+	951	621	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22498	9-16-2	D	H3 LLC MICHAEL E HOEFT MANAGING MEMBER	TH EXPLORATION LLC	1/8+	1028	556	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*26678	9-16-2	D	GARNET GAS CORP	TH EXPLORATION LLC	1/8+	1045	426	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*27947	9-16-5	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
10*28268	9-16-5	E	JOSEPH & ELIZABETH SHUTLER	TG STILES	1/8+	63	203	TG Stiles to South Penn Oil Company: DB 60/366	South Penn Oil Company to Tri-State Gas Company: DB 80/150	Tri-State Gas Company to The Manufacturers Light & Heat Company: DB 148/388	The Manufacturers Light & Heat Company to AM Snider & Duane M Sniders, Partners dba Hundred Gas Company: AB 4/489	Hundred Gas Company to Carl D Perkins: DB 451/132	Carl D Perkins to Perkins Oil and Gas Inc: DB 583/72	Perkins Oil & Gas Inc to Stone Energy Corporation: AB 26/322	Stone Energy Corporation to EQT Production Company: AB 38/75	EQT Production Company to TH Exploration LLC: AB 48/21
10*21131	9-16-1	F	ROBERT M MCCARDLE & NANCY R MCCARDLE	TH EXPLORATION LLC	1/8+	951	621	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

10*22295	9-16-1	F	RACHEL B OSTRANDER	FOSSIL CREEK OHIO, LLC	1/8+	822	210	N/A	N/A	N/A	N/A	N/A	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/54	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 34/266	Fossil Creek Ohio LLC & Gulfport Energy Corporation to American Petroleum Partners Operating LLC: 36/588	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109
10*22319	9-16-1	F	SHARON G VAN SCYOC	FOSSIL CREEK OHIO, LLC	1/8+	822	204	N/A	N/A	N/A	N/A	N/A	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/54	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 34/266	Fossil Creek Ohio LLC & Gulfport Energy Corporation to American Petroleum Partners Operating LLC: 36/588	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109
10*19256	9-13-2	K	RACHEL B OSTRANDER	CHEVRON USA INC	1/8+	915	516	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19257	9-13-2	K	DELBERT M VAN SCYOC & SYLVIA I VAN SCYOC	CHEVRON USA INC	1/8+	911	485	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19258	9-13-2	K	SHARON G VANSYOC	CHEVRON USA INC	1/8+	911	488	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*25236	9-13-2	K	MINERAL ACQUISITION COMPANY I LP	TH EXPLORATION LLC	1/8+	1050	121	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19250	9-13-4	L	LOUIS AULENBACHER	CHEVRON USA INC	1/8+	902	444	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*22355	9-13-4	L	DEL T KELLEY AND DEBORAH A KELLEY	AMERICAN PETROLEUM PARTNERS LLC	1/8+	916	84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners LLC to TH Exploration LLC: 42/109
10*22362	9-13-4	L	TOD M KELLEY	AMERICAN PETROLEUM PARTNERS LLC	1/8+	916	81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners LLC to TH Exploration LLC: 42/109
10*22382	9-13-4	L	BETTY LOU KAMPE	AMERICAN PETROLEUM PARTNERS LLC	1/8+	919	399	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109
10*18339	5-16-7	O	RESOURCE MINERALS HEADWATER I LP	TH EXPLORATION LLC	1/8+	940	448	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18526	5-16-7	O	ANN TURNER YOUNG SHRIVER	TH EXPLORATION LLC	1/8+	933	591	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18597	5-16-7	O	MARK ALLEN LENENBERG	TH EXPLORATION LLC	1/8+	934	638	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18636	5-16-7	O	CHERYL STEFFEN AND GREGORY STEFFEN	TH EXPLORATION LLC	1/8+	936	240	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18637	5-16-7	O	THOMAS RICHMOND YOUNG ANITA A YOUNG	TH EXPLORATION LLC	1/8+	936	244	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19467	5-16-7	O	ROBERT R FISHER AND AUDREY L IRVIN	TH EXPLORATION LLC	1/8+	942	592	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19788	5-16-7	O	REX B FISHER AND DEBORAH FISHER	TH EXPLORATION LLC	1/8+	948	295	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21014	5-16-7	O	JAMES P MCLAUGHLIN & ALICE W MCLAUGHLIN	TH EXPLORATION LLC	1/8+	946	29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21015	5-16-7	O	ROBERT L MCLAUGHLIN	TH EXPLORATION LLC	1/8+	946	339	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21189	5-16-7	O	NATALIE GIBBS	TH EXPLORATION LLC	1/8+	941	261	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21267	5-16-7	O	JAMES E NICHOLAS AND BEVERLY D NICHOLAS	TH EXPLORATION LLC	1/8+	943	513	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21468	5-16-7	O	JOHN A SWIERKOS ZACHARY SWIERKOS POA	TH EXPLORATION LLC	1/8+	953	317	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21504	5-16-7	O	PAULETA LINDA CHEATHAM AND CARL WOHLERS	TH EXPLORATION LLC	1/8+	951	142	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21638	5-16-7	O	THE MILDRED Y MILLS TRUST JULY 5TH 2007	TH EXPLORATION LLC	1/8+	956	172	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21709	5-16-7	O	THOMAS YOUNG AND JANE CLAIRE YOUNG	TH EXPLORATION LLC	1/8+	959	350	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21710	5-16-7	O	PENELOPE A JONES	TH EXPLORATION LLC	1/8+	959	355	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

10*22295	5-16-7	O	RACHEL B OSTRANDER	FOSSIL CREEK OHIO, LLC	1/8+	822	210	N/A	N/A	N/A	N/A	N/A	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/54	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 34/266	Fossil Creek Ohio LLC & Gulfport Energy Corporation to American Petroleum Partners Operating LLC: 36/588	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109	
10*22319	5-16-7	O	SHARON G VAN SCYOC	FOSSIL CREEK OHIO, LLC	1/8+	822	204	N/A	N/A	N/A	N/A	N/A	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/54	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 34/266	Fossil Creek Ohio LLC & Gulfport Energy Corporation to American Petroleum Partners Operating LLC: 36/588	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109	
10*22865	5-16-7	O	JAMES H CAMPBELL	TH EXPLORATION LLC	1/8+	977	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22866	5-16-7	O	MARGARET R DONOFRIO	TH EXPLORATION LLC	1/8+	977	57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*27946	5-16-7	O	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1063	591	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*19894	9-10-2	P	CAROL L VANSYOC	TH EXPLORATION LLC	1/8+	941	392	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18892	5-10-13	R	JOSEPH LEE CROW	TH EXPLORATION LLC	1/8+	966	88	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18892	5-10-12	Y	JOSEPH LEE CROW	TH EXPLORATION LLC	1/8+	966	88	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21468	5-10-10	BB	JOHN A SWIERKOS ZACHARY SWIERKOS POA	TH EXPLORATION LLC	1/8+	953	317	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22295	5-10-10	BB	RACHEL B OSTRANDER	FOSSIL CREEK OHIO, LLC	1/8+	822	210	N/A	N/A	N/A	N/A	N/A	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/54	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 34/266	Fossil Creek Ohio LLC & Gulfport Energy Corporation to American Petroleum Partners Operating LLC: 36/588	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109	
10*22319	5-10-10	BB	SHARON G VAN SCYOC	FOSSIL CREEK OHIO, LLC	1/8+	822	204	N/A	N/A	N/A	N/A	N/A	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 32/54	Fossil Creek Ohio LLC to Gulfport Energy Corporation: 34/266	Fossil Creek Ohio LLC & Gulfport Energy Corporation to American Petroleum Partners Operating LLC: 36/588	American Petroleum Partners Operating LLC to TH Exploration LLC: 42/109	
10*26004	5-10-10	BB	LOUIS VAN SCYOC AND PATRICIA VAN SCYOC	AB RESOURCES LLC	1/8+	697	461	N/A	N/A	N/A	N/A	AB Resources LLC to Chief Exploration & Development LL & Radler 2000 Limited Partnership: 24/382	AB Resources LLC & NPAR LLC to Chief Exploration & Development LL & Radler 2000 Limited Partnership: 24/490	Chief Expl & Devel LL, Chief O&G LLC, Radler 2000 Ltd P'ship & Enerplus Resc. (USA) Corp to Chevron USA Inc: 25/1 & 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA Inc: 756/332	Chevron USA Inc to TH Exploration LLC: 43/164
10*19249	5-10-9	CC	HERBERT M AULENBACHER	CHEVRON USA INC	1/8+	914	551	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to Stone Energy Corporation: 33/325	Stone Energy Corporation to EQT Production Company: 38/75	EQT Production Company to TH Exploration LLC: 48/21	
10*23458	5-10-9999.1	DD	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	TH EXPLORATION LLC	1/8+	1019	373	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*27752	FISH CREEK	DD	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	TH EXPLORATION LLC	1/8+	1068	550	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*23458	FISH CREEK	DD	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	TH EXPLORATION LLC	1/8+	1019	373	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*19248	5-10-4	HH	ALBERT F KAZEMKA	CHEVRON USA INC	1/8+	848	419	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127	

10*18594	5-10-4.7	JJ	LINDA L MCCORMICK AND THOMAS G MCCORMICK	TH EXPLORATION LLC	1/8+	934	641	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19248	5-10-4.12	KK	ALBERT F KAZEMKA	CHEVRON USA INC	1/8+	848	419	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19248	5-10-4.13	LL	ALBERT F KAZEMKA	CHEVRON USA INC	1/8+	848	419	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*47051.170.0	5-9-13.2	NN	JASON J STEED	TH EXPLORATION LLC	1/8+	865	344	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*47051.144.0	5-9-12	OO	ROBERT G & TERRILL MCGUIRE	TH EXPLORATION LLC	1/8+	867	581	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*29860	5-9-7	SS	P & D REALTY	TH EXPLORATION LLC	1/8+	1101	305	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*47051.097.0	5-9-7	SS	P & D REALTY	TH EXPLORATION LLC	1/8+	859	434	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*26046	5-9-41	TT	LLOYD C ARNOLD & JUDITH C ARNOLD	CHEVRON USA INC	1/8+	915	628	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 43/164
Q081123002	5-9-3	UU	JAMES REMAN LEGG II ET AL	NOBLE ENERGY	1/8+	879	580	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
																Noble Energy Inc to HG Energy Appalachia LLC: 39/1
																Ratification - Noble Energy Inc to HG Energy Appalachia LLC: 34/392

STATE OF WEST VIRGINIA §
 §
COUNTY OF MARSHALL §

ASSIGNMENT, BILL OF SALE AND CONVEYANCE

THIS ASSIGNMENT, BILL OF SALE AND CONVEYANCE (this "*Assignment*"), dated effective as of 7:00 A.M., local time, where the respective Assets are located, on July 1, 2020 (the "*Effective Time*"), is between **Atinum Marcellus I, LLC**, a Delaware limited liability company ("*Assignor*"), whose mailing address is One Riverway, Suite 710, Houston, TX 77056-1988, and **TH Exploration II, LLC**, a Texas limited liability company, whose mailing address is 1320 S. University Drive, Suite 500, Fort Worth, Texas 76107 ("*Assignee*"). Assignor and Assignee are each, individually, referred to herein as a "*Party*" and, collectively, as the "*Parties*."

Capitalized terms used but not defined herein shall have the respective meanings set forth in that certain Asset Purchase Agreement dated as of November 13, 2020, by and among Assignor and Assignee (the "*Purchase Agreement*").

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

For Ten Dollars (\$10.00) and other good and valuable consideration (the receipt and sufficiency of which are hereby acknowledged), Assignor does hereby forever GRANT, BARGAIN, SELL, CONVEY, ASSIGN, TRANSFER, SET OVER AND DELIVER unto Assignee, and Assignee does hereby acquire, the undivided interests in the Leases (as defined below) set forth on Exhibit A-1, and all other of Assignor's right, title and interest in and to the interests and properties described in subsections (a) through (k) of this Section 1 (without duplication) (such right, title and interest, less and except the Excluded Assets, collectively, the "*Assets*"):

(a) The oil and gas leases, mineral leases and Royalties located in the Covered Counties (which Covered Counties include, for the avoidance of doubt, the county in which this Assignment is filed of record), including those described on Exhibit A-1 together with any and all other right, title and interest in and to the leasehold estates created thereby, subject to the terms, conditions, covenants and obligations set forth in such leases or other instrument creating such rights or interests or on Exhibit A-1 (such leases, Royalties, and mineral interests, collectively, the "*Leases*"), together with any related interest in the lands covered by the Leases or lands unitized, pooled, communitized or consolidated therewith (the "*Lands*");

(b) All of the oil and/or gas wells identified on Exhibit A-2 hereto (the "*Wells*"), and any other oil, gas, or other wells located on any of the Leases or the Lands, in each case, whether producing, non-producing, shut-in, temporarily or permanently abandoned or otherwise;

(c) All rights, titles and interests arising under any unitization, pooling and/or communitization agreements, declarations or designations for drilling, spacing and/or production units related to any of the Leases, Wells or Lands, including the units described on Exhibit A-4;

MICHAEL MORAN
BRIGHTON RESOURCES
5051 ELLSWORTH AVENUE, #11
PITTSBURGH PA 15232-1707

4705102456
BOOK 0040 PAGE 0127

STATE OF WEST VIRGINIA §
 §
COUNTY OF MARSHALL §

Marshall County
Jan Pest, Clerk
Instrument 1428356
08/16/2017 @ 12:08:49 PM
ASSIGNMENTS
Book 40 @ Page 127
Pages Recorded 25
Recording Cost \$ 33.00

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "Assignment") is made and entered into this 1 day of August, 2017 (the "Effective Date"), by and between CHEVRON U.S.A. INC. (hereinafter "Assignor") and TH EXPLORATION, LLC (hereinafter "Assignee") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated the 1st day of August, 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"), less and except certain overriding royalty interests and exclusions; 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, subject to certain overriding royalty interests and less and except certain exclusions.

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:

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

A. The Chevron ORRI previously conveyed to Assignor and as described in that certain Memorandum of Assignment of Oil and Gas Lease Interests dated November 6, 2012 by and between Cornell Holdings Incorporated and Chevron U.S.A. Inc., which is recorded at Book 0028, Page 0239 in the Office of the County Clerk of Marshall County, West Virginia, and

B. As to each of the Leases and all oil, gas, and associated hydrocarbons produced, saved and sold thereunder, an overriding royalty interest equal to the difference between 82% and the

03/03/2023

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

ASHLEY FAUINGER
AMERICAN PETROLEUM PARTNERS OPERATING LLC
4600 J BARRY COURT STE 310
CANNONBURG PA 15317-5854

4705102456
BOOK 0042 PAGE 0109

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 1440060
05/25/2018 @ 02:36:09 PM
ASSIGNMENTS
Book 42 @ Page 109
Pages Recorded 9
Recording Cost \$ 15.00

WI-AGIR-0009

03/03/2023

STATE OF WEST VIRGINIA §
 §
COUNTY OF MARSHALL §

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "Assignment") is made and entered into this 7th day of February, 2019 (the "Effective Date"), by and between CHEVRON U.S.A. INC. (hereinafter "Assignor") and TH EXPLORATION, LLC (hereinafter "Assignee") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated the 1st day of February, 2019 (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"), less and except certain overriding royalty interests and exclusions; 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, subject to certain overriding royalty interests and less and except certain exclusions.

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

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

A. The Chevron ORRI previously conveyed to Assignor and as described in that certain Memorandum of Assignment of Oil and Gas Lease Interests dated November 6, 2012 by and between Cornell Holdings Incorporated and Chevron U.S.A. Inc., which is recorded at Book 0028, Page 0239 in the Office of the County Clerk of Marshall County, West Virginia, and

B. Any portion of the Leases set forth in the column entitled "Less and Except" on Exhibit A.

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.

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.



January 16, 2023

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

RE: Pendleton N-11HU

Subject: Proposed Voluntary Pooling and Unitization

Dear Susan:

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

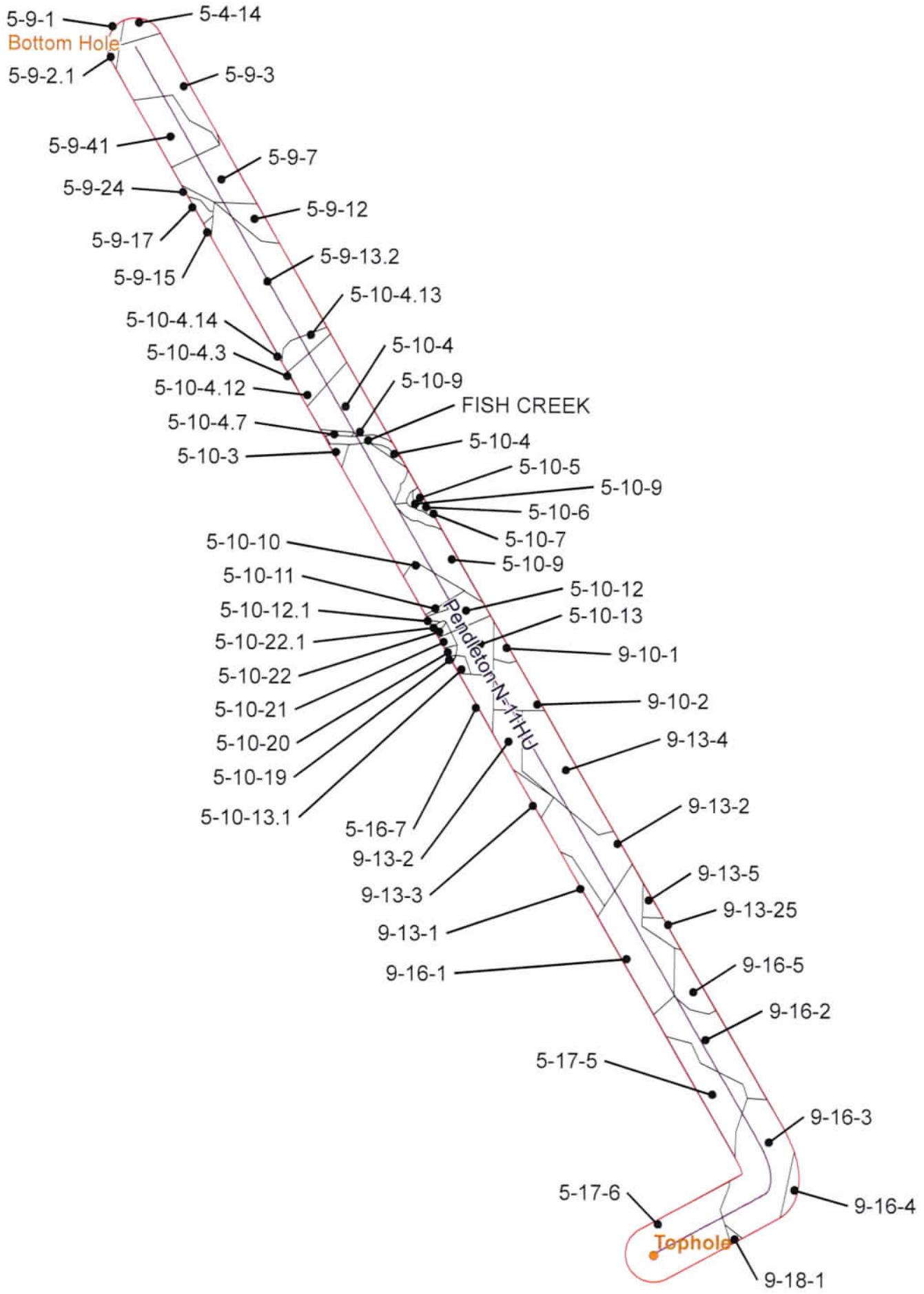
If your office has any questions or concerns regarding the contents of this letter, please do not hesitate to contact me directly at 724-749-8388, or by email at amorris@tug-hilop.com.

Sincerely,

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

Amy L. Morris
Permitting Specialist – Appalachia Region
Tug Hill Operating

Pendleton N-11HU



CONFIDENTIAL

0 16,000 32,000 64,000 Feet

TUG HILL OPERATING

— Utica Well

□ 500' Buffer

Pendleton N-11HU

Operators within 500 Feet of Well Borehole

03/03/2023

**Operators within 500' of Well Bores
Pendleton N - 11HU**

4 7 0 5 1 0 2 4 5 6

COUNTY	DISTRICT	TMP	MINERAL OWNER/LESSEE	ADDRESS
MARSHALL	FRANKLIN	5-10-10	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-11	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-12	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-12.1	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-13	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-13.1	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-19	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-20	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-21	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-22	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-22.1	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-3	TH EXPLORATION II LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-3	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-4	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-4.3	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-4.7	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-4.12	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-4.13	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-4.14	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-5	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107

03/03/2023

**Operators within 500' of Well Bores
Pendleton N - 11HU**

705102456

COUNTY	DISTRICT	TMP	MINERAL OWNER/LESSEE	ADDRESS
MARSHALL	FRANKLIN	5-10-6	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-7	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-10-9	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-16-7	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-17-5	SWN PRODUCTION COMPANY	10000 Energy Drive Spring, TX 77389
MARSHALL	FRANKLIN	5-17-5	EQUINOR USA ONSHORE PROPERTIES INC	2107 City West Blvd. Suite 100 Houston, TX 77042
MARSHALL	FRANKLIN	5-17-5	TH EXPLORATION II LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-17-5	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-17-6	TH EXPLORATION II LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-4-14	HG ENERGY II APPALACHIA LLC	5260 DUPONT ROAD PARKERSBURG, WV 26101
MARSHALL	FRANKLIN	5-9-1	HG ENERGY II APPALACHIA LLC	5260 DUPONT ROAD PARKERSBURG, WV 26101
MARSHALL	FRANKLIN	5-9-2.1	HG ENERGY II APPALACHIA LLC	5260 DUPONT ROAD PARKERSBURG, WV 26101
MARSHALL	FRANKLIN	5-9-3	HG ENERGY II APPALACHIA LLC	5260 DUPONT ROAD PARKERSBURG, WV 26101
MARSHALL	FRANKLIN	5-9-7	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-9-12	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-9-13.2	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-9-15	HG ENERGY II APPALACHIA LLC	5260 DUPONT ROAD PARKERSBURG, WV 26101
MARSHALL	FRANKLIN	5-9-15	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	5-9-17	HG ENERGY II APPALACHIA LLC	5260 DUPONT ROAD PARKERSBURG, WV 26101
MARSHALL	FRANKLIN	5-9-17	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107

03/03/2023

**Operators within 500' of Well Bores
Pendleton N - 11HU**

4705102456

COUNTY	DISTRICT	TMP	MINERAL OWNER/LESSEE	ADDRESS
MARSHALL	FRANKLIN	5-9-24	HG ENERGY II APPALACHIA LLC	5260 DUPONT ROAD PARKERSBURG, WV 26101
MARSHALL	FRANKLIN	5-9-41	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-10-1	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-10-2	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-13-1	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-13-2	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-13-3	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-13-4	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-13-5	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-13-25	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-16-1	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-16-2	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-16-3	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-16-4	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-16-5	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	9-18-1	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107
MARSHALL	FRANKLIN	FISH CREEK	TH EXPLORATION LLC	1320 S. University Drive Suite 500 Fort Worth, TX 76107

03/03/2023

CERTIFICATE OF CONSENT AND EASEMENT

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

Executed this 1 day of July, 2019.

Marshall County
Jon Post, Clerk
Instrument 1456304
07/12/2019 @ 12:25:33 PM

ALPINE FARM, LLC.

By: [Signature]
Name: El A. Wengerd
Title: Member

STATE OF OHIO

SS:

COUNTY OF HOLMES

RIGHT OF WAY W/O CONSIDERATION
Book 1052 @ Page 490
Pages Recorded 2
Recording Cost \$ 11.00

On this, the 1st day of July, 2019, before me, a notary public, the undersigned officer, personally appeared El A. Wengerd, who acknowledged himself/herself to be the Owner of Alpine Farm, LLC and that he/she as such, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the company by himself/herself as Owner.

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

My Commission Expires: July 14 2019
Signature/Notary Public: [Signature]
Name/Notary Public (print): Amber K Gramak

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



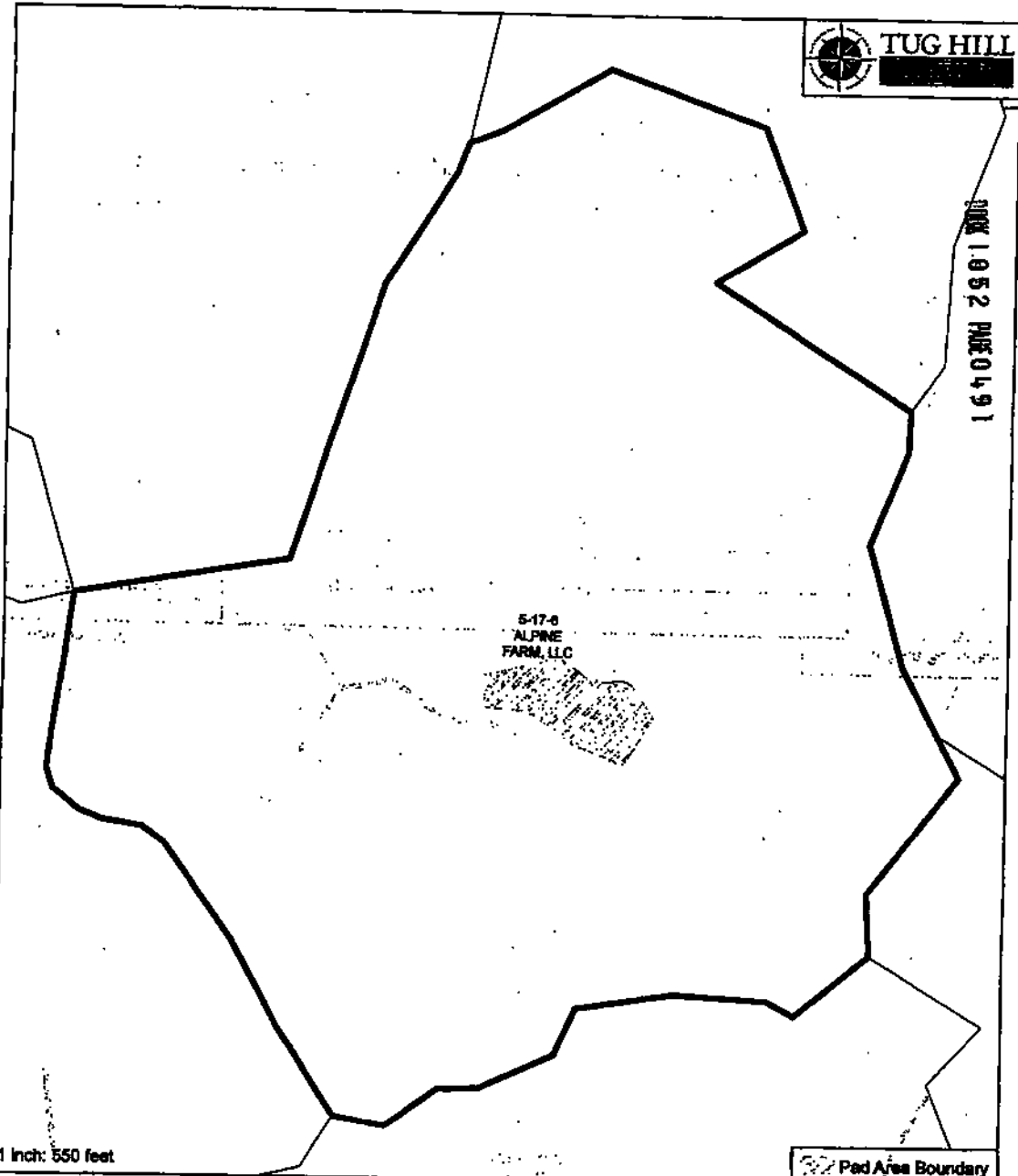
AMBER K GRAMAK
Notary Public, State of Ohio
My Comm. Expires 07/14/2019

4838-2618-8605v2

RECEIVED
Office of Oil and Gas
JUN 06 2022
WV Department of
Environmental Protection

03/03/2023

705102456



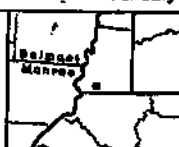
1 Inch: 550 feet

0 112.5 225 450
Foot

N

"PLAT"
ALPINE FARM, LLC
Marshall, WV

Date: 7-1-19
Name: Elite Energy
Name: Jennie Mae Mangit



STATE OF WEST VIRGINIA, MARSHALL COUNTY, SCT.:

I, JAN PEST, Clerk of the County Commission of said County, do hereby certify that the annexed writing, bearing date on the 13th day of July, 2019, was presented for and by me, admitted to record in my office upon the above certificate as to the parties therein named this 12th day of July, 2019 at 12:25 o'clock P. M.

TESTE: Jan Pest Clerk

RECEIVED
Office of Oil and Gas
JUN 06 2022
WV Department of
Environmental Protection
05/03/2023