



west virginia department of environmental protection

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

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

Tuesday, May 14, 2019
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

TUG HILL OPERATING, LLC
380 SOUTHPOINTE BLVD

CANONSBURG, PA 15317

Re: Permit Modification Approval for BRYAN N-12HU
47-051-02029-00-00

Modified Lateral to a Shorter Length with a TMD of 22.268' to Preserve Spacing.

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

A handwritten signature in blue ink, appearing to read "James A. Martin", is written over the typed name and title.

Operator's Well Number: BRYAN N-12HU
Farm Name: CNX LAND RESOURCES INC.
U.S. WELL NUMBER: 47-051-02029-00-00
Horizontal 6A New Drill
Date Modification Issued: May 14, 2019

Promoting a healthy environment.



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-926-0499 Ext 1274

Barry K. Lay, Chairman
dep.wv.gov

April 26, 2019

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

RE: Application for Modification of a Deep Well Permit – API #47-051-02029

COMPANY: Tug Hill Operating, LLC

FARM: Bryan N-12HU

COUNTY: Marshall DISTRICT: Franklin QUAD: Powhatan Point

The deep well review of the application for the above company is **Approved to drill to the Trenton for Point Pleasant completion. Pooling Docket No. 265-254**

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? None
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, Docket 265-254 Exception Location Hearing, 47-051-02030 and 47-051-02031; and CORLEY N-9HU 47-051-01983 and CORLEY N-10HU 47-051-01998
4. Provided a plat showing that the proposed location is a distance of 400+ feet from the nearest lease line or unit boundary and showing the following wells drilled to or capable of producing from the objective formation within 3,000 feet of the proposed location.

Sincerely,

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

Susan Rose
Administrator

05/17/2019

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

1) Well Operator: Tug Hill Operating, LLC
Operator ID: 494510851 County: Marshall District: Franklin Quadrangle: Powhatan Point

2) Operator's Well Number: Bryan N-12HU Well Pad Name: Bryan

3) Farm Name/Surface Owner: CNX Land Resources, Inc. Public Road Access: Rines Ridge Rd

4) Elevation, current ground: 1191' Elevation, proposed post-construction: 1191'

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

(b) If Gas Shallow Deep
Horizontal

Handwritten signature and date: 9/12/18

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 11,124' - 11,243' thickness of 119' and anticipated pressure of approx. 9000 psi

8) Proposed Total Vertical Depth: 11,393'

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 22,268'

11) Proposed Horizontal Leg Length: 10,671'

12) Approximate Fresh Water Strata Depths: 70'; 803'

13) Method to Determine Fresh Water Depths: Offset well reports or noticeable flow at the flowline or when need to start soaping

14) Approximate Saltwater Depths: 2040'

15) Approximate Coal Seam Depths: Sewickly Coal - 701' and Pittsburgh Coal - 796'

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: _____

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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	100'	100'	216FT^3(CTS)
Fresh Water	20"	NEW	J55	106.5#	903'	903'	1,449ft^3(CTS)
Coal	13 3/8"	NEW	J55	54.5#	2,603'	2,603'	1,839ft^3(CTS)
Intermediate	9 5/8"	NEW	HPP110	47#	10,052'	10,052'	3,277ft^3(CTS)
Production	5 1/2"	NEW	HCP110	23#	22,268'	22,268'	5,272ft^3(CTS)
Tubing	2 7/8"	NEW	P110	6.5#		11,079'	
Liners							

9/12/18

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	30"	36"	1.0	2,333	1,866	CLASS A	1.2
Fresh Water	20"	26"	.5	2,410	1,928	SEE #24	1.2
Coal	13 3/8"	17 1/2"	.38	2,740	2,192	SEE#24	1.2
Intermediate	9 5/8"	12 1/4"	.472	10,730	6,968	SEE#24	1.99
Production	5 1/2"	8 1/2"	.415	13,580	10,864	SEE#24	1.18
Tubing	2 7/8"			14,530	11,624		
Liners							

PACKERS

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

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[Handwritten signature]
9/12/15

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

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

Well to be completed with approximately 26,677,500 lb proppant and 412,454 bbl of water. Max rate = 80 bpm; max psi = 9,000#.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 16.14

22) Area to be disturbed for well pad only, less access road (acres): 5.98

23) Describe centralizer placement for each casing string:

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

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

*See Attachment

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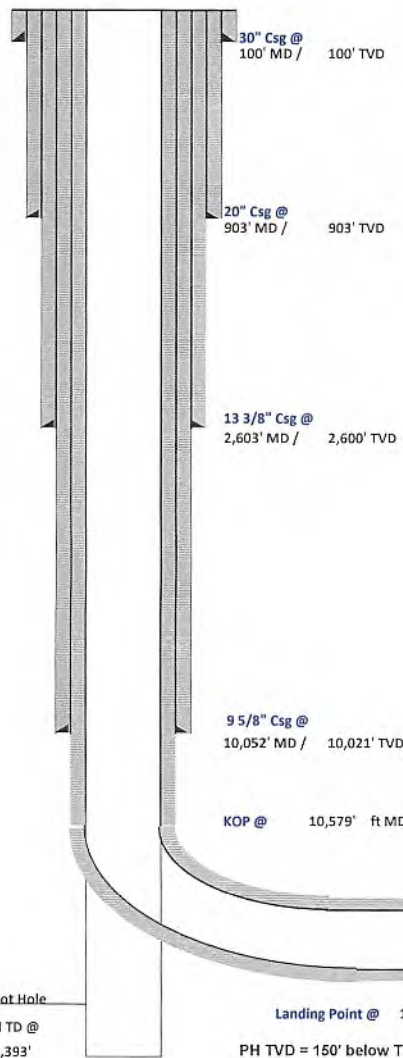
25) Proposed borehole conditioning procedures:

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: Bryan N-12HU
 STATE: West Virginia COUNTY: Marshall
 DISTRICT: Franklin
 DF Elev: 1,191' GL Elev: 1,191'
 TD: 22,268'
 TH Latitude: 39.77558321
 TH Longitude: -80.77650704
 BH Latitude: 39.802194
 BH Longitude: -80.794671



FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	803'
Sewickley Coal	701'
Pittsburgh Coal	796'
Big Lime	1,970'
Berea	2,519'
Tully	6,362'
Marcellus	6,443'
Onondaga	6,496'
Salina	7,186'
Lockport	8,211'
Utica	10,870'
Point Pleasant	11,124'
Landing Depth	11,179'
Trenton	11,243'
Pilot Hole TD	11,393'

CASING SUMMARY							
Type	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cement
Conductor	36	30	100'	100'	BW	BW	Surface
Surface	26	20	903'	903'	106.5	J55	Surface
Intermediate 1	17 1/2	13 3/8	2,603'	2,600'	54.5	J55	Surface
Intermediate 2	12 1/4	9 5/8	10,052'	10,021'	47	HP110	Surface
Production	8 1/2	5 1/2	22,268'	10,807'	23	P110	Surface

CEMENT SUMMARY			DRILLING DETAILS		
	Sacks	Class	Density	Fluid Type	Centralizer Notes
Conductor	291	A	15.6	Air	None
Surface	1,576	A	15.6	Air	3 Centralizers at equal distance
Intermediate 1	1,996	A	15	Air	1 Centralizer every other jt
Intermediate 2	2,711	A	14.5	Air	1 Centralizer every other jt
Production	4,552	A	15	Air / SOBM	1 every other joint in lateral; 1 per joint in curve; 1 every other jt to sfc

Handwritten signature and date: 9/12/18

Pilot Hole
 PH TD @ 11,393'
 Landing Point @ 11,597' MD / 11,179' TVD
 PH TVD = 150' below Trenton Top

Lateral TD @ 22,268' ft MD
 10,807' ft TVD

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51-02029M0P



Tug Hill Operating, LLC Casing and Cement Program

Bryan N-12HU

Casing

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	100'	CTS ✓
Surface	20"	J55	26"	903'	CTS ✓
Intermediate 1	13 3/8"	J55	17 1/2"	2,603'	CTS ✓
Intermediate 2	9 5/8"	HP110	12 1/4"	10,052'	CTS ✓
Production	5 1/2"	P110	8 1/2"	22,268'	CTS

Cement

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

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

Intermediate 2: Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 15.6 ppg, Y=1.99

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

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Tug Hill Operating LLC
Well: Bryan N-12HU (slot F)
Site: Bryan Pad
Project: Marshall County, WV
Design: rev3

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=1181 @ 1181.00usft
 Surface location
 Northing Easting Longitude
 14445094.19 1703210.52 39.77556321-80.77650704

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.79



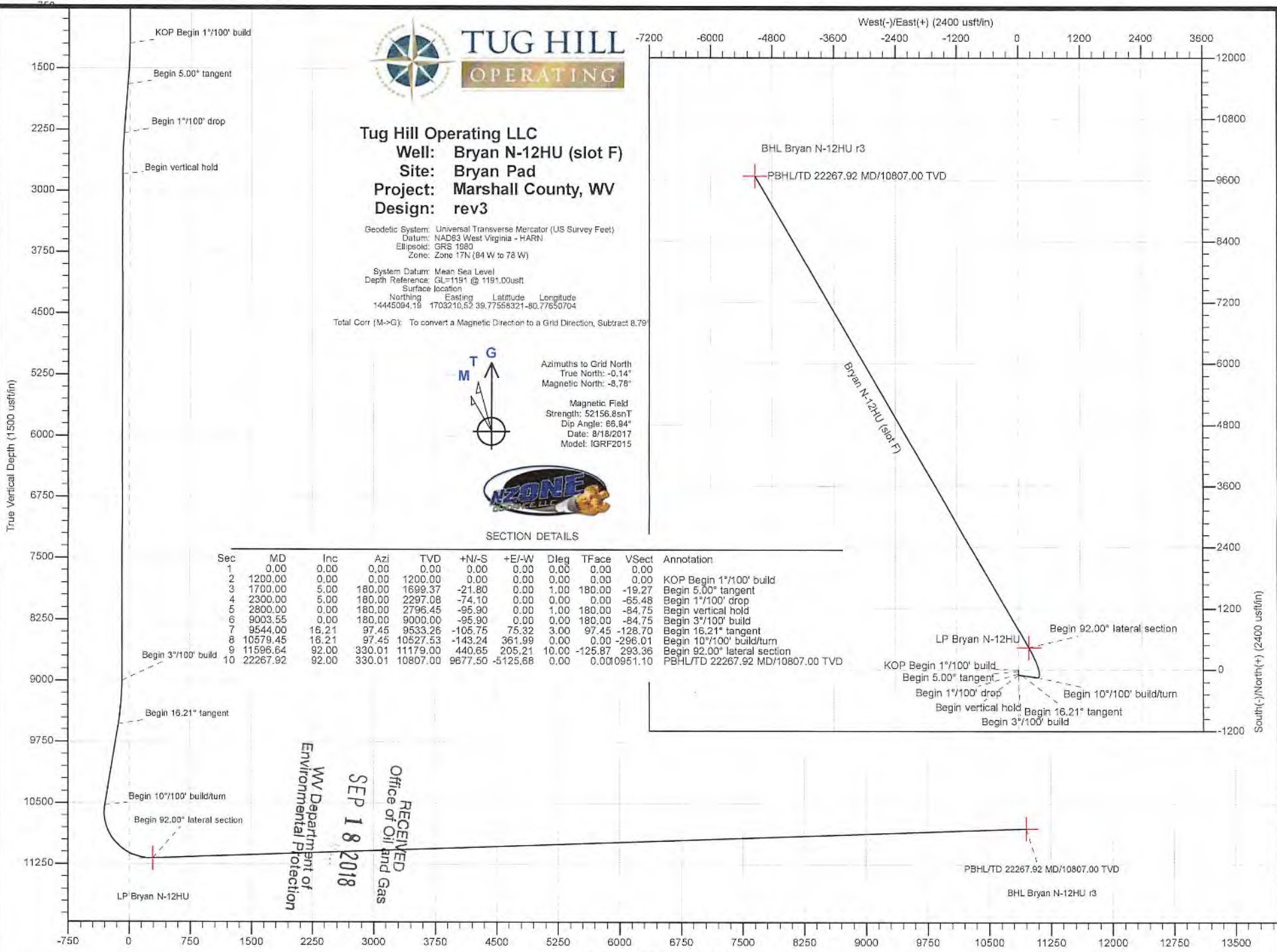
Azimuths to Grid North
 True North: -0.14°
 Magnetic North: -8.78°

Magnetic Field
 Strength: 52156.8nT
 Dip Angle: 65.84°
 Date: 8/18/2017
 Model: IGRF2015



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 1°/100' build
3	1700.00	5.00	180.00	1699.37	-21.80	0.00	1.00	180.00	-19.27	Begin 5.00° tangent
4	2300.00	5.00	180.00	2297.08	-74.10	0.00	0.00	0.00	-65.48	Begin 1°/100' drop
5	2800.00	0.00	180.00	2796.45	-95.90	0.00	1.00	180.00	-84.75	Begin vertical hold
6	9003.55	0.00	180.00	9000.00	-95.90	0.00	0.00	180.00	-84.75	Begin 3°/100' build
7	9544.00	16.21	97.45	9533.26	-105.75	75.32	3.00	97.45	-128.70	Begin 16.21° tangent
8	10579.45	16.21	97.45	10527.53	-143.24	361.99	0.00	0.00	-296.01	Begin 10°/100' build/turn
9	11596.64	92.00	330.01	11179.00	440.65	205.21	10.00	-125.87	293.36	Begin 92.00° lateral section
10	22267.92	92.00	330.01	10807.00	9677.50	-5125.68	0.00	0.00	0951.10	PBHL/TD 22267.92 MD/10807.00 TVD



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51-02029100

51-02079-100
05/17/2019



September 17, 2018

Ms. Susan Rose
WVDEP – OGCC
601 57th Street, SE
Charleston, WV 25304-2345

RE: Bryan N-12HU Offset Operator Listing

Dear Susan:

Tug Hill Operating, LLC wishes to shorten the lateral on the above-mentioned well. Originally, the following parcel #'s were sent notifications for the original length. They would be removed with the updated plans.

- 5-7-31
- 5-7-32
- 5-8-7
- 5-8-9.1

These parcels have been highlighted on the original 1500' Offset Operator List and map for your reference.

If you need anything further, please feel free to let me know.

Thank you!

Sincerely,

Amy L. Miller
Permitting Specialist

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September 13, 2018

WVDEP Office of Oil and Gas
Attn: Laura Adkins
601 57th Street, SE
Charleston, WV 25304-2345

VIA: HAND DELIVERY

RE: Permit Modification Request for Bryan N-12HU (API# 47-051-02029)

Dear Laura:

Tug Hill Operating, LLC would like to submit the enclosed permit modification request to our approved Bryan N-12HU.

We have decided to permit Utica wells off of our Michter pad, and desire to cut these laterals short to preserve the spacing of the Michter wells. Enclosed please find:

- Revised WW-6B, signed by Jim Nicholson, WVDEP Oil and Gas Inspector,
- Revised Directional Drilling Plan and Well bore schematic,
- Revised WW-6A1 with supporting documentation,
- Revised Mylar Plat,
- Revised 1500' Offset Operator List (Utica Requirement)

If you have any questions or concerns, please feel free to call me at 304-376-0111. Thank you for your assistance and consideration in this matter.

Sincerely,

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

Amy L. Miller
Permitting Specialist – Appalachia Region

alm
Enclosures

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51-02029UW
05/17/2019



Planning Report - Geographic

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Bryan N-12HU (slot F)
Company:	Tug Hill Operating LLC	TVD Reference:	GL=1191 @ 1191.00usft
Project:	Marshall County, West Virginia	MD Reference:	GL=1191 @ 1191.00usft
Site:	Bryan Pad	North Reference:	Grid
Well:	Bryan N-12HU (slot F)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Project	Marshall County, West Virginia		
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	Bryan Pad				
Site Position:		Northing:	14,445,110.80 usft	Latitude:	39.77562900
From:	Lat/Long	Easting:	1,703,181.57 usft	Longitude:	-80.77660992
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.14 °

Well	Bryan N-12HU (slot F)					
Well Position	+N/-S	0.00 usft	Northing:	14,445,094.20 usft	Latitude:	39.77558321
	+E/-W	0.00 usft	Easting:	1,703,210.52 usft	Longitude:	-80.77650704
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	1,191.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/18/2017	-8.64	66.94	52,156.75938487

Design	rev3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	332.09

Plan Survey Tool Program	Date	7/19/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,267.92 rev3 (Original Hole)	MWD	
			MWD - Standard	

51-02029 Mon
05/17/2019



Planning Report - Geographic

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Bryan N-12HU (slot F)
Company:	Tug Hill Operating LLC	TVD Reference:	GL=1191 @ 1191.00usft
Project:	Marshall County, West Virginia	MD Reference:	GL=1191 @ 1191.00usft
Site:	Bryan Pad	North Reference:	Grid
Well:	Bryan N-12HU (slot F)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	5.00	180.00	1,699.37	-21.80	0.00	1.00	1.00	0.00	180.00	
2,300.00	5.00	180.00	2,297.08	-74.10	0.00	0.00	0.00	0.00	0.00	
2,800.00	0.00	180.00	2,796.45	-95.90	0.00	1.00	-1.00	0.00	180.00	
9,003.55	0.00	180.00	9,000.00	-95.90	0.00	0.00	0.00	0.00	180.00	
9,544.00	16.21	97.45	9,533.26	-105.75	75.32	3.00	3.00	0.00	97.45	
10,579.45	16.21	97.45	10,527.53	-143.24	361.99	0.00	0.00	0.00	0.00	
11,596.64	92.00	330.01	11,179.00	440.65	205.21	10.00	7.45	-12.53	-125.87	LP Bryan N-12HU
22,267.92	92.00	330.01	10,807.00	9,677.50	-5,125.68	0.00	0.00	0.00	0.00	BHL Bryan N-12HU r

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Planning Report - Geographic

51-02039 Map 05/17/2019

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Bryan N-12HU (slot F)
Company:	Tug Hill Operating LLC	TVD Reference:	GL=1191 @ 1191.00usft
Project:	Marshall County, West Virginia	MD Reference:	GL=1191 @ 1191.00usft
Site:	Bryan Pad	North Reference:	Grid
Well:	Bryan N-12HU (slot F)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
20,500.00	92.00	330.01	10,868.63	8,147.23	-4,242.51	14,453,241.42	1,698,968.02	39.79798585	-80.79153916	
20,600.00	92.00	330.01	10,865.14	8,233.79	-4,292.46	14,453,327.98	1,698,918.06	39.79822388	-80.79171630	
20,700.00	92.00	330.01	10,861.66	8,320.34	-4,342.42	14,453,414.54	1,698,868.10	39.79846191	-80.79189344	
20,800.00	92.00	330.01	10,858.17	8,406.90	-4,392.37	14,453,501.10	1,698,818.15	39.79869994	-80.79207058	
20,900.00	92.00	330.01	10,854.69	8,493.46	-4,442.33	14,453,587.66	1,698,768.19	39.79893797	-80.79224772	
21,000.00	92.00	330.01	10,851.20	8,580.02	-4,492.28	14,453,674.22	1,698,718.24	39.79917600	-80.79242487	
21,100.00	92.00	330.01	10,847.71	8,666.58	-4,542.24	14,453,760.77	1,698,668.28	39.79941403	-80.79260201	
21,200.00	92.00	330.01	10,844.23	8,753.14	-4,592.19	14,453,847.33	1,698,618.33	39.79965206	-80.79277916	
21,300.00	92.00	330.01	10,840.74	8,839.69	-4,642.15	14,453,933.89	1,698,568.37	39.79989009	-80.79295630	
21,400.00	92.00	330.01	10,837.26	8,926.25	-4,692.11	14,454,020.45	1,698,518.42	39.80012812	-80.79313345	
21,500.00	92.00	330.01	10,833.77	9,012.81	-4,742.06	14,454,107.01	1,698,468.46	39.80036615	-80.79331060	
21,600.00	92.00	330.01	10,830.28	9,099.37	-4,792.02	14,454,193.56	1,698,418.51	39.80060418	-80.79348775	
21,700.00	92.00	330.01	10,826.80	9,185.93	-4,841.97	14,454,280.12	1,698,368.55	39.80084221	-80.79366490	
21,800.00	92.00	330.01	10,823.31	9,272.48	-4,891.93	14,454,366.68	1,698,318.59	39.80108023	-80.79384206	
21,900.00	92.00	330.01	10,819.83	9,359.04	-4,941.88	14,454,453.24	1,698,268.64	39.80131826	-80.79401921	
22,000.00	92.00	330.01	10,816.34	9,445.60	-4,991.84	14,454,539.80	1,698,218.68	39.80155629	-80.79419637	
22,100.00	92.00	330.01	10,812.85	9,532.16	-5,041.79	14,454,626.35	1,698,168.73	39.80179432	-80.79437352	
22,200.00	92.00	330.01	10,809.37	9,618.72	-5,091.75	14,454,712.91	1,698,118.77	39.80203234	-80.79455068	
22,267.92	92.00	330.01	10,807.00	9,677.50	-5,125.68	14,454,771.70	1,698,084.85	39.80219400	-80.79467100	

PBHL/TD 22267.92 MD/10807.00 TVD

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
BHL Bryan N-12HU r3 - plan hits target center - Point	0.00	0.00	10,807.00	9,677.50	-5,125.68	14,454,771.70	1,698,084.85	39.80219400	-80.79467100	
LP Bryan N-12HU - plan hits target center - Point	0.00	0.01	11,179.00	440.65	205.21	14,445,534.85	1,703,415.73	39.77679195	-80.77577276	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,200.00	1,200.00	0.00	0.00	KOP Begin 1°/100' build	<p>RECEIVED Office of Oil and Gas</p> <p>SEP 18 2018</p> <p>WV Department of Environmental Protection</p>
1,700.00	1,699.37	-21.80	0.00	Begin 5.00° tangent	
2,300.00	2,297.08	-74.10	0.00	Begin 1°/100' drop	
2,800.00	2,796.45	-95.90	0.00	Begin vertical hold	
9,003.55	9,000.00	-95.90	0.00	Begin 3°/100' build	
9,544.00	9,533.26	-105.75	75.32	Begin 16.21° tangent	
10,579.45	10,527.53	-143.24	361.99	Begin 10°/100' build/turn	
11,596.64	11,179.00	440.65	205.21	Begin 92.00° lateral section	
22,267.92	10,807.00	9,677.50	-5,125.68	PBHL/TD 22267.92 MD/10807.00 TVD	

**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

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

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

51-02029M01

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
10*19294	A	5-15-9	BRENDA K BRYAN ET AL	TRIENERGY INC	1/8+	666	289	20/348 TriEnergy Inc to AB Resources LLC	21/491 AB Resources LLC to Chief Exploration & Development LLC and Radler 2000 Limited Partnership	685/643 Chief Exploration & Development LLC and Radler 2000 Limited Partnership to Enerplus Resources (USA) Corporation	25/1 Chief Exploration & Development, LLC, Chief Oil and Gas, LLC, Radler 2000 Limited Partnership and Enerplus Resources to Chevron USA Inc	25/105 Chief Exploration & Development, LLC, Chief Oil & Gas, LLC, Radler 2000 Limited Partnership and Enerplus Resources (USA) Corporation to Chevron USA Inc.	756/397 AB Resources LLC to Chevron USA Inc	28/356 TriEnergy Holdings LLC and TriEnergy Inc to Chevron USA Inc	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19340	B	5-15-8	DONNA V YOHO	GASTAR EXPLORATION USA INC	1/8+	665	407	N/A	23/353 Gastar Exploration USA Inc. to Atinum Marcellus I LLC	23/617 Gastar Exploration USA Inc and Atinum Marcellus I LLC to AB Resources LLC	24/319 AB Resources LLC to Chief Exploration & Development LLC and Radler 2000 Limited Partnership	25/1 Chief Exploration & Development, LLC, Chief Oil and Gas, LLC, Radler 2000 Limited Partnership and Enerplus Resources to Chevron USA Inc	25/105 Chief Exploration & Development, LLC, Chief Oil & Gas, LLC, Radler 2000 Limited Partnership and Enerplus Resources (USA) Corporation to Chevron USA Inc.	756/397 AB Resources LLC to Chevron USA Inc	40/57 Chevron USA Inc. to TH Exploration LLC ✓
10*19340	C	5-15-7	DONNA VIVIAN YOHO	GASTAR EXPLORATION USA INC	1/8+	665	407	N/A	N/A	N/A	N/A	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	23/617 Gastar Exploration USA, Atinum Marcellus I LLC to AB Resources LLC	756/397 AB Resources LLC to Chevron USA Inc	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19293	D	5-15-6.1	JOSEPH I. KRAMAR, SR. JO ANN KRAMAR	TRIENERGY, INC.	1/8+	655	566	N/A	N/A	N/A	N/A	19/623 TriEnergy Inc to AB Resources LLC	756/397 AB Resources LLC to Chevron USA Inc	28/356 TriEnergy Holdings LLC and TriEnergy Inc to Chevron USA Inc	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19295	D	5-15-6.1	KEVIN J. KELLY PAMELA MARXEN-KELLY	CHEVRON USA INC	1/8+	858	381	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19296	D	5-15-6.1	MARISSA C MARXEN	CHEVRON USA INC	1/8+	837	120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19297	D	5-15-6.1	PHILIP LEONARD MARXEN	CHEVRON USA INC	1/8+	839	410	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19298	D	5-15-6.1	BETTY J MARXEN SLEZAK	CHEVRON USA INC	1/8+	822	351	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19299	D	5-15-6.1	ANNETTE CONWAY MARXEN	CHEVRON USA INC	1/8+	817	512	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19300	D	5-15-6.1	DEBORAH F HAGEMAN HUPPERT	CHEVRON USA INC	1/8+	815	145	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19301	D	5-15-6.1	SANDRA HAGEMAN KANGAS	CHEVRON USA INC	1/8+	815	150	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19302	D	5-15-6.1	JEFFREY C MARXEN SAMANTHA L MARXEN	CHEVRON USA INC	1/8+	817	506	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19303	D	5-15-6.1	THOMAS O MARXEN	CHEVRON USA INC	1/8+	814	589	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19304	D	5-15-6.1	DEAN L. RINE, JR. PAMELA F. RINE	CHEVRON USA INC	1/8+	813	635	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19305	D	5-15-6.1	KAREN MARXEN SONDROL	CHEVRON USA INC	1/8+	813	605	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19306	D	5-15-6.1	RICHARD L. TATE MARCELINE RINE TATE	CHEVRON USA INC	1/8+	814	594	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19307	D	5-15-6.1	MARY SUE RINE-WALTER	CHEVRON USA INC	1/8+	815	155	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19308	D	5-15-6.1	WILLIAM WEBER	CHEVRON USA INC	1/8+	817	646	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19293	E	5-15-6	JOSEPH I. KRAMAR, SR. JO ANN KRAMAR	TRIENERGY, INC.	1/8+	655	566	N/A	N/A	N/A	N/A	19/623 TriEnergy Inc to AB Resources LLC	756/397 AB Resources LLC to Chevron USA Inc	28/356 TriEnergy Holdings LLC and TriEnergy Inc to Chevron USA Inc	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19295	E	5-15-6	KEVIN J. KELLY PAMELA MARXEN-KELLY	CHEVRON USA INC	1/8+	858	381	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓

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51-02029100

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
10*19296	E	5-15-6	MARISSA C MARXEN	CHEVRON USA INC	1/8+	837	120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19297	E	5-15-6	PHILIP LEONARD MARXEN	CHEVRON USA INC	1/8+	839	410	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19298	E	5-15-6	BETTY J MARXEN SLEZAK	CHEVRON USA INC	1/8+	822	351	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19299	E	5-15-6	ANNETTE CONWAY MARXEN	CHEVRON USA INC	1/8+	817	512	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19300	E	5-15-6	DEBORAH F HAGEMAN HUPPERT	CHEVRON USA INC	1/8+	815	145	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19301	E	5-15-6	SANDRA HAGEMAN KANGAS	CHEVRON USA INC	1/8+	815	150	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19302	E	5-15-6	JEFFREY C MARXEN SAMANTHA L MARXEN	CHEVRON USA INC	1/8+	817	506	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19303	E	5-15-6	THOMAS O MARXEN	CHEVRON USA INC	1/8+	814	589	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19304	E	5-15-6	DEAN L. RINE, JR. PAMELA F. RINE	CHEVRON USA INC	1/8+	813	635	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19305	E	5-15-6	KAREN MARXEN SONDROL	CHEVRON USA INC	1/8+	813	605	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19306	E	5-15-6	RICHARD L. TATE MARCELINE RINE TATE	CHEVRON USA INC	1/8+	814	594	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19307	E	5-15-6	MARY SUE RINE-WALTER	CHEVRON USA INC	1/8+	815	155	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19308	E	5-15-6	WILLIAM WEBER	CHEVRON USA INC	1/8+	817	646	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19293	F	5-15-5	JOSEPH I. KRAMAR, SR. JO ANN KRAMAR	TRIENERGY, INC.	1/8+	655	566	N/A	N/A	N/A	N/A	19/623 TriEnergy Inc to AB Resources LLC	756/397 AB Resources LLC to Chevron USA Inc	28/356 TriEnergy Holdings LLC and TriEnergy Inc to Chevron USA Inc	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19293	G	5-15-4	JOSEPH I. KRAMAR, SR. JO ANN KRAMAR	TRIENERGY, INC.	1/8+	655	566	N/A	N/A	N/A	N/A	19/623 TriEnergy Inc to AB Resources LLC	756/397 AB Resources LLC to Chevron USA Inc	28/356 TriEnergy Holdings LLC and TriEnergy Inc to Chevron USA Inc	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19293	H	5-11-12	JOSEPH I. KRAMAR, SR. JO ANN KRAMAR	TRIENERGY, INC.	1/8+	655	566	N/A	N/A	N/A	N/A	19/623 TriEnergy Inc to AB Resources LLC	756/397 AB Resources LLC to Chevron USA Inc	28/356 TriEnergy Holdings LLC and TriEnergy Inc to Chevron USA Inc	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19336	I	5-11-11.3	BONNIE JEAN DAWSON	GASTAR EXPLORATION USA INC	1/8+	665	397	N/A	N/A	N/A	N/A	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	23/617 Gastar Exploration USA, Atinum Marcellus I LLC to AB Resources LLC	756/397 AB Resources LLC to Chevron USA Inc	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*19336	I	5-11-11.3	BONNIE JEAN DAWSON	GASTAR EXPLORATION USA INC	1/8+	665	397	N/A	N/A	N/A	N/A	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	23/617 Gastar Exploration USA, Atinum Marcellus I LLC to AB Resources LLC	756/397 AB Resources LLC to Chevron USA Inc	40/57 Chevron USA Inc to TH Exploration LLC ✓
10*18972	J	5-11-13	MARGARET CLICKNER	TH EXPLORATION LLC ✓	1/8+	941	281	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19224	J	5-11-13	AMYSUE G BAHL	GASTAR EXPLORATION USA INC	1/8+	731	166	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19225	J	5-11-13	LOIS BURNS	GASTAR EXPLORATION USA INC	1/8+	731	174	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19226	J	5-11-13	THOMAS RAY GATTS	GASTAR EXPLORATION USA, INC	1/8+	731	162	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓

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 WV Department of Environmental Protection

51-02029 May 2015

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
10*19227	J	5-11-13	CONNIE KRESS KNAPP	GASTAR EXPLORATION USA INC	1/8+	734	451	N/A	N/A	RECEIVED N/A/Office of Oil and Gas	N/A	26/183 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19228	J	5-11-13	CAROLE J LAMBERT	GASTAR EXPLORATION USA INC	1/8+	737	225	N/A	N/A	SEP 18 2018	N/A	26/183 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19229	J	5-11-13	PATRICIA A LAMBERT	GASTAR EXPLORATION USA INC	1/8+	731	158	N/A	N/A	WV Department of Environmental Protection	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19230	J	5-11-13	MARIANN VIRGINIA MUNN	GASTAR EXPLORATION USA INC	1/8+	731	160	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19231	J	5-11-13	DALE F RADCLIFF	GASTAR EXPLORATION USA INC	1/8+	734	462	N/A	N/A	N/A	N/A	26/183 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19232	J	5-11-13	SANDRA J STOWE HARMON	GASTAR EXPLORATION USA INC	1/8+	731	149	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19233	J	5-11-13	SHERLEY RAY STOWE	GASTAR EXPLORATION USA INC	1/8+	731	170	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19234	J	5-11-13	STANLEY EUGENE STOWE	GASTAR EXPLORATION USA INC	1/8+	732	631	N/A	N/A	N/A	N/A	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	26/183 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19235	J	5-11-13	ROSE EDGE	GASTAR EXPLORATION USA INC	1/8+	731	164	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19244	J	5-11-13	JERRY L BLOOD	GASTAR EXPLORATION USA INC	1/8+	736	177	N/A	N/A	N/A	N/A	26/183 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19247	J	5-11-13	JUANITA MCVEY	GASTAR EXPLORATION USA INC	1/8+	745	580	N/A	N/A	N/A	N/A	26/639 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*21009	J	5-11-13	JOY DENEAN GARTMAN	TH EXPLORATION LLC	1/8+	951	595	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21042	J	5-11-13	REBECCA ASPERY	TH EXPLORATION, LLC	1/8+	952	428	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21046	J	5-11-13	KELLY R DUNN	TH EXPLORATION, LLC	1/8+	951	591	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21047	J	5-11-13	RACHEL D DONAHUE	TH EXPLORATION, LLC	1/8+	951	589	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21048	J	5-11-13	MICHAEL P OLSON	TH EXPLORATION, LLC	1/8+	951	593	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21253	J	5-11-13	MARY ANN STURGILL	TH EXPLORATION, LLC	1/8+	952	430	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23316	J	5-11-13	WILLIAM J OLSON	TH EXPLORATION, LLC	1/8+	985	58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
***	J	5-11-13	EVA PATTERSON	*** UNLEASED				N/A	N/A	Cotenancy Pooled		N/A	N/A	N/A	N/A
10*19139	K	5-11-14	HIRAM V MOORE	GASTAR EXPLORATION USA INC	1/8+	699	53	N/A	N/A	N/A	N/A	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19243	L	5-11-14.1	DENNIS F AND JOLENE A MOORE	GASTAR EXPLORATION USA INC	1/8+	736	1	N/A	N/A	N/A	N/A	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	26/183 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19139	M	5-11-16	HIRAM V MOORE	GASTAR EXPLORATION USA INC	1/8+	699	53	N/A	N/A	N/A	N/A	21/41 Cert. of Merger Gastar Exploration USA, Inc to Gastar Exploration Inc	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC

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Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19178	M	5-11-16	JOSEPH HAUGHT	GASTAR EXPLORATION USA INC	1/8+	710	69	N/A	N/A	N/A	N/A	N/A	N/A	24/335 Gastar Exploration USA Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19179	M	5-11-16	KEITH HAUGHT BEVERLY HAUGHT	GASTAR EXPLORATION USA INC	1/8+	710	587	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19180	M	5-11-16	STEVEN HAUGHT	GASTAR EXPLORATION USA, INC	1/8+	710	67	N/A	N/A	N/A	N/A	N/A	N/A	24/335 Gastar Exploration USA Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19176	N	5-11-17.2	MAUNA MAXINE BEYSER	GASTAR EXPLORATION USA INC	1/8+	710	602	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19177	N	5-11-17.2	NINA L KOVACS	GASTAR EXPLORATION USA INC	1/8+	710	594	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19185	N	5-11-17.2	HARRIETT LODUTH FOLEY	GASTAR EXPLORATION USA INC	1/8+	710	598	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19186	N	5-11-17.2	JOEL GLOVER	GASTAR EXPLORATION USA INC	1/8+	710	600	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19189	N	5-11-17.2	SHELLY ANN MCPHERON	GASTAR EXPLORATION USA INC	1/8+	710	606	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19190	N	5-11-17.2	SALLY LEE RIVERA	GASTAR EXPLORATION USA INC	1/8+	710	590	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19191	N	5-11-17.2	SHARLA BETH WEAVER	GASTAR EXPLORATION USA INC	1/8+	710	608	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19192	N	5-11-17.2	JAMES E YOHO	GASTAR EXPLORATION USA INC	1/8+	714	129	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19201	N	5-11-17.2	DANIEL K YOHO	GASTAR EXPLORATION USA INC	1/8+	714	125	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19202	N	5-11-17.2	DEBORAH L WOOLEY	GASTAR EXPLORATION USA INC	1/8+	714	131	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19203	N	5-11-17.2	CAROL M YOHO	GASTAR EXPLORATION USA INC	1/8+	713	205	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19204	N	5-11-17.2	DAYNA MARLENE YOHO	GASTAR EXPLORATION USA INC	1/8+	714	127	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19205	N	5-11-17.2	JEFFREY C YOHO	GASTAR EXPLORATION USA INC	1/8+	713	203	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19251	N	5-11-17.2	RAE SUZETTE BAKER	GASTAR EXPLORATION USA INC	1/8+	748	315	N/A	N/A	N/A	N/A	N/A	N/A	26/639 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19252	N	5-11-17.2	JOHN WILSON	GASTAR EXPLORATION USA INC	1/8+	749	522	N/A	N/A	N/A	N/A	N/A	N/A	26/639 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC ✓
10*19502	N	5-11-17.2	SUSAN BLANCHE BEYSER	TH EXPLORATION LLC	1/8+	942	623	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19893	N	5-11-17.2	WINIFRED G AND EDDIE G TURNER	TH EXPLORATION, LLC	1/8+	948	277	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21041	N	5-11-17.2	SHERY AND RANDEN RITCHEA	TH EXPLORATION, LLC	1/8+	949	365	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19126	O	5-11-17	KEVIN R. CORLEY AND ANITA L. CORLEY	CHEVRON USA INC	1/8+	859	47	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/127 Chevron USA Inc. to TH Exploration, LLC ✓

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 WV Department of Environmental Protection

10-19176-19203

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19176	O	5-11-17	MAUNA MAXINE BEYSER	GASTAR EXPLORATION USA INC	1/8+	710	602	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19177	O	5-11-17	NINA L KOVACS	GASTAR EXPLORATION USA INC	1/8+	710	594	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19185	O	5-11-17	HARRIETT LODUTH FOLEY	GASTAR EXPLORATION USA INC	1/8+	710	598	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19186	O	5-11-17	JOEL GLOVER	GASTAR EXPLORATION USA INC	1/8+	710	600	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19189	O	5-11-17	SHELLY ANN MCPHERON	GASTAR EXPLORATION USA INC	1/8+	710	606	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19190	O	5-11-17	SALLY LEE RIVERA	GASTAR EXPLORATION USA INC	1/8+	710	590	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19191	O	5-11-17	SHARLA BETH WEAVER	GASTAR EXPLORATION USA INC	1/8+	710	608	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19192	O	5-11-17	JAMES E YOHO	GASTAR EXPLORATION USA INC	1/8+	714	129	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19201	O	5-11-17	DANIEL K YOHO	GASTAR EXPLORATION USA INC	1/8+	714	125	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19202	O	5-11-17	DEBORAH L WOOLEY	GASTAR EXPLORATION USA INC	1/8+	714	131	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19203	O	5-11-17	CAROL M YOHO	GASTAR EXPLORATION USA INC	1/8+	713	205	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19204	O	5-11-17	DAYNA MARLENE YOHO	GASTAR EXPLORATION USA INC	1/8+	714	127	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19205	O	5-11-17	JEFFREY C YOHO	GASTAR EXPLORATION USA INC	1/8+	713	203	N/A	N/A	N/A	N/A	N/A	735/263 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19251	O	5-11-17	RAE SUZETTE BAKER	GASTAR EXPLORATION USA INC	1/8+	748	315	N/A	N/A	N/A	N/A	N/A	26/639 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19252	O	5-11-17	JOHN WILSON	GASTAR EXPLORATION USA INC	1/8+	749	522	N/A	N/A	N/A	N/A	N/A	26/639 Gastar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gastar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19502	O	5-11-17	SUSAN BLANCHE BEYSER	TH EXPLORATION LLC	1/8+	942	623	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19893	O	5-11-17	WINIFRED G AND EDDIE G TURNER	TH EXPLORATION, LLC	1/8+	948	277	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21041	O	5-11-17	SHERY AND RANDEN RITCHEA	TH EXPLORATION, LLC	1/8+	949	365	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Q088586011	P	5-11-21	KAREN SUE CLYDE REED	NOBLE ENERGY, INC	1/8+	864	190	N/A	N/A	N/A	N/A	N/A	34/167 Noble Energy Inc to CNX Gas Company LLC	37/169 CNX Gas Company LLC to Noble Energy Inc	38/297 Noble Energy, Inc. to HG Energy II Appalachia, LLC
Q088586003	P	5-11-21	GENIE SUE THOMAS AND JOHN L HOLMES	NOBLE ENERGY, INC	1/8+	848	204	N/A	N/A	N/A	N/A	N/A	34/167 Noble Energy Inc to CNX Gas Company LLC	37/169 CNX Gas Company LLC to Noble Energy Inc	38/297 Noble Energy, Inc. to HG Energy II Appalachia, LLC
Q088586010	P	5-11-21	BRENDA FAYE AMD THOMAS PETRACK	NOBLE ENERGY, INC	1/8+	850	161	N/A	N/A	N/A	N/A	N/A	34/167 Noble Energy Inc to CNX Gas Company LLC	37/169 CNX Gas Company LLC to Noble Energy Inc	38/297 Noble Energy, Inc. to HG Energy II Appalachia, LLC
Q088586002	P	5-11-21	GAIL ANN YATES AND WESLEY J WOOD	NOBLE ENERGY, INC	1/8+	848	208	N/A	N/A	N/A	N/A	N/A	34/167 Noble Energy Inc to CNX Gas Company LLC	37/169 CNX Gas Company LLC to Noble Energy Inc	38/297 Noble Energy, Inc. to HG Energy II Appalachia, LLC

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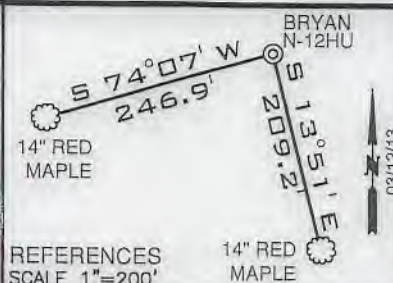
Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
Q088586005	P	5-11-21	SHIRLEY YATES AND FREDDIE LEE HARTSELL	NOBLE ENERGY, INC	1/8+	848	212	N/A	N/A	N/A	N/A	34/167 Noble Energy Inc to CNX Gas Company LLC	37/169 CNX Gas Company LLC to Noble Energy Inc	38/297 Noble Energy, Inc. to HG Energy II Appalachia, LLC	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC
Q088586004	P	5-11-21	BOYD DAIL JR AND MARLA YATES	NOBLE ENERGY, INC	1/8+	848	210	N/A	N/A	N/A	N/A	34/167 Noble Energy Inc to CNX Gas Company LLC	37/169 CNX Gas Company LLC to Noble Energy Inc	38/297 Noble Energy, Inc. to HG Energy II Appalachia, LLC	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC
Q088586001	P	5-11-21	GUY YATES	NOBLE ENERGY, INC	1/8+	848	206	N/A	N/A	N/A	N/A	34/167 Noble Energy Inc to CNX Gas Company LLC	37/169 CNX Gas Company LLC to Noble Energy Inc	38/297 Noble Energy, Inc. to HG Energy II Appalachia, LLC	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC
Q088586007	P	5-11-21	REBEKAH DRAYER AND CHRISTOPHER ELDRIDGE	NOBLE ENERGY, INC	1/8+	850	157	N/A	N/A	N/A	N/A	34/167 Noble Energy Inc to CNX Gas Company LLC	37/169 CNX Gas Company LLC to Noble Energy Inc	38/297 Noble Energy, Inc. to HG Energy II Appalachia, LLC	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC
Q088586008	P	5-11-21	BOYD BUESKING	NOBLE ENERGY, INC	1/8+	850	159	N/A	N/A	N/A	N/A	34/167 Noble Energy Inc to CNX Gas Company LLC	37/169 CNX Gas Company LLC to Noble Energy Inc	38/297 Noble Energy, Inc. to HG Energy II Appalachia, LLC	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC
Q088586009	P	5-11-21	CHRISTA DRAYER AND JOSHUA STALEY	NOBLE ENERGY, INC	1/8+	851	3	N/A	N/A	N/A	N/A	34/167 Noble Energy Inc to CNX Gas Company LLC	37/169 CNX Gas Company LLC to Noble Energy Inc	38/297 Noble Energy, Inc. to HG Energy II Appalachia, LLC	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC
10*19127	Q	5-11-2.2	WALTER C. RINE AND CHERYL ANN RINE	CHEVRON USA INC	1/8+	859	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19127	R	5-11-2.1	WALTER C. RINE AND CHERYL ANN RINE	CHEVRON USA INC	1/8+	859	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19164	R	5-11-2.1	KATHERINE A STALNAKER	CHEVRON USA INC	1/8+	839	486	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19169	R	5-11-2.1	DANIEL L RINE	CHEVRON USA INC	1/8+	839	260	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19127	S	5-11-2	WALTER C. RINE AND CHERYL ANN RINE	CHEVRON USA INC	1/8+	859	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40/127 Chevron USA Inc. to TH Exploration, LLC
10*47051.089.0	T	CEMETERY IN 5-11-1.1	LARRY W DUNLAP AND BARBARA E DUNLAP	TH EXPLORATION LLC	1/8+	864	148	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*47051.089.0	U	5-11-1.1	LARRY W DUNLAP AND BARBARA E DUNLAP	TH EXPLORATION LLC	1/8+	864	148	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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*** Force pool interest

BRYAN LEASE
UTICA UNIT - 358.7439 AC ±
WELL N-12HU
TUG HILL OPERATING

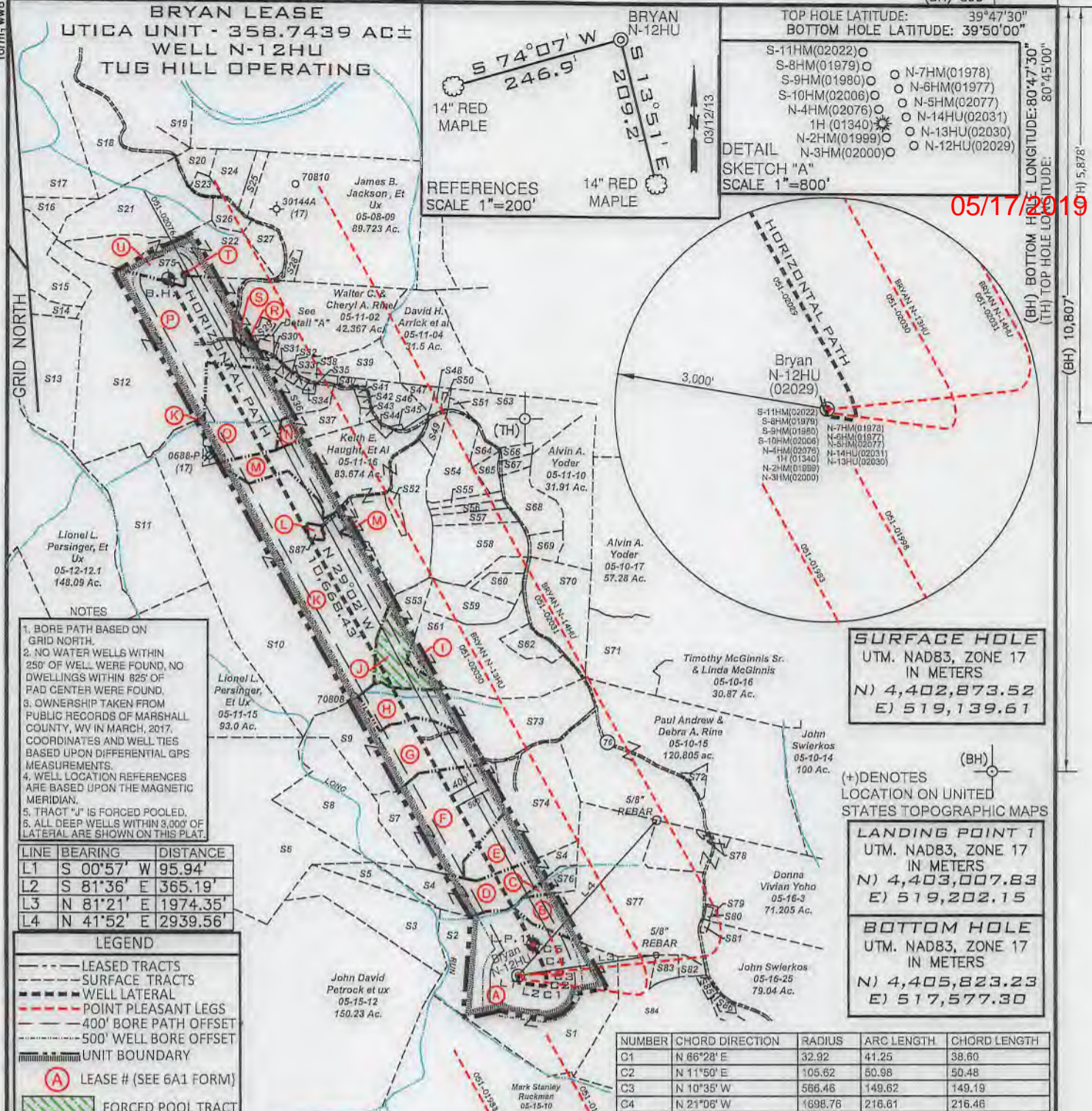


TOP HOLE LATITUDE: 39°47'30"
BOTTOM HOLE LATITUDE: 39°50'00"
S-11HM(02022) O
S-8HM(01979) O
S-9HM(01980) O
S-10HM(02006) O
N-4HM(02076) O
1H(01340) O
N-2HM(01999) O
N-3HM(02000) O
N-7HM(01978) O
N-6HM(01977) O
N-5HM(02077) O
N-14HU(02031) O
N-13HU(02030) O
N-12HU(02029) O
DETAIL
SKETCH "A"
SCALE 1"=800'

REFERENCES
SCALE 1"=200'

14" RED
MAPLE

05/17/2019



- NOTES
- 1. BORE PATH BASED ON GRID NORTH.
 - 2. NO WATER WELLS WITHIN 250' OF WELL WERE FOUND, NO DWELLINGS WITHIN 825' OF PAD CENTER WERE FOUND.
 - 3. OWNERSHIP TAKEN FROM PUBLIC RECORDS OF MARSHALL COUNTY, WV IN MARCH, 2017. COORDINATES AND WELL TIES BASED UPON DIFFERENTIAL GPS MEASUREMENTS.
 - 4. WELL LOCATION REFERENCES ARE BASED UPON THE MAGNETIC MERIDIAN.
 - 5. TRACT "J" IS FORCED POOLED.
 - 6. ALL DEEP WELLS WITHIN 3,000' OF LATERAL ARE SHOWN ON THIS PLAT.

LINE	BEARING	DISTANCE
L1	S 00°57' W	95.94'
L2	S 81°36' E	365.19'
L3	N 81°21' E	1974.35'
L4	N 41°52' E	2939.56'

LEGEND

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

SURFACE HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,402,873.52
E) 519,139.61

LANDING POINT 1
UTM. NAD83, ZONE 17
IN METERS
N) 4,403,007.83
E) 519,202.15

BOTTOM HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,405,823.23
E) 517,577.30

NUMBER	CHORD DIRECTION	RADIUS	ARC LENGTH	CHORD LENGTH
C1	N 66°28' E	32.92	41.25	38.60
C2	N 11°50' E	105.62	50.98	50.48
C3	N 10°35' W	566.46	149.62	149.19
C4	N 21°06' W	1698.76	216.61	216.46
C5	N 26°48' W	2448.96	194.08	194.03

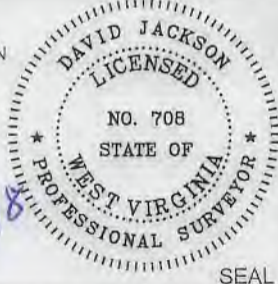
FILE NUMBER _____
DRAWING NUMBER BRYAN_N-12HU_REV 3
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY 1/200
PROVEN SOURCE OF ELEVATION SUBMETER MAPPING
GRADE GPS

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

P.S. 708

David L Jackson

JACKSON SURVEYING INC.
P.O. Box 1460
Clarksburg, WV 26302
304-623-5851



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

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP X SHALLOW ___
DATE: DECEMBER 22, 2017
REVISED DATE: SEPTEMBER 11, 2018
OPERATORS WELL NO. BRYAN N-12HU
API WELL NO. 47-051-02029 MOD
STATE WV COUNTY MARSHALL PERMIT 47-051-02029 MOD

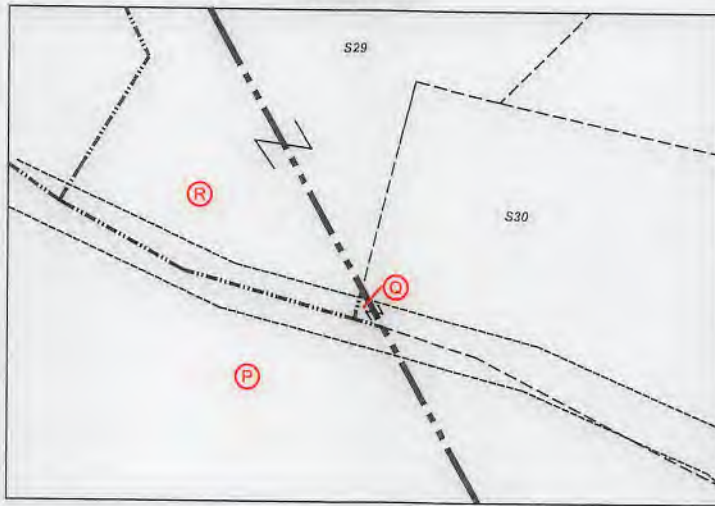
LOCATION ELEVATION 1191.0' WATERSHED (HUC 10) Fish Creek
DISTRICT Franklin COUNTY Marshall
QUADRANGLE Powhatan Point 7.5' LEASE NUMBER SEE WW-6A1 ROYALTY OWNERS

SURFACE OWNER CNX LAND RESOURCES, INC. ACREAGE 81.98
OIL & GAS ROYALTY OWNER MICHAEL R. BRYAN - SEE WW-6A1 ROYALTY OWNERS LEASE ACREAGE 81.98
PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___
PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE (SPECIFY) _____
TARGET FORMATION Point Pleasant ESTIMATED DEPTH TVD: 11,393' TMD: 22,268'
WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DIANNA STAMPER
CT CORPORATION SYSTEM
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5400 D BIG TYLER ROAD
FORT WORTH, TX 76107 CHARLESTON, WV 25313

COUNTY NAME
PERMIT

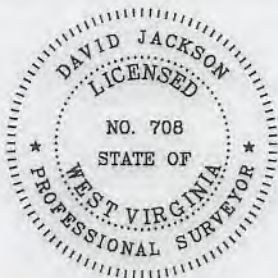
PG 2 OF 3
BRYAN LEASE
UTICA UNIT - 358.7439 AC±
WELL N-12HU
TUG HILL OPERATING

Detail "A"



05/17/2019

Number	TAX MAP -PARCEL	SURFACE OWNER	ACRES	Number	TAX MAP -PARCEL	SURFACE OWNER	ACRES
S1	05-15-9	CNX Land Resources	81.98	S45	05-11-5.1	James R. Anderson et ux	0.205
S2	05-15-13	CNX Land Resources	11.0	S46	05-11-5	(Part of S30) Kevin R. Corley et ux	10.36
S3	05-15-14	John David Petrock et ux	25.0	S47	05-11-5.3	Robert Harris Arrick et ux	3.0
S4	05-15-6.1	Joseph J. Kramar, et ux	39.40	S48	05-11-6	Robert & Rebecca Arrick	1.29
S5	05-15-2	John David Petrock et ux	5.0	S49	05-11-16.3	Kegan Michael Haught - Life	3.265
S6	05-15-1	Marcus Sharp & David Schlabach	121.0	S50	05-11-7	Baptist Cemetery	1.0
S7	05-15-5	Joseph J. Kramar, et ux	35.0	S51	05-11-8	Baptist Church	0.8
S8	05-15-3	Joseph J. Kramar et ux	36.10	S52	05-11-16.2	Joseph Haught	2.181
S9	05-15-4	Joseph J. Kramar, et ux	41.106	S53	05-11-13	Joy D. Gartman & Arlin Gatts	12.29
S10	05-11-14	Hiram's Est. Family LTD LLP	158.054	S54	05-11-9.3	Joseph M. Haught & Steven Haught	16.3
S11	05-12-11	Wesley Bryan & Wesley Bryan II	52.478	S55	05-11-9.5	Southern Country Farms, Inc	2.559
S12	05-11-21	Omar Rine, Est.	112.67	S56	05-11-9.6	Southern Country Farms, Inc	2.488
S13	05-12-12	Lionel L. Persinger et ux	45.0	S57	05-11-9.9	Leonard L. Parsons, et ux	5.89
S14	05-12-10	Murray Energy	13.76	S58	05-11-9	Edwin C. & Kimberly A. Miller	41.773
S15	05-12-10.1	Murray Energy	38.48	S59	05-11-11.4	Brad M. & Amanda J. Blake	15.193
S16	05-12-9	Lionel & Mary Lee Persinger	10.15	S60	05-11-11	Brad M. & Amanda J. Blake	5.0
S17	05-7-39	Lionel L. Persinger et ux	57.0	S61	05-11-11.3	Herman D. Lantz & Herman J. Lantz	43.96
S18	05-7-33	William N. Roupe	24.60	S62	05-11-11.1	Nellie Marie & Robert W. Spencer	5.813
S19	05-7-31	William N. Roupe	43.147	S63	05-11-9	(Part of S49) Edwin C. & Kimberly A. Miller	41.773
S20	05-11-1	William N. & Virginia A. Roupe	4.527	S64	05-11-9.10	John A. & Janet L. Beucke	2.348
S21	05-11-1.4	Larry W. Dunlap, et al	32.498	S65	05-11-9.2	Michael R. Bryan	3.143
S22	05-11-1.1	Larry W. Dunlap, et al	34.405	S66	05-11-9.8	Sean F. Moore	2.070
S23	05-11-1.6	Debra Morris	2.093	S67	05-11-9.7	Sean F. Moore	2.026
S24	05-11-1.7	William S. & Mary K. Adams	8.0	S68	05-11-9.1	Jack Shephard Huggins Jr., et al	10.92
S25	05-11-1.5	Paul & Sandy Whitt	3.507	S69	05-11-9.4	Jack S. Huggins et al	4.129
S26	05-11-1.3	Jay A. Conner, et ux	4.256	S70	05-11-11.2	Wesley R. Bryan & Wesley R. Bryan II	25.031
S27	05-11-1.2	Jay A. Conner, et ux	5.824	S71	05-10-16.4	Elizabeth & Melvin E. Ferguson Jr.	30.87
S28	05-8-9.1	Scott E. Jackson, Tammy S. South & Marion Jackson	1.957	S72	05-10-15.1	Donald T. Miller	2.095
S29	05-11-2.1	Walter C. & Cheryl A. Rine	1.19	S73	05-11-12	Joseph J. Kramar, et ux	43.2188
S30	05-11-2.2	Joshua A. Myers	2.193	S74	05-15-6	Joseph J. Kramar, et ux	42.5
S31	05-11-20	David E. Gray	0.569	S75	WITHIN 05-11-1.1	Cemetery	
S32	05-11-19	David E. Gray	0.532	S76	05-15-7	Terry D. Rose, et ux	4.5
S33	05-11-18	David E. Gray	0.569	S77	05-15-8	Terry D. Rose, et ux	77.11
S34	05-11-22	David E. Gray	0.353	S78	05-16-3.2	Jimmy Lee Ostrander Jr., Sheena Lynn Ostrander, & Brody Ray Ostrander	1.435
S35	05-11-17.1	David Gray	0.297	S79	05-16-3.1	Dennis E. Jackson, et ux	0.27
S36	05-11-17	Kevin R. Corley, et ux	36.13	S80	05-16-2	Christian Church	0.19
S37	05-11-17.2	Brenda & Michael Bryan	11.504	S81	05-16-1	Christian Church	0.50
S38	05-11-5	Kevin R. Corley et ux	10.36	S82	05-16-23.1	Ray E. Minor, et ux	2.0
S39	05-11-3	Kevin R. Corley et ux	13.18	S83	05-16-23.4	Michael R. & Brenda K. Bryan	3.0
S40	05-11-5.2	Ricky Lynn & Victoria Rose Cross	1.0	S84	05-16-23	CNX Land Resources, Inc.	60.138
S41	05-11-24	Charles Edward Furbee et ux	0.603	S85	05-16-23.3	Greg & Christina Riddle	1.0
S42	05-11-23	Owen Michael Barr	0.845	S86	05-16-24	Alan M. Beyser, et ux	1.083
S43	05-11-25	Owen Michael Barr	0.598	S87	05-11-14.1	Dennis F. Moore, et ux	1.056
S44	05-11-16.1	Susan Marie Smith - Life	0.876				



47-051-02029 MOD

P.S. 708 *David L Jackson*



TUG HILL
OPERATING

OPERATOR'S
 WELL #: Bryan N-12HU
 DISTRICT: Franklin
 COUNTY: Marshall
 STATE: WV

WELL PLAT
 PAGE 2 OF 3
 DATE: 12/22/2017
 REVISED DATE:
09/11/2018

PG 3 OF 3 BRYAN LEASE
UTICA UNIT - 358.7439 AC±
WELL N-12HU
TUG HILL OPERATING

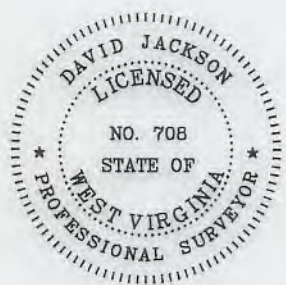
05/17/2019

Table with columns: LEASE NO., TAGS, PARCEL, OIL & GAS ROYALTY OWNER, DEED BOOK, PAGE. Lists lease details from 10*19294 to 10*19301 and 10*19293 to 10*19308.

Table with columns: LEASE NO., TAGS, PARCEL, OIL & GAS ROYALTY OWNER, DEED BOOK, PAGE. Lists lease details from 10*19139 to 10*19204 and Q088586003 to Q088586009.

*** Force pool interest

47-051-02029MOD



P.S. 708 David L Jackson



TUG HILL OPERATING

OPERATOR'S
WELL #: Bryan N-12HU
DISTRICT: Franklin
COUNTY: Marshall
STATE: WV

WELL PLAT
PAGE 3 OF 3
DATE: 12/22/2017
REVISED DATE:
09/11/2018

AFFIDAVIT

STATE OF TEXAS §
§ SS
COUNTY OF TARRANT §

On this 18th day of October, 2016, before me, the undersigned authority, personally appeared David D. Kalish ("Affiant") who being first duly sworn under oath, deposes and saith:

1. TH Exploration, LLC, TH Exploration II, LLC and TH Exploration III, LLC are wholly owned subsidiaries of THQ Appalachia I, LLC.
2. Tug Hill Operating, LLC provides oil and gas operations services to THQ Appalachia I, LLC under an Operating Services Agreement dated July 23, 2014.
3. David D. Kalish, the Affiant, is the Vice President of Tug Hill Operating, LLC, THQ Appalachia I, LLC, TH Exploration, LLC, TH Exploration II, LLC and TH Exploration III, LLC, and;
3. Tug Hill Operating, LLC is authorized to operate and maintain the assets owned by THQ Appalachia I, LLC, including, as referenced above, TH Exploration, LLC, TH Exploration II, LLC, and TH Exploration III, LLC, including oil and gas leases, wells, pipelines, surface facilities, and other all other assets that support the business of THQ Appalachia I, LLC, and;
4. Specifically, Tug Hill Operating, LLC is authorized to submit and obtain well work permits and carry out all activities pursuant to such work permits for assets owned by TH Exploration, LLC, TH Exploration II, LLC, TH Exploration III, LLC.

FURTHER, AFFIANT SAITH NOT.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this 18th day of October, 2016.

David D. Kalish
Affiant: David D. Kalish

JURAT

Jan Pest
MARSHALL County 03:44:28 PM
Instrument No 1416299
Date Recorded 10/19/2016
Document Type HIS
Pages Recorded 1
Book-Page 28-62
Recording Fee \$5.00
Additional \$6.00

STATE OF TEXAS §
§ SS
COUNTY OF TARRANT §

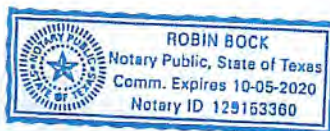
Sworn and subscribed to (or affirmed) before me on this, the 18th day of October, 2016, by David D. Kalish

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

My Commission Expires: 10-05-2020

Signature/Notary Public: Robin Bock

Name/Notary Public (Print): Robin Bock



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:

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. 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

STATE OF WEST VIRGINIA §
 §
COUNTY OF MARSHALL §

ASSIGNMENT AND BILL OF SALE

This ASSIGNMENT AND BILL OF SALE (this "Assignment") dated as of August 1, 2017 (the "Signing Date"), but effective from and after 7:00 a.m., Eastern Standard Time on August 2, 2017 being the day immediately following the Signing Date (the "Effective Date"), is made by Chevron U.S.A. Inc., a Pennsylvania corporation, with an address at 700 Cherrington Parkway, Coraopolis, PA 15108 ("Chevron" or "Assignor") to TH Exploration II, LLC and TH Exploration, LLC, Texas limited liability companies, with an address at 1320 S. University Drive, Suite 500, Fort Worth, TX 76107 (collectively "Assignee") and is accepted by Assignee upon the following terms and conditions.

RECITALS

- A. Assignor desires to sell, convey, transfer, assign and deliver to Assignee Assignor's Bryan 1H well and certain related assets, including certain leasehold interests, located in Marshall County, West Virginia.
- B. Through an Acreage Trade Agreement to be executed contemporaneously with this Assignment, Assignor desires to transfer, convey and assign to Assignee certain of Assignor's oil and gas leasehold interests located in Marshall County, West Virginia in exchange for the transfer, conveyance and assignment to Assignor by Assignee certain of Assignee's oil and gas leasehold interests located in Marshall County, West Virginia and Greene County, West Virginia.
- C. In consideration of the mutual promises set out in this Assignment, including execution of the Acreage Trade Agreement, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree to be bound by the terms of this Assignment.

1. DEFINITIONS

1.1 **Definitions.** As used in this Assignment, these words and expressions have the following meanings:

"**Acreage Trade Agreement**" means that certain Acreage Trade Agreement by and between Chevron U.S.A. Inc. and TH Exploration, LLC with an Effective Date of August 1, 2017 to be contemporaneously executed with this Assignment.

"**Act**" has the meaning given to such term in Section 9.1(C).

"**Affiliate**" means any legal entity which controls, is controlled by, or is under common control with, another legal entity. An entity is deemed to "control" another if it owns directly or indirectly at least fifty percent of either of the following: (A) the shares entitled to vote at a general election of directors of such other entity or (B) the voting interest in such other entity if such entity does not have either shares or directors.

"**Applicable Law(s)**" means all laws, principles of common law, regulations, statutes, codes, rules, orders, ordinances, permits, enforceable policies, licenses, certifications, decrees, constitutions, standards or other requirements with similar effect of any Government Entity and any binding interpretations of the foregoing.

"**Assets**" has the meaning given to such term in Section 2.1 of this Assignment.

"**Assigned Hydrocarbons**" means all Hydrocarbons produced and severed from, or allocable, after severance, to the Leases, Units, and Wells on and after the Effective Date.

MEMORANDUM OF AGREEMENT

This Memorandum of Agreement is entered into this 26th day of February, 2018, between TUG HILL OPERATING, LLC ("THQ"), a Texas limited liability company, whose address is 1320 S. University Blvd., Suite 500, Fort Worth, TX 76107 and HG Energy II APPALACHIA, LLC ("HG"), a Delaware limited liability company, whose address is 5260 Dupont Road, Parkersburg, WV 26101.

PARTIES AND AGREEMENT REFERENCE: THQ and HG entered into a letter agreement ("Letter Agreement") dated February 26, 2018 (the "Commencement Date") outlining pursuit of definitive agreements to allow THQ the right to permit, drill, extract, produce and market oil and gas from those certain oil and gas interests controlled by HG in Franklin District of Marshall County, West Virginia, as more fully described in Exhibit A attached hereto, made a part hereof, and incorporated herein by reference.

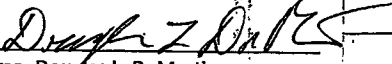
1. **TERM:** The rights granted in the Letter Agreement will terminate upon the earlier of (i) one hundred eighty (180) days from the Commencement Date, (ii) HG's revocation of the rights granted in the Letter Agreement, or (iii) the parties entering into the definitive agreement described in the Letter Agreement. Upon termination of the Letter Agreement under subsection (i) or (ii) of the immediately preceding sentence, THQ will record a surrender of this Memorandum and withdraw any related well work permit requests.

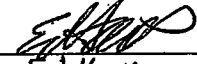
2. **MEMORANDUM FOR RECORDING PURPOSES ONLY:** This Memorandum is for recording purposes only and does not supplement or supersede the parties' respective rights set forth in the Letter Agreement or other agreements.

IN WITNESS WHEREOF, the parties have signed their names hereto as of the date first above written.

Tug Hill Operating, LLC

HG Energy II Appalachia, LLC

By: 
Name: Douglas L. DeMartino
Title: Attorney-in-Fact

By: 
Name: Ed Haes
Title: V.P. of Land + Attorney in Fact

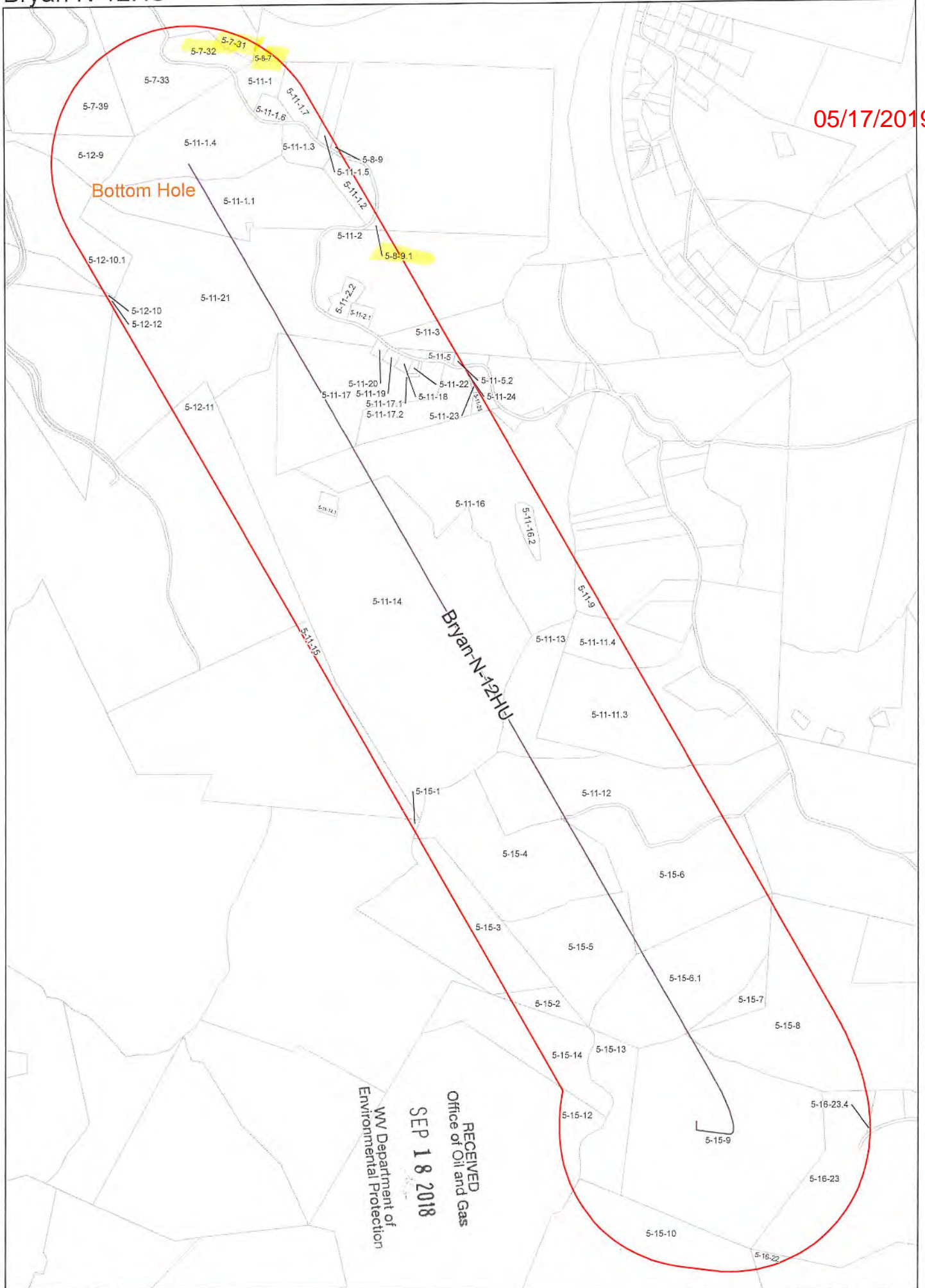
Prepared by Tug Hill Operating, LLC
1320 S. University Dr., Suite 500, Fort Worth, TX 76107

Marshall County
Jan Pest, Clerk
Instrument 1437593
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AGREEMENT
Book 962 @ Page 488
Pages Recorded 3
Recording Cost \$ 11.00

Bryan N-12HU

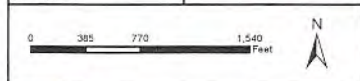
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05/17/2019



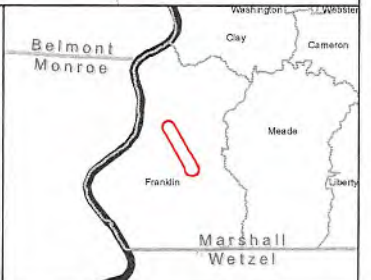
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 Projection: Transverse Mercator
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 Spheroid: GRS 1912
 Prime Meridian: 0.0000
 Units: Meter
 Units to Feet: 3.28084
 Units to Feet: 3.28084

CONFIDENTIAL



1500 Foot Buffer
 Utica Well

Bryan N-12HU
 Operators within 1500 Feet of Well Borehole



Final_Well	COUNTY	DISTRICT	PARCEL	OWNER	ADDRESS
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.2	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.3	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.4	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.5	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.6	HG ENERGY II APPALACHIA, LLC	5260 Dupont Road Parkersburg, WV 26101
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.7	TH EXPLORATION LLC	1321 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-11.3	TH EXPLORATION LLC	1321 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-11.4	TH EXPLORATION LLC	1322 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-12	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-13	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-13	William J. Olson	495 Caroline Bend Bullard, TX 75757
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-13	Eva Patterson	10582 Mountain View Ave, Apt A Redlands, CA 92373
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-14	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-14.1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108

RECEIVED
Office of Oil and Gas
SEP 18 2018
WV Department of
Environmental Protection

05/17/2019
51-62029400

Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	Ula Nelson	7101 West Yale Avenue unit 3703 Denver, CO 80227
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	Mary Elizabeth Voltz	1 Arlington Ave., Moundsville, WV 26041
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	Julie Foreman Springwater	24 Wriston Dr., Providence, RI 02906
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	Vicki Wood	1204 Center St., Moundsville, WV 26041
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	William Litman	15 Linden Ave., Wheeling, WV 26003
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	Aaron Litman	67 Clive St., Moundsville, WV 26041304-845-3708
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	Sharon Toler (Williams)	2014 Montgomery Dr. Santa Rosa, CA
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-16	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-16.2	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-17	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-17.1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-17.2	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-17.2	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-18	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-19	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-2	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-2.1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-2.2	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107

05/17/2019

51-02029 Mod

Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-20	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-20	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-21	HG ENERGY II APPALACHIA, LLC	5260 Dupont Road Parkersburg, WV 26101
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-22	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-23	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-24	CHARLES E. FURBEE	2201 4th St. Moundsville, WV 26041
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-24	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-25	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-3	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-3	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-5	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-5.2	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-9	AMERICAN PETROLEUM PARTNERS OPERATING, LLC	4600 J. Barry Ct. Suite 310 Canonsburg, PA 15317
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-12-10	TH EXPLORATION LLC	1321 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-12-10.1	TH EXPLORATION LLC	1321 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-12-11	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-12-12	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-12-12	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107

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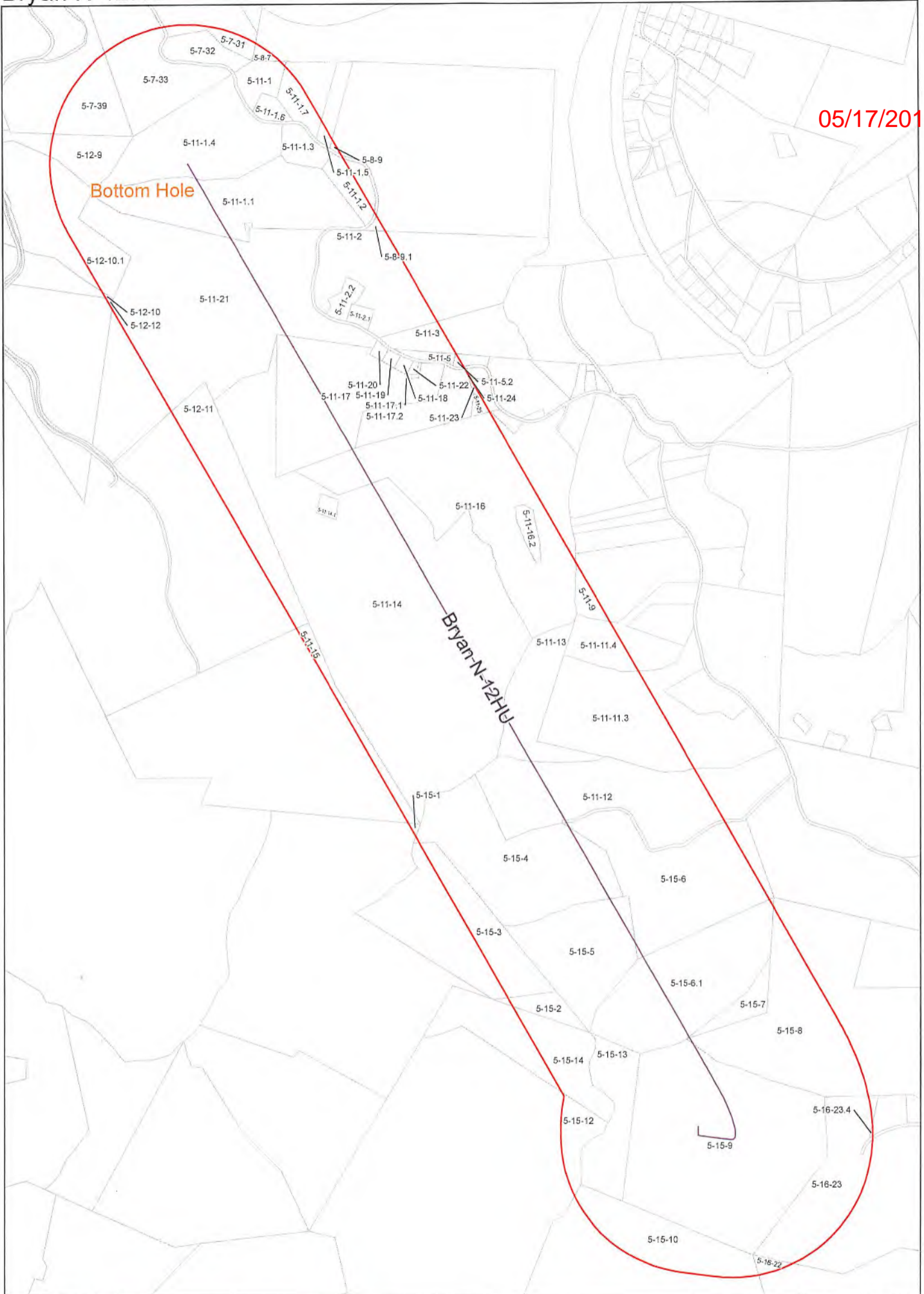
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-12-9	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-10	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-12	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Robecca K. Oldaker	1453 Manning Road Suffolk, VA 23434
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Lucindia A. Markle	318 Toto Drive Dawsonville, GA 30534
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Wilbert W. Ryan, Jr.	P.O. Box 296 Sanbornville, NH 03872
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Kevin Michael Ryan	AM Weiher 17 Bad Aibling Mietraching 83043, Germany
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Dan M. Ryan, Jr.	2119 Pebble Road, SE Carrollton, OH 44615
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Keith A. Ryan	8264 Traphagen Street NW Apt. E Massillon, OH 44646
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Patricia M. Portwood	4937 Stevens Road Akron, OH 44319
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Alberta Ryan	1210 Swartz Road Akron, OH 44306
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Ellen Dinger	8121 Kensington Road NE Augusta, OH 44607
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-14	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-2	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-3	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-3	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-4	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108

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Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-5	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-6	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-6.1	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-7	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-8	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-9	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-16-22	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-16-23	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-16-23.4	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-7-31	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-7-32	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-7-33	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-7-33	HG ENERGY II APPALACHIA, LLC	5260 Dupont Road Parkersburg, WV 26101
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-7-39	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-7-39	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-8-7	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-8-9	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-8-9.1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107

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Coordinate System: NAD 1983 UTM Zone 17N
 Projection: Transverse Mercator
 Datum: North American 1983
 False Northing: 1,540,000 METERS
 False Easting: 0 METERS
 Central Meridian: -81.5000
 Scale Factor: 0.9999
 Units: Feet US

CONFIDENTIAL

0 385 770 1,540 Feet

1500 Foot Buffer

Utica Well

Bryan N-12HU

Operators within 1500 Feet of Well Borehole



Cyan 6-20-15

Final_Well	COUNTY	DISTRICT	PARCEL	OWNER	ADDRESS
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.2	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.3	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.4	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.5	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.6	HG ENERGY II APPALACHIA, LLC	5260 Dupont Road Parkersburg, WV 26101
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-1.7	TH EXPLORATION LLC	1321 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-11.3	TH EXPLORATION LLC	1321 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-11.4	TH EXPLORATION LLC	1322 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-12	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108

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Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-13	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-13	William J. Olson	495 Caroline Bend Bullard, TX 75757
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-13	Eva Patterson	10582 Mountain View Ave, Apt A Redlands, CA 92373
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-14	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-14.1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	Ula Nelson	7101 West Yale Avenue unit 3703 Denver, CO 80227
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	Mary Elizabeth Voltz	1 Arlington Ave., Moundsville, WV 26041
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	Julie Foreman Springwater	24 Wriston Dr., Providence, RI 02906
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	Vicki Wood	1204 Center St., Moundsville, WV 26041
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	William Litman	15 Linden Ave., Wheeling, WV 26003
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	Aaron Litman	67 Clive St., Moundsville, WV 26041304-845-3708

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Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-15	Sharon Toler (Williams)	2014 Montgomery Dr.Santa Rosa, CA
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-16	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-16.2	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-17	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-17.1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-17.2	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-17.2	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-18	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-19	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-2	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-2.1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-2.2	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth,TX 76107

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Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-20	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-20	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-21	HG ENERGY II APPALACHIA, LLC	5260 Dupont Road Parkersburg, WV 26101
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-22	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-23	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-24	CHARLES E. FURBEE	2201 4th St. Moundsville, WV 26041
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-24	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-25	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-3	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-3	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-5	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-5.2	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107

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Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-11-9	AMERICAN PETROLEUM PARTNERS OPERATING, LLC	4600 J. Barry Ct. Suite 310 Canonsburg, PA 15317
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-12-10	TH EXPLORATION LLC	1321 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-12-10.1	TH EXPLORATION LLC	1321 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-12-11	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-12-12	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-12-12	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-12-9	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-10	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-12	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Rebecca K. Oldaker	1453 Manning Road Suffolk, VA 23434

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Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Lucindia A. Markle	318 Toto Drive Dawsonville, GA 30534
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Wilbert W. Ryan, Jr.	P.O. Box 296 Sanbornville, NH 03872
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Kevin Michael Ryan	AM Weiher 17 Bad Aibling Mietraching 83043, Germany
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Dan M. Ryan, Jr.	2119 Pebble Road, SE Carrollton, OH 44615
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Keith A. Ryan	8264 Traphagen Street NW Apt. E Massillon, OH 44646
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Patricia M. Portwood	4937 Stevens Road Akron, OH 44319
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Alberta Ryan	1210 Swartz Road Akron, OH 44306
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-13	Ellen Dinger	8121 Kensington Road NE Augusta, OH 44607
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-14	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-2	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-3	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-3	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-4	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-5	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108

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Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-6	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-6.1	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-7	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-8	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-15-9	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-16-22	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-16-23	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-16-23.4	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-7-31	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-7-32	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-7-33	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-7-33	HG ENERGY II APPALACHIA, LLC	5260 Dupont Road Parkersburg, WV 26101
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-7-39	CHEVRON USA INC	700 Cherrington Pkwy. Coraopolis, PA 15108
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-7-39	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107

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Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-8-7	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-8-9	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107
Bryan N Utica-12HU	MARSHALL	FRANKLIN	5-8-9.1	TH EXPLORATION LLC	1320 S. University Blvd. Suite 500 Fort Worth, TX 76107

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