



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

Friday, May 10, 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-13HU
47-051-02030-00-00

Reconfigured the lateral 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.

A handwritten signature in blue ink, appearing to read "James A. Martin", is written over a light blue circular stamp or seal.

James A. Martin
Chief

Operator's Well Number: BRYAN N-13HU
Farm Name: CNX LAND RESOURCES INC.
U.S. WELL NUMBER: 47-051-02030-00-00
Horizontal 6A New Drill
Date Modification Issued: May 10, 2019

05/10/2019



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 Deep Well Permit – API #47-051-02030

COMPANY: Tug Hill Operating, LLC

FARM: Bryan N-13HU

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, 47-051-02029 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

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

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

2) Operator's Well Number: Bryan N-13HU 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 X Oil _____ Underground Storage _____

Other _____

(b) If Gas Shallow _____ Deep X _____

Horizontal X _____

6) Existing Pad: Yes or No Yes

JW
9/12/18

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Point Pleasant is the target formation at a depth of 11,190' - 11,269' thickness of 119' and anticipated pressure of approx. 9000 psi

8) Proposed Total Vertical Depth: 11,419'

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 23,341'

11) Proposed Horizontal Leg Length: 11,318'

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'

RECEIVED
Office of Oil and Gas

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

SEP 18 2018

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

WV Department of
Environmental Protection

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

Depth: _____

Seam: _____

Owner: _____

18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	30"	NEW	BW	BW	100'	100'	216FT^3(CTS)
Fresh Water	20"	NEW	J55	106.5#	929'	929'	1,489ft^3(CTS)
Coal	13 3/8"	NEW	J55	54.5#	2,604'	2,604'	1,839ft^3(CTS)
Intermediate	9 5/8"	NEW	HPP110	47#	10,371'	10,371'	3,377ft^3(CTS)
Production	5 1/2"	NEW	HCP110	23#	23,341'	23,341'	5,523ft^3(CTS)
Tubing	2 7/8"	NEW	P110	6.5#		10,931'	
Liners							

9/12/18

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	30"	36"	1.0	2,333	1,866	CLASS A	1.2
Fresh Water	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			

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

JL
9/18/18

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 28,295,000 lb proppant and 437,461 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

RECEIVED
Office of Oil and Gas

SEP 18 2018

WV Department of
Environmental Protection

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.

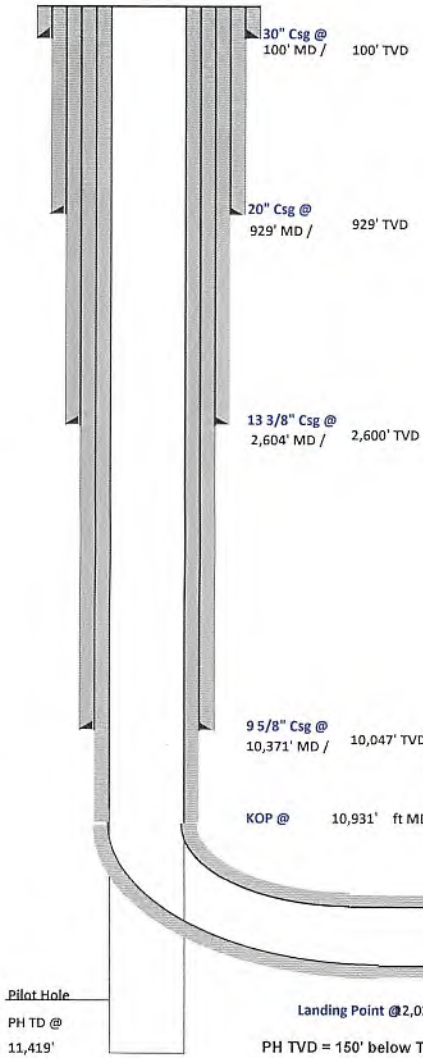


WELL NAME: Bryan N-13HU
 STATE: West Virginia COUNTY: Marshall
 DISTRICT: Franklin
 DF Elev: 1,191' GL Elev: 1,191'
 TD: 23,341'
 TH Latitude: 39.77561617
 TH Longitude: -80.77651946
 BH Latitude: 39.80364999
 BH Longitude: 80.790642

FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	829'
Sewickley Coal	727'
Pittsburgh Coal	822'
Big Lime	1,996'
Berea	2,545'
Tully	6,388'
Marcellus	6,469'
Onondaga	6,522'
Salina	7,212'
Lockport	8,237'
Utica	10,896'
Point Pleasant	11,150'
Landing Depth	11,200'
Trenton	11,269'
Pilot Hole TD	11,419'

CASING SUMMARY							
Type	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cemen
Conductor	36	30	100'	100'	BW	BW	Surface
Surface	26	20	929'	929'	106.5	J55	Surface
Intermediate 1	17 1/2	13 3/8	2,604'	2,600'	54.5	J55	Surface
Intermediate 2	12 1/4	9 5/8	10,371'	10,047'	47	HP110	Surface
Production	8 1/2	5 1/2	23,341'	10,805'	23	P110	Surface

	CEMENT SUMMARY			DRILLING DETAILS	
	Sacks	Class	Density	Fluid Type	Centralizer Notes
Conductor	291	A	15.6	Air	None
Surface	1,618	A	15.6	Air	3 Centralizers at equal distance
Intermediate 1	1,996	A	15	Air	1 Centralizer every other jt
Intermediate 2	2,773	A	14.5	Air	1 Centralizer every other jt
Production	4,770	A	15	Air / SOBMM	1 every other joint in lateral; 1 per joint in curve; 1 every other jt to sfc



Handwritten signature and date: 9/12/18

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

51-020301003

05/10/2019
SI-02030 MW



Tug Hill Operating, LLC Casing and Cement Program

Bryan N-13HU

Casing

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	100'	CTS ✓
Surface	20"	J55	26"	929'	CTS ✓
Intermediate 1	13 3/8"	J55	17 1/2"	2,604'	CTS ✓
Intermediate 2	9 5/8"	HP110	12 1/4"	10,371'	CTS ✓
Production	5 1/2"	P110	8 1/2"	23,341'	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

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

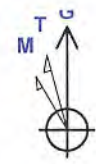


Tug Hill Operating LLC
Well: Bryan N-13HU (slot E)
Site: Bryan Pad
Project: Marshall County, WV
Design: rev3

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=1191 @ 1191.00usft
 Surface location
 Northing Easting Longitude
 14445105.15 1703207.00 39.77561617-80.77651945

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



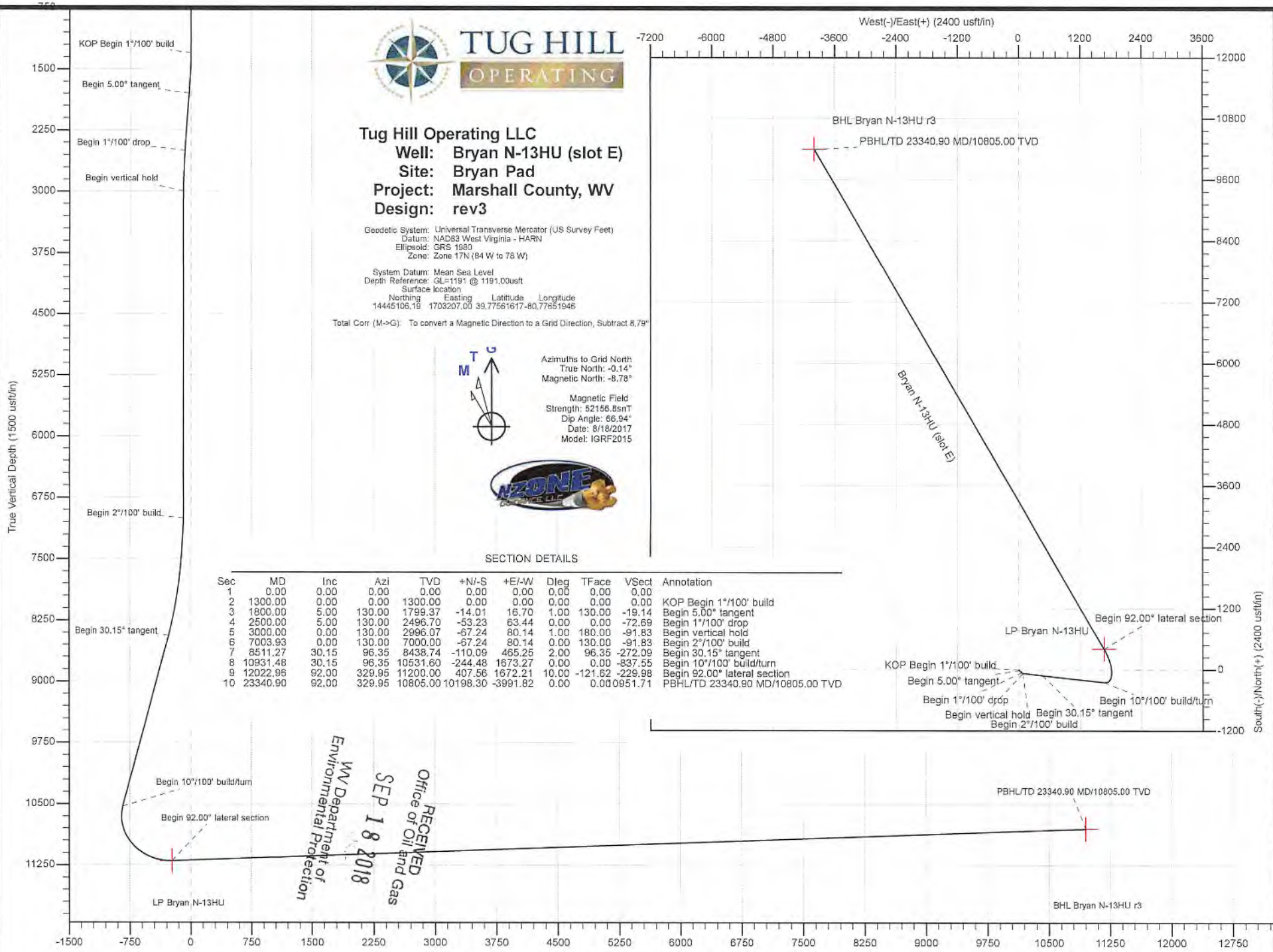
Azimuths to Grid North
 True North: -0.14°
 Magnetic North: -8.78°

Magnetic Field
 Strength: 52156.8snT
 Dip Angle: 66.94°
 Date: 8/18/2017
 Model: IGRF2015



SECTION DETAILS

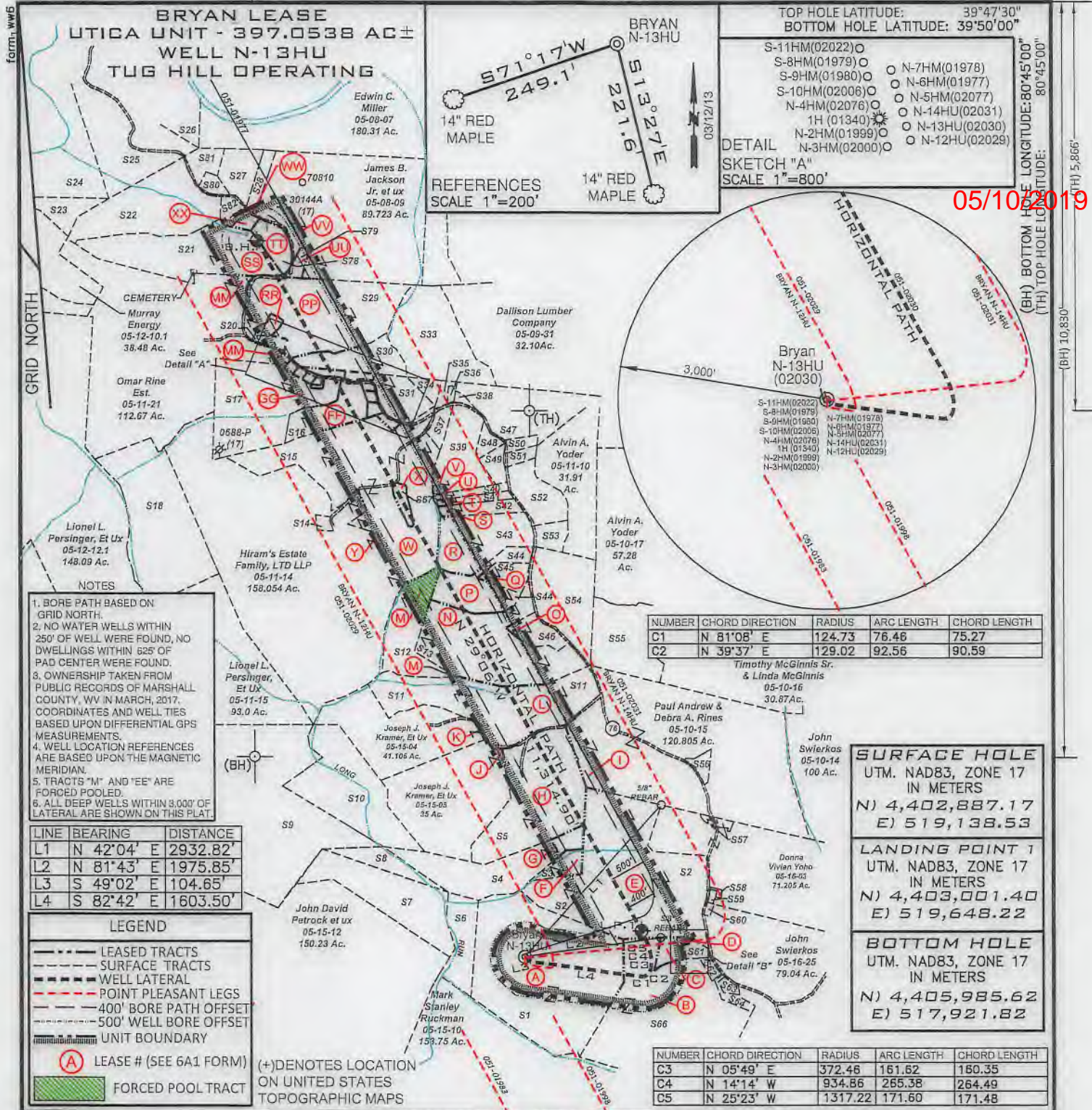
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 1°/100' build
3	1800.00	5.00	130.00	1799.37	-14.01	16.70	1.00	130.00	-19.14	Begin 5.00° tangent
4	2500.00	5.00	130.00	2496.70	-53.23	63.44	0.00	0.00	-72.69	Begin 1°/100' drop
5	3000.00	0.00	130.00	2996.07	-67.24	80.14	1.00	180.00	-91.83	Begin vertical hold
6	7003.93	0.00	130.00	7000.00	-67.24	80.14	0.00	130.00	-91.83	Begin 2°/100' build
7	8511.27	30.15	96.35	8438.74	-110.09	465.25	2.00	96.35	-272.09	Begin 30.15° tangent
8	10931.48	30.15	96.35	10531.60	-244.48	1673.27	0.00	0.00	-837.55	Begin 10°/100' build/turn
9	12022.96	92.00	329.95	11200.00	407.56	1672.21	10.00	-121.62	-229.98	Begin 92.00° lateral section
10	23340.90	92.00	329.95	10805.00	10198.30	-3991.82	0.00	0.00	0951.71	PBHL/TD 23340.90 MD/10805.00 TVD



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

Vertical Section at 338.62° (1500 usft/in)

SL-D 2030400D



05/10/2019

FILE NUMBER _____

DRAWING NUMBER **BRYAN_N-13HU_REV 3**

SCALE **1" = 2000'**

MINIMUM DEGREE OF ACCURACY **1/200**

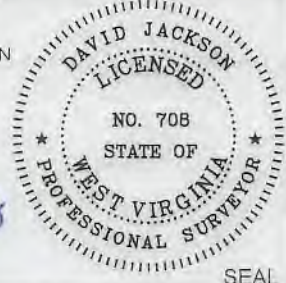
PROVEN SOURCE OF ELEVATION **SUBMETER MAPPING**
GRADE GPS

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



David L. Jackson

JACKSON SURVEYING INC.
P.O. Box 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 27, 2017

REVISED DATE: SEPTEMBER 11, 2018

OPERATORS WELL NO. BRYAN N-13HU

API WELL NO. 47-051-02030 mad

STATE COUNTY PERMIT

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: 11,419' TMD: 23,341'

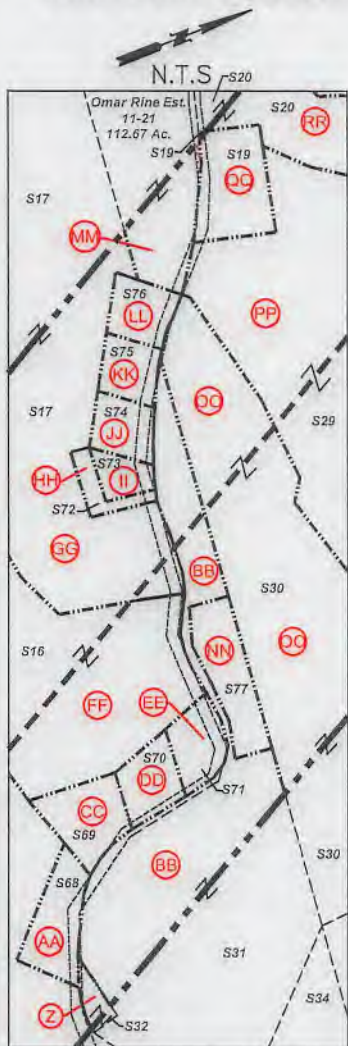
WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DIANNA STAMPER
CT CORPORATION SYSTEM

ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5400 D BIG TYLER ROAD
FORT WORTH, TX 76107 CHARLESTON, WV 25313

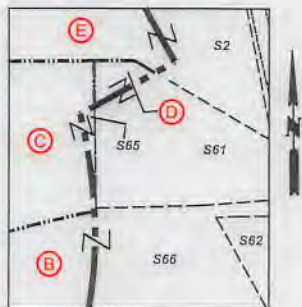
COUNTY NAME
PERMIT

47-051-02030 Mod

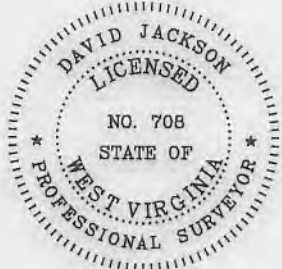
**BRYAN LEASE
UTICA UNIT - 397.0538 AC±
WELL N-13HU
TUG HILL OPERATING**



Detail "A"



Detail "B"



David L Jackson
P.S. 708

Number	TAX MAP -PARCEL	SURFACE OWNER	ACRES
S1	05-15-9	CNX Land Resources, Inc.	81.98
S2	05-15-8	Terry D. Rose, et ux	77.1
S3	05-15-7	Terry D. Rose, et ux	4.5
S4	05-15-6.1	Joseph J. Kramar, et ux	39.40
S5	05-15-6	Joseph J. Kramar, et ux	42.5
S6	05-15-13	CNX Land Resources	11.0
S7	05-15-14	John David Petrock, et ux	25.0
S8	05-15-2	John David Petrock, et ux	5.0
S9	05-15-1	Marcus Sharp & David Schlabach	42.6
S10	05-15-3	Joseph J. Kramar, et ux	56.16
S11	05-11-12	Joseph J. Kramar, et ux	43.2188
S12	05-11-13	Joy D. Garman & Arlin Gatts	12.29
S13	05-11-11.3	Herman D. & Herman J. Lantz	43.96
S14	05-11-14.1	Dennis F. Moore, et ux	1.056
S15	05-11-16	Keith E. Haught, et al	83.674
S16	05-11-17.2	Brenda & Michael Bryan	11.504
S17	05-11-17	Kevin R. Corley, et ux	36.13
S18	05-12-11	Wesley Bryan & Wesley Bryan II	52.478
S19	05-11-2.2	Joshua A. Myers	2.193
S20	05-11-2.1	Walter C. & Cheryl A. Rine	1.19
S21	05-11-1.1	Larry W. Dunlap, et al	34.405
S22	05-11-1.4	Larry W. Dunlap, et al	32.493
S23	05-12-9	Lionel & Mary Lee Persinger	10.15
S24	05-7-39	Lionel L. Persinger, et ux	57.0
S25	05-7-33	William N. Roupe	24.60
S26	05-7-31	William N. Roupe	43.147
S27	05-11-1.7	William S. & Mary K. Adams	8.0
S28	05-11-1.5	Paul White	3.507
S29	05-11-2	Walter C. & Cheryl A. Rine	42.367
S30	05-11-3	Kevin R. Corley, et al	13.18
S31	05-11-5	Kevin R. Corley, et ux	10.36
S32	05-11-5.1	James R. Anderson, et ux	0.205
S33	05-11-4	David H. Arrick, et ux	31.5
S34	05-11-5.3	Robert Harris Arrick, et ux	3.0
S35	05-11-6	Robert & Rebecca Arrick	1.29
S36	05-11-7	Baptist Cemetery	1.0
S37	05-11-16.3	Kegan Michael Haught - Life	3.265
S38	05-11-8	Baptist Church	0.8
S39	05-11-9.3	Joseph M. Haught & Steven Haught	16.3
S40	05-11-9.5	Southern Country Farms, Inc	2.559
S41	05-11-9.6	Southern Country Farms, Inc	2.488
S42	05-11-9.9	Leonard L. Parsons, et ux	5.89
S43	05-11-9	Edwin C. & Kimberly A. Miller	41.773
S44	05-11-11.4	Brad M. & Amanda J. Blake	15.193
S45	05-11-11	Brad M. & Amanda J. Blake	5.0
S46	05-11-11.1	Nellie Marie & Robert W. Spencer	5.813
S47	05-11-9	Edwin C. & Kimberly A. Miller	41.773
S48	05-11-9.10	John A. & Janet L. Beucke	2.348
S49	05-11-9.2	Michael R. Bryan	3.143
S50	05-11-9.8	Sean F. Moore	2.070
S51	05-11-9.7	Sean F. Moore	2.026
S52	05-11-9.1	Jack Shepard Huggins Jr., et al	10.92
S53	05-11-9.4	Jack S. Huggins, et al	4.129
S54	05-11-11.2	Wesley R. Bryan & Wesley R. Bryan II	25.031
S55	05-10-16.4	Melvin E. Ferguson & Elizabeth Ferguson	30.87
S56	05-10-15.1	Donald T. Miller	2.095
S57	05-16-3.2	Jimmy Lee Ostrander Jr., Sheena Lynn Ostrander & Brody Ray Ostrander	1.435
S58	05-16-3.1	Dennis E. Jackson, et ux	0.27
S59	05-16-2	Christian Church	0.19
S60	05-16-1	Christian Church	0.50
S61	05-16-23.1	Ray E. Minor, et ux	2.0
S62	05-16-23.3	Greg & Christina Riddle	1.0
S63	05-16-24	Alan M. Beyser, et ux	1.083
S64	05-16-23.2	Alan M. Beyser, et ux	1.726
S65	05-16-23.4	Michael R. & Brenda K. Bryan	3.0
S66	05-16-23	CNX Land Resources, Inc.	60.138
S67	05-11-16.2	Joseph Haught	2.181
S68	05-11-16.1	Susan Smith, LE	0.876
S69	05-11-25	Owen Michael Barr	0.598
S70	05-11-23	Owen Michael Barr	0.845
S71	05-11-24	Charles Edward Furbee, et ux	0.603
S72	05-11-17.1	David Gray	0.297
S73	05-11-22	David Gray	0.353
S74	05-11-18	David E. Gray	0.569
S75	05-11-19	David E. Gray	0.532
S76	05-11-20	David E. Gray	0.569
S77	05-11-5.2	Rickey & Victoria Cross	1.0
S78	05-11-1.2	Jay A. Conner, et ux	5.824
S79	05-8-9.1	Scott E. Jackson, Tammy S. South & Marion Jackson	1.957
S80	05-11-1.6	Debra Morris	2.093
S81	05-11-1	William N. & Virginia A. Roupe	4.527
S82	05-11-1.3	Jay A. Conner, et ux	4.256

05/19/2019



**TUG HILL
OPERATING**

OPERATOR'S
WELL #: Bryan N-13HU
DISTRICT: Franklin
COUNTY: Marshall
STATE: WV

WELL PLAT
PAGE 2 OF 4
DATE: 12/27/2017
REVISED DATE:
09/11/2018

BRYAN LEASE
UTICA UNIT - 397.0538 AC±
WELL N-13HU
TUG HILL OPERATING

Table with columns: LEASE NO., TAGS, PARCEL, OIL & GAS ROYALTY OWNER, DEED BOOK, PAGE. Lists lease details for various parcels and owners.

Table with columns: LEASE NO., TAGS, PARCEL, OIL & GAS ROYALTY OWNER, DEED BOOK, PAGE. Continuation of lease details from the previous table.

05/10/2019



P.S. 708

David L Jackson



OPERATOR'S WELL #: Bryan N-13HU
DISTRICT: Franklin
COUNTY: Marshall
STATE: WV

WELL PLAT
PAGE 3 OF 4
DATE: 01/10/2018
REVISED DATE: 09/11/2018

47-051-02030 MOD

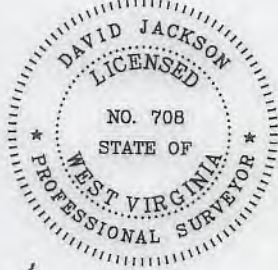
form wwf6

BRYAN LEASE
UTICA UNIT - 397.0538 AC±
WELL N-13HU
TUG HILL OPERATING

Table with columns: LEASE NO., TAGS, PARCEL, OIL & GAS ROYALTY OWNER, DEED BOOK, PAGE. Lists lease details for various parcels and owners.

Table with columns: LEASE NO., TAGS, PARCEL, OIL & GAS ROYALTY OWNER, DEED BOOK, PAGE. Continuation of lease details.

05/10/2019



P.S. 708

David L Jackson



TUG HILL OPERATING

OPERATOR'S WELL #: Bryan N-13HU
DISTRICT: Franklin
COUNTY: Marshall
STATE: WV

WELL PLAT

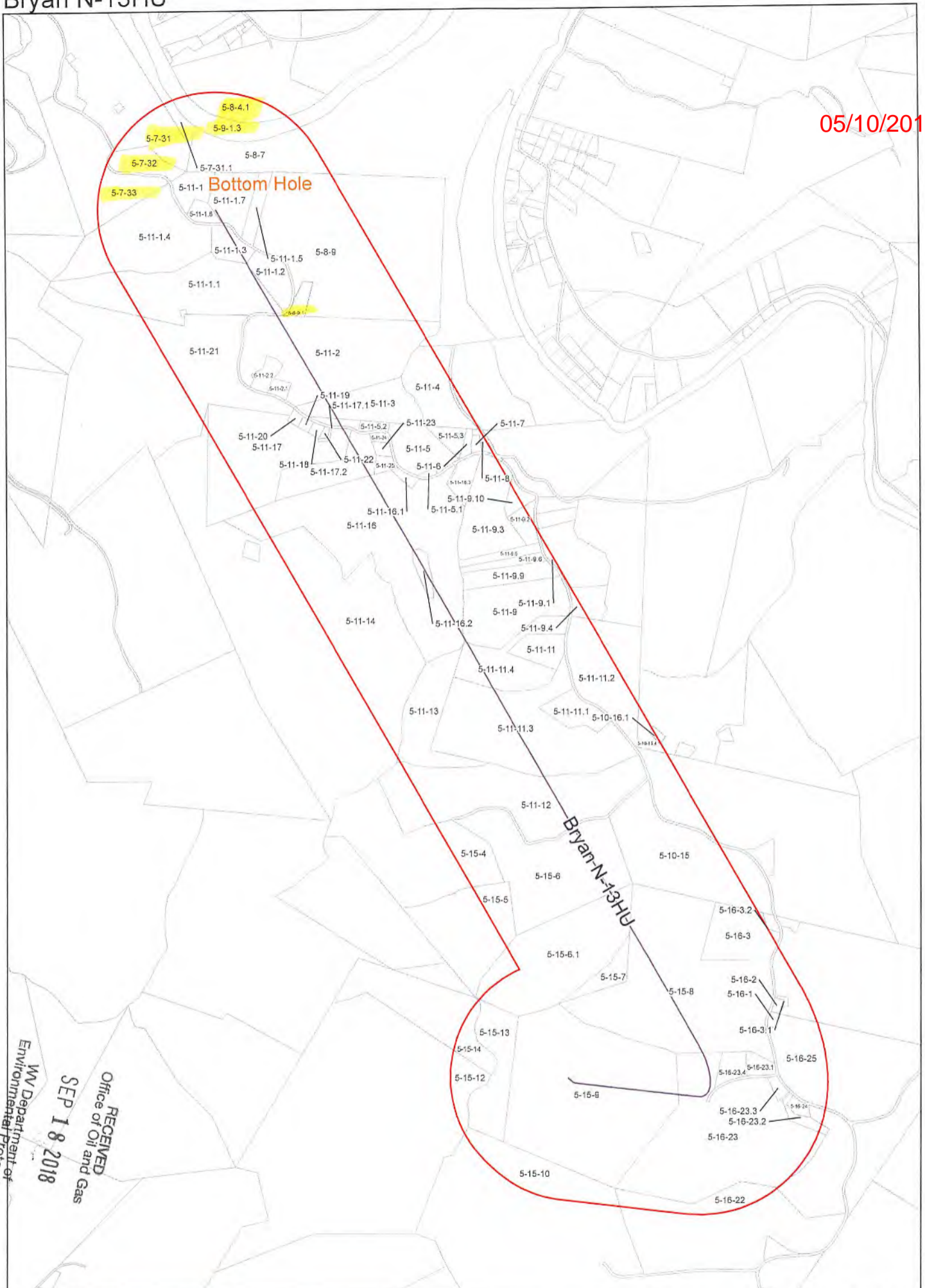
PAGE 4 OF 4

DATE: 01/10/2018

REVISED DATE: 09/11/2018

Bryan N-13HU

05/10/2019



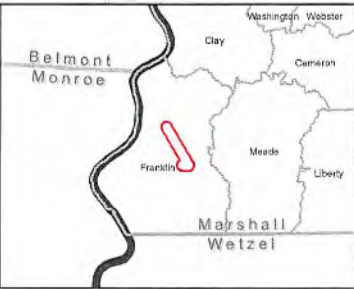
RECEIVED
Office of Oil and Gas
SEP 18 2018
MW Department of Environmental Protection

Coordinate System: NAD 1983 UTM Zone 17N
Projection: Transverse Mercator
Datum: North American 1983
Scale: Meters: 1,000.000000
Units: Meters
Spheroid: GRS80
Semi-major Axis: 6,378,137.000000
Inverse Flattening: 0.00441451643
Units: Feet US

CONFIDENTIAL



1500 Foot Buffer
 Utica Well
Bryan N-13HU
 Operators within 1500 Feet of Well Borehole



51-02030 (MWH) 05/10/2019



Planning Report - Geographic

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Bryan N-13HU (slot E)
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-13HU (slot E)	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-13HU (slot E)					
Well Position	+N/-S	0.00 usft	Northing:	14,445,106.19 usft	Latitude:	39.77561617
	+E/-W	0.00 usft	Easting:	1,703,207.00 usft	Longitude:	-80.77651946
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	52,156.77745238

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	338.62

Plan Survey Tool Program	Date	7/19/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	23,340.90 rev3 (Original Hole)	MWD	
			MWD - Standard	

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



Planning Report - Geographic

05/10/2019
51-02030 MOP

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Bryan N-13HU (slot E)
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-13HU (slot E)	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	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	5.00	130.00	1,799.37	-14.01	16.70	1.00	1.00	0.00	130.00	
2,500.00	5.00	130.00	2,496.70	-53.23	63.44	0.00	0.00	0.00	0.00	
3,000.00	0.00	130.00	2,996.07	-67.24	80.14	1.00	-1.00	0.00	180.00	
7,003.93	0.00	130.00	7,000.00	-67.24	80.14	0.00	0.00	0.00	130.00	
8,511.27	30.15	96.35	8,438.74	-110.09	465.25	2.00	2.00	-2.23	96.35	
10,931.48	30.15	96.35	10,531.60	-244.48	1,673.27	0.00	0.00	0.00	0.00	
12,022.96	92.00	329.95	11,200.00	407.56	1,672.21	10.00	5.67	-11.58	-121.62	LP Bryan N-13HU
23,340.90	92.00	329.95	10,805.00	10,198.30	-3,991.82	0.00	0.00	0.00	0.00	BHL Bryan N-13HU r

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



Planning Report - Geographic

51-02030 Mon

RECEIVED
Office of Oil and Gas

SEP 18 2018

WV Department of
Environmental Protection

Database: DB_Jul2216dt_v14
Company: Tug Hill Operating LLC
Project: Marshall County, West Virginia
Site: Bryan Pad
Well: Bryan N-13HU (slot E)
Wellbore: Original Hole
Design: rev3

Local Co-ordinate Reference: Well Bryan N-13HU (slot E)
TVD Reference: GL=1191 @ 1191.00usft
MD Reference: GL=1191 @ 1191.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
100.00	0.00	0.00	100.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
200.00	0.00	0.00	200.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
300.00	0.00	0.00	300.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
400.00	0.00	0.00	400.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
500.00	0.00	0.00	500.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
600.00	0.00	0.00	600.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
700.00	0.00	0.00	700.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
800.00	0.00	0.00	800.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
900.00	0.00	0.00	900.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,445,106.19	1,703,207.00	39.77561617	-80.77651946	
KOP Begin 1°/100' build										
1,400.00	1.00	130.00	1,399.99	-0.56	0.67	14,445,105.63	1,703,207.67	39.77561463	-80.77651709	
1,500.00	2.00	130.00	1,499.96	-2.24	2.67	14,445,103.95	1,703,209.68	39.77560999	-80.77650996	
1,600.00	3.00	130.00	1,599.86	-5.05	6.02	14,445,101.14	1,703,213.02	39.77560227	-80.77649810	
1,700.00	4.00	130.00	1,699.68	-8.97	10.69	14,445,097.22	1,703,217.69	39.77559146	-80.77648149	
1,800.00	5.00	130.00	1,799.37	-14.01	16.70	14,445,092.17	1,703,223.70	39.77557757	-80.77646014	
Begin 5.00° tangent										
1,900.00	5.00	130.00	1,898.99	-19.62	23.38	14,445,086.57	1,703,230.38	39.77556214	-80.77643643	
2,000.00	5.00	130.00	1,998.60	-25.22	30.05	14,445,080.97	1,703,237.06	39.77554671	-80.77641272	
2,100.00	5.00	130.00	2,098.22	-30.82	36.73	14,445,075.37	1,703,243.73	39.77553128	-80.77638900	
2,200.00	5.00	130.00	2,197.84	-36.42	43.41	14,445,069.77	1,703,250.41	39.77551584	-80.77636529	
2,300.00	5.00	130.00	2,297.46	-42.03	50.08	14,445,064.16	1,703,257.09	39.77550041	-80.77634158	
2,400.00	5.00	130.00	2,397.08	-47.63	56.76	14,445,058.56	1,703,263.76	39.77548498	-80.77631786	
2,500.00	5.00	130.00	2,496.70	-53.23	63.44	14,445,052.96	1,703,270.44	39.77546955	-80.77629415	
Begin 1°/100' drop										
2,600.00	4.00	130.00	2,596.39	-58.27	69.45	14,445,047.92	1,703,276.45	39.77545566	-80.77627281	
2,700.00	3.00	130.00	2,696.20	-62.20	74.12	14,445,043.99	1,703,281.13	39.77544485	-80.77625620	
2,800.00	2.00	130.00	2,796.11	-65.00	77.47	14,445,041.19	1,703,284.47	39.77543713	-80.77624433	
2,900.00	1.00	130.00	2,896.07	-66.68	79.47	14,445,039.51	1,703,286.47	39.77543249	-80.77623721	
3,000.00	0.00	130.00	2,996.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
Begin vertical hold										
3,100.00	0.00	0.00	3,096.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
3,200.00	0.00	130.00	3,196.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
3,300.00	0.00	0.00	3,296.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
3,400.00	0.00	0.00	3,396.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
3,500.00	0.00	0.00	3,496.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
3,600.00	0.00	130.00	3,596.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
3,700.00	0.00	0.00	3,696.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
3,800.00	0.00	0.00	3,796.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
3,900.00	0.00	130.00	3,896.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
4,000.00	0.00	130.00	3,996.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
4,100.00	0.00	0.00	4,096.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
4,200.00	0.00	130.00	4,196.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
4,300.00	0.00	0.00	4,296.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
4,400.00	0.00	130.00	4,396.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
4,500.00	0.00	0.00	4,496.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
4,600.00	0.00	130.00	4,596.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
4,700.00	0.00	0.00	4,696.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
4,800.00	0.00	130.00	4,796.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	
4,900.00	0.00	130.00	4,896.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483	



Planning Report - Geographic

Database: DB_Jul2216dt_v14
 Company: Tug Hill Operating LLC
 Project: Marshall County, West Virginia
 Site: Bryan Pad
 Well: Bryan N-13HU (slot E)
 Wellbore: Original Hole
 Design: rev3

Local Co-ordinate Reference: Well Bryan N-13HU (slot E)
 TVD Reference: GL=1191 @ 1191.00usft
 MD Reference: GL=1191 @ 1191.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,000.00	0.00	0.00	4,996.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
5,100.00	0.00	0.00	5,096.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
5,200.00	0.00	130.00	5,196.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
5,300.00	0.00	0.00	5,296.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
5,400.00	0.00	0.00	5,396.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
5,500.00	0.00	0.00	5,496.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
5,600.00	0.00	130.00	5,596.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
5,700.00	0.00	0.00	5,696.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
5,800.00	0.00	0.00	5,796.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
5,900.00	0.00	130.00	5,896.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
6,000.00	0.00	130.00	5,996.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
6,100.00	0.00	0.00	6,096.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
6,200.00	0.00	130.00	6,196.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
6,300.00	0.00	0.00	6,296.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
6,400.00	0.00	130.00	6,396.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
6,500.00	0.00	0.00	6,496.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
6,600.00	0.00	130.00	6,596.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
6,700.00	0.00	0.00	6,696.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
6,800.00	0.00	130.00	6,796.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
6,900.00	0.00	130.00	6,896.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
7,000.00	0.00	0.00	6,996.07	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
7,003.93	0.00	0.00	7,000.00	-67.24	80.14	14,445,038.94	1,703,287.14	39.77543095	-80.77623483
Begin 2°/100' build									
7,100.00	1.92	96.35	7,096.05	-67.42	81.74	14,445,038.77	1,703,288.74	39.77543045	-80.77622914
7,200.00	3.92	96.35	7,195.91	-67.99	86.81	14,445,038.20	1,703,293.81	39.77542887	-80.77621111
7,300.00	5.92	96.35	7,295.54	-68.93	95.33	14,445,037.25	1,703,302.33	39.77542620	-80.77618078
7,400.00	7.92	96.35	7,394.81	-70.27	107.31	14,445,035.92	1,703,314.31	39.77542246	-80.77613817
7,500.00	9.92	96.35	7,493.59	-71.98	122.72	14,445,034.21	1,703,329.72	39.77541765	-80.77608333
7,600.00	11.92	96.35	7,591.78	-74.08	141.55	14,445,032.11	1,703,348.55	39.77541177	-80.77601633
7,700.00	13.92	96.35	7,689.24	-76.55	163.77	14,445,029.64	1,703,370.77	39.77540482	-80.77593726
7,800.00	15.92	96.35	7,785.86	-79.40	189.36	14,445,026.79	1,703,396.36	39.77539683	-80.77584621
7,900.00	17.92	96.35	7,881.53	-82.61	218.29	14,445,023.58	1,703,425.29	39.77538779	-80.77574328
8,000.00	19.92	96.35	7,976.12	-86.20	250.51	14,445,019.99	1,703,457.52	39.77537773	-80.77562862
8,100.00	21.92	96.35	8,069.52	-90.15	286.00	14,445,016.04	1,703,493.00	39.77536664	-80.77550235
8,200.00	23.92	96.35	8,161.62	-94.45	324.71	14,445,011.74	1,703,531.71	39.77535455	-80.77536463
8,300.00	25.92	96.35	8,252.31	-99.11	366.58	14,445,007.08	1,703,573.59	39.77534146	-80.77521562
8,400.00	27.92	96.35	8,341.46	-104.12	411.58	14,445,002.07	1,703,618.58	39.77532741	-80.77505552
8,500.00	29.92	96.35	8,428.99	-109.46	459.64	14,444,996.72	1,703,666.65	39.77531239	-80.77488451
8,511.27	30.15	96.35	8,438.74	-110.09	465.25	14,444,996.10	1,703,672.25	39.77531064	-80.77486456
Begin 30.15° tangent									
8,600.00	30.15	96.35	8,515.47	-115.02	509.54	14,444,991.17	1,703,716.54	39.77529680	-80.77470698
8,700.00	30.15	96.35	8,601.95	-120.57	559.45	14,444,985.62	1,703,766.45	39.77528121	-80.77452938
8,800.00	30.15	96.35	8,688.42	-126.12	609.37	14,444,980.07	1,703,816.37	39.77526561	-80.77435178
8,900.00	30.15	96.35	8,774.90	-131.67	659.28	14,444,974.52	1,703,866.28	39.77525002	-80.77417418
9,000.00	30.15	96.35	8,861.37	-137.23	709.19	14,444,968.96	1,703,916.20	39.77523442	-80.77399658
9,100.00	30.15	96.35	8,947.84	-142.78	759.11	14,444,963.41	1,703,966.11	39.77521883	-80.77381899
9,200.00	30.15	96.35	9,034.32	-148.33	809.02	14,444,957.86	1,704,016.02	39.77520323	-80.77364139
9,300.00	30.15	96.35	9,120.79	-153.89	858.93	14,444,952.30	1,704,065.94	39.77518763	-80.77346379
9,400.00	30.15	96.35	9,207.27	-159.44	908.85	14,444,946.75	1,704,115.85	39.77517204	-80.77328619
9,500.00	30.15	96.35	9,293.74	-164.99	958.76	14,444,941.20	1,704,165.76	39.77515644	-80.77310859
9,600.00	30.15	96.35	9,380.21	-170.54	1,008.68	14,444,935.65	1,704,215.68	39.77514084	-80.77293100
9,700.00	30.15	96.35	9,466.69	-176.10	1,058.59	14,444,930.09	1,704,265.59	39.77512524	-80.77275340
9,800.00	30.15	96.35	9,553.16	-181.65	1,108.50	14,444,924.54	1,704,315.51	39.77510965	-80.77257580
9,900.00	30.15	96.35	9,639.64	-187.20	1,158.42	14,444,918.99	1,704,365.42	39.77509405	-80.77239820



Planning Report - Geographic

51-02030 Mod

Database: DB_Jul2216dt_v14
 Company: Tug Hill Operating LLC
 Project: Marshall County, West Virginia
 Site: Bryan Pad
 Well: Bryan N-13HU (slot E)
 Wellbore: Original Hole
 Design: rev3

Local Co-ordinate Reference: Well Bryan N-13HU (slot E)
 TVD Reference: GL=1191 @ 1191.00usft
 MD Reference: GL=1191 @ 1191.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,000.00	30.15	96.35	9,726.11	-192.76	1,208.33	14,444,913.43	1,704,415.33	39.77507845	-80.77222060
10,100.00	30.15	96.35	9,812.59	-198.31	1,258.24	14,444,907.88	1,704,465.25	39.77506285	-80.77204301
10,200.00	30.15	96.35	9,899.06	-203.86	1,308.16	14,444,902.33	1,704,515.16	39.77504725	-80.77186541
10,300.00	30.15	96.35	9,985.53	-209.41	1,358.07	14,444,896.78	1,704,565.07	39.77503165	-80.77168781
10,400.00	30.15	96.35	10,072.01	-214.97	1,407.98	14,444,891.22	1,704,614.99	39.77501606	-80.77151021
10,500.00	30.15	96.35	10,158.48	-220.52	1,457.90	14,444,885.67	1,704,664.90	39.77500046	-80.77133262
10,600.00	30.15	96.35	10,244.96	-226.07	1,507.81	14,444,880.12	1,704,714.81	39.77498486	-80.77115502
10,700.00	30.15	96.35	10,331.43	-231.63	1,557.73	14,444,874.56	1,704,764.73	39.77496926	-80.77097742
10,800.00	30.15	96.35	10,417.91	-237.18	1,607.64	14,444,869.01	1,704,814.64	39.77495366	-80.77079982
10,900.00	30.15	96.35	10,504.38	-242.73	1,657.55	14,444,863.46	1,704,864.56	39.77493805	-80.77062223
10,931.48	30.15	96.35	10,531.60	-244.48	1,673.27	14,444,861.71	1,704,880.27	39.77493314	-80.77056632
Begin 10°/100' build/turn									
11,000.00	27.13	83.47	10,591.79	-244.61	1,705.93	14,444,861.58	1,704,912.93	39.77493256	-80.77045008
11,100.00	25.32	61.09	10,681.71	-231.65	1,747.40	14,444,874.54	1,704,954.41	39.77496787	-80.77030234
11,200.00	27.07	38.66	10,771.66	-203.47	1,780.42	14,444,902.72	1,704,987.42	39.77504502	-80.77018457
11,300.00	31.80	20.62	10,858.90	-160.93	1,803.98	14,444,945.26	1,705,010.98	39.77516167	-80.77010034
11,400.00	38.42	7.52	10,940.78	-105.33	1,817.36	14,445,000.86	1,705,024.36	39.77531428	-80.77005221
11,500.00	46.11	357.97	11,014.80	-38.34	1,820.15	14,445,067.85	1,705,027.16	39.77549821	-80.77004165
11,600.00	54.41	350.69	11,078.73	37.98	1,812.28	14,445,144.17	1,705,019.28	39.77570788	-80.77006897
11,700.00	63.06	344.81	11,130.62	121.33	1,793.98	14,445,227.52	1,705,000.98	39.77593691	-80.77013335
11,800.00	71.92	339.78	11,168.89	209.17	1,765.81	14,445,315.36	1,704,972.81	39.77617835	-80.77023282
11,900.00	80.89	335.25	11,192.39	298.84	1,728.61	14,445,405.03	1,704,935.62	39.77642485	-80.77036438
12,000.00	89.92	330.93	11,200.39	387.60	1,683.53	14,445,493.79	1,704,890.54	39.77666893	-80.77052401
12,022.96	92.00	329.95	11,200.00	407.56	1,672.21	14,445,513.75	1,704,879.21	39.77672385	-80.77056413
Begin 92.00° lateral section									
12,100.00	92.00	329.95	11,197.31	474.21	1,633.66	14,445,580.40	1,704,840.66	39.77690714	-80.77070075
12,200.00	92.00	329.95	11,193.82	560.72	1,583.61	14,445,666.90	1,704,790.61	39.77714506	-80.77087808
12,300.00	92.00	329.95	11,190.33	647.22	1,533.57	14,445,753.41	1,704,740.57	39.77738299	-80.77105541
12,400.00	92.00	329.95	11,186.84	733.73	1,483.52	14,445,839.92	1,704,690.52	39.77762091	-80.77123275
12,500.00	92.00	329.95	11,183.35	820.23	1,433.48	14,445,926.42	1,704,640.48	39.77785883	-80.77141008
12,600.00	92.00	329.95	11,179.86	906.74	1,383.43	14,446,012.93	1,704,590.43	39.77809675	-80.77158745
12,700.00	92.00	329.95	11,176.37	993.25	1,333.39	14,446,099.44	1,704,540.39	39.77833467	-80.77176475
12,800.00	92.00	329.95	11,172.88	1,079.75	1,283.34	14,446,185.94	1,704,490.35	39.77857259	-80.77194209
12,900.00	92.00	329.95	11,169.39	1,166.26	1,233.30	14,446,272.45	1,704,440.30	39.77881051	-80.77211943
13,000.00	92.00	329.95	11,165.90	1,252.77	1,183.25	14,446,358.96	1,704,390.26	39.77904843	-80.77229677
13,100.00	92.00	329.95	11,162.41	1,339.27	1,133.21	14,446,445.46	1,704,340.21	39.77928635	-80.77247411
13,200.00	92.00	329.95	11,158.92	1,425.78	1,083.16	14,446,531.97	1,704,290.17	39.77952427	-80.77265146
13,300.00	92.00	329.95	11,155.43	1,512.29	1,033.12	14,446,618.47	1,704,240.12	39.77976219	-80.77282880
13,400.00	92.00	329.95	11,151.94	1,598.79	983.07	14,446,704.98	1,704,190.08	39.78000011	-80.77300615
13,500.00	92.00	329.95	11,148.45	1,685.30	933.03	14,446,791.49	1,704,140.03	39.78023803	-80.77318350
13,600.00	92.00	329.95	11,144.96	1,771.80	882.99	14,446,877.99	1,704,089.99	39.78047594	-80.77336084
13,700.00	92.00	329.95	11,141.47	1,858.31	832.94	14,446,964.50	1,704,039.94	39.78071386	-80.77353819
13,800.00	92.00	329.95	11,137.98	1,944.82	782.90	14,447,051.01	1,703,989.90	39.78095178	-80.77371554
13,900.00	92.00	329.95	11,134.49	2,031.32	732.85	14,447,137.51	1,703,939.85	39.78118970	-80.77389290
14,000.00	92.00	329.95	11,131.00	2,117.83	682.81	14,447,224.02	1,703,889.81	39.78142761	-80.77407025
14,100.00	92.00	329.95	11,127.51	2,204.34	632.76	14,447,310.53	1,703,839.76	39.78166553	-80.77424760
14,200.00	92.00	329.95	11,124.02	2,290.84	582.72	14,447,397.03	1,703,789.72	39.78190345	-80.77442496
14,300.00	92.00	329.95	11,120.53	2,377.35	532.67	14,447,483.54	1,703,739.67	39.78214136	-80.77460231
14,400.00	92.00	329.95	11,117.04	2,463.86	482.63	14,447,570.04	1,703,689.63	39.78237928	-80.77477967
14,500.00	92.00	329.95	11,113.55	2,550.36	432.58	14,447,656.55	1,703,639.59	39.78261720	-80.77495703
14,600.00	92.00	329.95	11,110.06	2,636.87	382.54	14,447,743.06	1,703,589.54	39.78285511	-80.77513439
14,700.00	92.00	329.95	11,106.57	2,723.37	332.49	14,447,829.56	1,703,539.50	39.78309303	-80.77531175
14,800.00	92.00	329.95	11,103.08	2,809.88	282.45	14,447,916.07	1,703,489.45	39.78333094	-80.77548912
14,900.00	92.00	329.95	11,099.59	2,896.39	232.40	14,448,002.58	1,703,439.41	39.78356886	-80.77566648



Planning Report - Geographic

51-02030 MOD

Database: DB_Jul2216dt_v14
 Company: Tug Hill Operating LLC
 Project: Marshall County, West Virginia
 Site: Bryan Pad
 Well: Bryan N-13HU (slot E)
 Wellbore: Original Hole
 Design: rev3

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

Well Bryan N-13HU (slot E)
 GL=1191 @ 1191.00usft
 GL=1191 @ 1191.00usft
 Grid
 Minimum Curvature

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

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	329.95	10,904.15	7,740.74	-2,570.10	14,452,846.93	1,700,636.90	39.79689164	-80.78560081
20,600.00	92.00	329.95	10,900.66	7,827.25	-2,620.14	14,452,933.44	1,700,586.86	39.79712953	-80.78577825
20,700.00	92.00	329.95	10,897.17	7,913.75	-2,670.19	14,453,019.94	1,700,536.81	39.79736743	-80.78595568
20,800.00	92.00	329.95	10,893.68	8,000.26	-2,720.23	14,453,106.45	1,700,486.77	39.79760533	-80.78613312
20,900.00	92.00	329.95	10,890.19	8,086.77	-2,770.28	14,453,192.96	1,700,436.72	39.79784323	-80.78631055
21,000.00	92.00	329.95	10,886.70	8,173.27	-2,820.32	14,453,279.46	1,700,386.68	39.79808113	-80.78648799
21,100.00	92.00	329.95	10,883.21	8,259.78	-2,870.37	14,453,365.97	1,700,336.63	39.79831902	-80.78666543
21,200.00	92.00	329.95	10,879.72	8,346.29	-2,920.41	14,453,452.48	1,700,286.59	39.79855692	-80.78684287
21,300.00	92.00	329.95	10,876.23	8,432.79	-2,970.46	14,453,538.98	1,700,236.54	39.79879482	-80.78702031
21,400.00	92.00	329.95	10,872.74	8,519.30	-3,020.50	14,453,625.49	1,700,186.50	39.79903272	-80.78719776
21,500.00	92.00	329.95	10,869.25	8,605.81	-3,070.55	14,453,711.99	1,700,136.46	39.79927061	-80.78737520
21,600.00	92.00	329.95	10,865.76	8,692.31	-3,120.59	14,453,798.50	1,700,086.41	39.79950851	-80.78755265
21,700.00	92.00	329.95	10,862.27	8,778.82	-3,170.64	14,453,885.01	1,700,036.37	39.79974640	-80.78773010
21,800.00	92.00	329.95	10,858.78	8,865.32	-3,220.68	14,453,971.51	1,699,986.32	39.79998430	-80.78790754
21,900.00	92.00	329.95	10,855.29	8,951.83	-3,270.73	14,454,058.02	1,699,936.28	39.80022219	-80.78808499
22,000.00	92.00	329.95	10,851.80	9,038.34	-3,320.77	14,454,144.53	1,699,886.23	39.80046009	-80.78826244
22,100.00	92.00	329.95	10,848.31	9,124.84	-3,370.82	14,454,231.03	1,699,836.19	39.80069798	-80.78843990
22,200.00	92.00	329.95	10,844.82	9,211.35	-3,420.86	14,454,317.54	1,699,786.14	39.80093588	-80.78861735
22,300.00	92.00	329.95	10,841.33	9,297.86	-3,470.91	14,454,404.05	1,699,736.10	39.80117377	-80.78879480
22,400.00	92.00	329.95	10,837.84	9,384.36	-3,520.95	14,454,490.55	1,699,686.05	39.80141167	-80.78897226
22,500.00	92.00	329.95	10,834.35	9,470.87	-3,570.99	14,454,577.06	1,699,636.01	39.80164956	-80.78914971
22,600.00	92.00	329.95	10,830.86	9,557.38	-3,621.04	14,454,663.56	1,699,585.96	39.80188745	-80.78932717
22,700.00	92.00	329.95	10,827.37	9,643.88	-3,671.08	14,454,750.07	1,699,535.92	39.80212535	-80.78950463
22,800.00	92.00	329.95	10,823.88	9,730.39	-3,721.13	14,454,836.58	1,699,485.87	39.80236324	-80.78968209
22,900.00	92.00	329.95	10,820.39	9,816.89	-3,771.17	14,454,923.08	1,699,435.83	39.80260113	-80.78985955
23,000.00	92.00	329.95	10,816.90	9,903.40	-3,821.22	14,455,009.59	1,699,385.78	39.80283902	-80.79003702
23,100.00	92.00	329.95	10,813.41	9,989.91	-3,871.26	14,455,096.10	1,699,335.74	39.80307692	-80.79021448
23,200.00	92.00	329.95	10,809.92	10,076.41	-3,921.31	14,455,182.60	1,699,285.70	39.80331481	-80.79039195
23,300.00	92.00	329.95	10,806.43	10,162.92	-3,971.35	14,455,269.11	1,699,235.65	39.80355270	-80.79056941
23,340.90	92.00	329.95	10,805.00	10,198.30	-3,991.82	14,455,304.49	1,699,215.18	39.80365000	-80.79064200

PBHL/TD 23340.90 MD/10805.00 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-13HU r3 - hit/miss target - Shape - Point	0.00	0.01	10,805.00	10,198.30	-3,991.82	14,455,304.49	1,699,215.18	39.80365000	-80.79064200
LP Bryan N-13HU - plan hits target center - Point	0.00	0.00	11,200.00	407.56	1,672.21	14,445,513.75	1,704,879.21	39.77672384	-80.77056413



Planning Report - Geographic

51-02030 MON

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Bryan N-13HU (slot E)
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-13HU (slot E)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,300.00	1,300.00	0.00	0.00	KOP Begin 1°/100' build
1,800.00	1,799.37	-14.01	16.70	Begin 5.00° tangent
2,500.00	2,496.70	-53.23	63.44	Begin 1°/100' drop
3,000.00	2,996.07	-67.24	80.14	Begin vertical hold
7,003.93	7,000.00	-67.24	80.14	Begin 2°/100' build
8,511.27	8,438.74	-110.09	465.25	Begin 30.15° tangent
10,931.48	10,531.60	-244.48	1,673.27	Begin 10°/100' build/turn
12,022.96	11,200.00	407.56	1,672.21	Begin 92.00° lateral section
23,340.90	10,805.00	10,198.30	-3,991.82	PBHL/TD 23340.90 MD/10805.00 TVD

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

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

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

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

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

*See attached pages

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

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

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

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

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

Well Operator: Tug Hill Operating, LLC

By: Amy L. Miller *Amy Miller*

Its: Permitting Specialist - Appalachia Region

51-02030 Mex

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	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*19294	B	5-16-23	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*19294	C	5-16-23.4	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*19146	D	5-16-23.1	RAY E MINOR CATHY L MINOR	TRIENERGY HOLDINGS, LLC	1/8+	706	293	24/180 TriEnergy Holdings, LLC, to NPAR, LLC	24/466 AB Resources LLC and NPAR, 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.	756/332 NPAR, LLC to Chevron USA Inc	28/356 TriEnergy Holdings, LLC and TriEnergy, Inc to Chevron USA Inc	35/470 WPP LLC to KRP Marcellus I, LLC, Rivercrest Royalties II, LLC, Diversified Rox Minerals, LLC, BRD Royalty Holdings, LLC and Amon G Carter Foundation	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19340	E	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	F	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	G	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	G	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	G	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	G	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	G	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	G	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

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

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19300	G	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19301	G	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19302	G	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19303	G	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19304	G	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19305	G	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19306	G	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19307	G	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19308	G	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19293	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19295	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19296	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19297	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19298	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19299	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19300	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19301	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC

N/A RECEIVED
 Office of Oil and Gas

SEP 18 2018

Oil Department
 Energy

15-02030-15

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19302	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19303	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19304	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19305	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19306	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19307	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19308	H	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	N/A	40/57 Chevron USA Inc to TH Exploration LLC
10*19017	I	5-10-15	PAUL A RINE AND DEBRA A RINE	CHEVRON USA INC	1/8+	796	24	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
10*19293	J	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	K	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	L	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*18972	M	5-11-13	MARGARET CLICKNER	TH EXPLORATION LLC	1/8+	941	281	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA
10*19224	M	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	M	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	M	5-11-13	THOMAS RAY GATTS	TRIENERGY, 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
10*19227	M	5-11-13	CONNIE KRESS KNAPP	GASTAR EXPLORATION USA INC	1/8+	734	451	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*19228	M	5-11-13	CAROLE J LAMBERT	GASTAR EXPLORATION USA INC	1/8+	737	225	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

RECEIVED
Office of Oil and Gas

SEP 18 2018

WV Department of
Environmental Protection

41-02030-1000

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
10*19229	M	5-11-13	PATRICIA A LAMBERT	GASTAR EXPLORATION USA INC	1/8+	731	158	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*19230	M	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	M	5-11-13	DALE F RADCLIFF	GASTAR EXPLORATION USA INC	1/8+	734	462	NA	NA	NA	NA	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	M	5-11-13	SANDRA J STOWE HARMON	GASTAR EXPLORATION USA INC	1/8+	731	149	NA	NA	NA	NA	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	M	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	M	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	M	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	M	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	M	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	M	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	M	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	M	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	M	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	M	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	M	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	M	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
***	M	5-11-13	EVA PATTERSON	*** UNLEASED				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

RECEIVED
Office of Oil and Gas

SEP 18 2018

WV Department of
Environmental Protection

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
10*19336	N	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	N	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*19141	O	5-11-11.1	ROBERT W SPENCER JR NELLIE MARIE SPENCER	GASTAR EXPLORATION USA INC	1/8+	706	468	N/A	23/353 Gastar Exploration USA Inc to Atinum Marcellus I LLC	23/624 Gastar Exploration USA and Atinum Marcellus I LLC to AB Resources	24/1 AB Resources LLC, Chief Exploration & Development LLC, Radler 2000 Limited Partnership, Enerplus Resources Corp to TriEnergy Holdings LLC	25/105 Chief Exploration & Development, LLC, Chief Oil & 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	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19336	P	5-11-11.4	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	Q	5-11-11	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*14099	R	5-11-9	SOUTHERN COUNTRY FARMS INC	GASTAR EXPLORATION USA INC	1/8+	666	489	N/A	N/A	N/A	N/A	N/A	23/353 Gastar Exploration USA Inc. to Atinum Marcellus I LLC	32/362 Gastar Exploration USA Inc tnd Atinum Marcellus I LLC to Chevron USA Inc	40/127 Chevron USA Inc to TH Exploration LLC
10*19158	S	5-11-9.9	LEONARD PARSONS CONNIE R PARSONS	GASTAR EXPLORATION USA INC	1/8+	705	125	N/A	N/A	N/A	N/A	N/A	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*14099	T	5-11-9.6	SOUTHERN COUNTRY FARMS INC	GASTAR EXPLORATION USA INC	1/8+	666	489	N/A	N/A	N/A	N/A	N/A	23/353 Gastar Exploration USA Inc. to Atinum Marcellus I LLC	32/362 Gastar Exploration USA Inc tnd Atinum Marcellus I LLC to Chevron USA Inc	40/127 Chevron USA Inc to TH Exploration LLC
10*14099	U	5-11-9.5	SOUTHERN COUNTRY FARMS INC	GASTAR EXPLORATION USA INC	1/8+	666	489	N/A	N/A	N/A	N/A	N/A	23/353 Gastar Exploration USA Inc. to Atinum Marcellus I LLC	32/362 Gastar Exploration USA Inc tnd Atinum Marcellus I LLC to Chevron USA Inc	40/127 Chevron USA Inc to TH Exploration LLC
10*18339	V	5-11-9.3	RESOURCE MINERALS HEADWATER I, LP	TH EXPLORATION LLC	1/8+	940	448	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19139	W	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
10*19178	W	5-11-16	JOSEPH HAUGHT	GASTAR EXPLORATION USA INC	1/8+	710	69	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	W	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	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	W	5-11-16	STEVEN HAUGHT	GASTAR EXPLORATION USA, INC	1/8+	710	67	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*19139	X	5-11-16.2	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*19139	Y	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

RECEIVED
Office of Oil and Gas

SEP 18 2018

WV Department of Environmental Protection

51-02030 MOD

51-02030 WY

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
Q079728000	Z	5-11-5.1	JAMES R AND MELODY A ANDERSON	NOBLE ENERGY INC	1/8+	812	31	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	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC
10*19139	AA	5-11-16.1	HIRAM V MOORE	GASTAR EXPLORATION USA INC	1/8+	699	53	N/A	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*19170	AA	5-11-16.1	SUSAN MARIE SMITH NKA SUSAN MARIE HAMNER	GASTAR EXPLORATION USA INC	1/8+	706	583	N/A	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*19126	BB	5-11-5	KEVIN R. CORLEY AND ANITA L. CORLEY, HUSBAND AND WIFE	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
10*19176	BB	5-11-5	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	BB	5-11-5	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	BB	5-11-5	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	BB	5-11-5	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	BB	5-11-5	SHERRY 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	BB	5-11-5	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	BB	5-11-5	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	BB	5-11-5	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	BB	5-11-5	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	BB	5-11-5	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	BB	5-11-5	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	BB	5-11-5	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	BB	5-11-5	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

RECEIVED
Office of Oil and Gas

SEP 18 2018

WV Department
Environment

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19251	BB	5-11-5	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	BB	5-11-5	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	BB	5-11-5	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	BB	5-11-5	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	BB	5-11-5	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
10*18946	CC	5-11-25	OWEN MICHAEL BARR AND TARA C BARR	TH EXPLORATION LLC	1/8+	939	388	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19176	CC	5-11-25	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	CC	5-11-25	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	CC	5-11-25	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	CC	5-11-25	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	CC	5-11-25	SHERRY 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	CC	5-11-25	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	CC	5-11-25	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	CC	5-11-25	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	CC	5-11-25	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	CC	5-11-25	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	CC	5-11-25	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

51-02020400

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19204	CC	5-11-25	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	CC	5-11-25	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	CC	5-11-25	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	CC	5-11-25	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	CC	5-11-25	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	CC	5-11-25	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	CC	5-11-25	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
10*18946	DD	5-11-23	OWEN MICHAEL BARR AND TARA C BARR	TH EXPLORATION LLC	1/8+	939	388	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19176	DD	5-11-23	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	DD	5-11-23	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	DD	5-11-23	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	DD	5-11-23	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	DD	5-11-23	SHERRY 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	DD	5-11-23	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	DD	5-11-23	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	DD	5-11-23	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	DD	5-11-23	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

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

51-0 2030409

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19202	DD	5-11-23	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	DD	5-11-23	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	DD	5-11-23	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	DD	5-11-23	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	DD	5-11-23	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	DD	5-11-23	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	DD	5-11-23	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	DD	5-11-23	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	DD	5-11-23	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*19176	EE	5-11-24	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	EE	5-11-24	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	EE	5-11-24	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	EE	5-11-24	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	EE	5-11-24	SHERRY 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	EE	5-11-24	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	EE	5-11-24	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	EE	5-11-24	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

51-02030 MOD

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

51-62030401

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19201	EE	5-11-24	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	EE	5-11-24	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	EE	5-11-24	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	EE	5-11-24	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	EE	5-11-24	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	EE	5-11-24	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	EE	5-11-24	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	EE	5-11-24	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	EE	5-11-24	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	EE	5-11-24	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*23037	EE	5-11-24	CHARLES E FURBEE	TH EXPLORATION, LLC	1/8+	977	380	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19177	FF	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	FF	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	FF	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	FF	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	FF	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	FF	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

RECEIVED
Office of Oil and Gas

SEP 18 2018

WV Department of
Environmental Protection

51-052030-000

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19192	FF	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	FF	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	FF	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	FF	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	FF	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	FF	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	FF	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	FF	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	FF	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	FF	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	FF	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	GG	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
10*19176	GG	5-11-17	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	GG	5-11-17	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	GG	5-11-17	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	GG	5-11-17	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	GG	5-11-17	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

RECEIVED
Office of Oil and Gas

SEP 18 2018

WV Department of
Environmental Protection

51-02030401

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19190	GG	5-11-17	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	GG	5-11-17	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	GG	5-11-17	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	GG	5-11-17	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	GG	5-11-17	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	GG	5-11-17	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	GG	5-11-17	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	GG	5-11-17	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	GG	5-11-17	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	GG	5-11-17	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	GG	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	N/A
10*19893	GG	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	N/A
10*21041	GG	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	N/A
10*18945	HH	5-11-17.1	DAVID E GRAY	TH EXPLORATION LLC	1/8+	939	386	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19176	HH	5-11-17.1	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	HH	5-11-17.1	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	HH	5-11-17.1	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

51-02030 Mod

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19186	HH	5-11-17.1	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	HH	5-11-17.1	SHERRY 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	HH	5-11-17.1	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	HH	5-11-17.1	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	HH	5-11-17.1	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	HH	5-11-17.1	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	HH	5-11-17.1	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	HH	5-11-17.1	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	HH	5-11-17.1	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	HH	5-11-17.1	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	HH	5-11-17.1	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	HH	5-11-17.1	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	HH	5-11-17.1	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	HH	5-11-17.1	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	HH	5-11-17.1	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*18945	II	5-11-22	DAVID E GRAY	TH EXPLORATION LLC	1/8+	939	386	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19176	II	5-11-22	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

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

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19177	II	5-11-22	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	II	5-11-22	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	II	5-11-22	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	II	5-11-22	SHERRY 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	II	5-11-22	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	II	5-11-22	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	II	5-11-22	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	II	5-11-22	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	II	5-11-22	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	II	5-11-22	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	II	5-11-22	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	II	5-11-22	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	II	5-11-22	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	II	5-11-22	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	II	5-11-22	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	II	5-11-22	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	II	5-11-22	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

RECEIVED
Office of Oil and Gas

SEP 18 2018

WV Department of
Environmental Protection

51-02030-000

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19893	JJ	5-11-18	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	JJ	5-11-18	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	
10*19176	KK	5-11-19	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	KK	5-11-19	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	KK	5-11-19	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	KK	5-11-19	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*19187	KK	5-11-19	DAVID E GRAY	GASTAR EXPLORATION USA INC	1/8+	710	610	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	KK	5-11-19	SHERRY 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	KK	5-11-19	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	KK	5-11-19	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	KK	5-11-19	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	KK	5-11-19	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	KK	5-11-19	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	KK	5-11-19	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	KK	5-11-19	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	KK	5-11-19	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	KK	5-11-19	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

RECEIVED
Office of Oil and Gas

SEP 18 2018

WV Department of
Environmental Protection

151-02020

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19252	KK	5-11-19	JOHN WILSON	GASTAR EXPLORATION USA INC	1/8+	749	522	N/A	N/A	N/A	N/A	N/A	N/A	26/639 Gatar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gatar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19502	KK	5-11-19	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	KK	5-11-19	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	KK	5-11-19	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*18722	LL	5-11-20	HIRAMS ESTATE FAMILY LIMITED LIABILITY LIMITED PARTNERSHIP	TH EXPLORATION LLC	1/8+	938	523	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19176	LL	5-11-20	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 Gatar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gatar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19177	LL	5-11-20	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 Gatar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gatar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19185	LL	5-11-20	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 Gatar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gatar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19186	LL	5-11-20	JOEL GLOVER	GASTAR EXPLORATION USA INC	1/8+	710	600	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gatar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gatar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19187	LL	5-11-20	DAVID E GRAY	GASTAR EXPLORATION USA INC	1/8+	710	610	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gatar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gatar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19189	LL	5-11-20	SHERRY ANN MCPHERON	GASTAR EXPLORATION USA INC	1/8+	710	606	N/A	N/A	N/A	N/A	N/A	N/A	735/263 Gatar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gatar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19190	LL	5-11-20	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 Gatar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gatar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19191	LL	5-11-20	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 Gatar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gatar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19192	LL	5-11-20	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 Gatar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gatar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19201	LL	5-11-20	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 Gatar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gatar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19202	LL	5-11-20	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 Gatar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gatar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19203	LL	5-11-20	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 Gatar Exploration USA, Inc to Atinum Marcellus I LLC	32/362 Gatar Exploration Inc. and Atinum Marcellus I LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC

RECEIVED
Office of Oil and Gas

SEP 18 2018

WV Department of
Environmental Protection

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment		
10*19204	LL	5-11-20	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	LL	5-11-20	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	LL	5-11-20	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	LL	5-11-20	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	LL	5-11-20	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	LL	5-11-20	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	LL	5-11-20	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	
Q088586011	MM	5-11-21	KAREN SUE CLYDE REED	NOBLE ENERGY, INC	1/8+	864	190	N/A	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	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC
Q088586003	MM	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	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
Q088586010	MM	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	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
Q088586002	MM	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	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
Q088586005	MM	5-11-21	SHIRLEY YATES AND FREDDIE LEE HARTSELL	NOBLE ENERGY, INC	1/8+	848	212	N/A	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	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC
Q088586004	MM	5-11-21	BOYD DAIL JR AND MARLA YATES	NOBLE ENERGY, INC	1/8+	848	210	N/A	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	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC
Q088586001	MM	5-11-21	GUY YATES	NOBLE ENERGY, INC	1/8+	848	206	N/A	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	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC
Q088586007	MM	5-11-21	REBEKAH DRAYER AND CHRISTOPHER ELDRIDGE	NOBLE ENERGY, INC	1/8+	850	157	N/A	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	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC
Q088586008	MM	5-11-21	BOYD BUESKING	NOBLE ENERGY, INC	1/8+	850	159	N/A	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	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC
Q088586009	MM	5-11-21	CHRISTA DRAYER AND JOSHUA STALEY	NOBLE ENERGY, INC	1/8+	851	3	N/A	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	962/488 HG Energy II Appalachia, LLC to TH Exploration, LLC

51-02030 1407

RECEIVED
Office of Oil and Gas

SEP 18 2018

WV Department of
Environmental Protection

51-02030409

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
10*19176	NN	5-11-5.2	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	NN	5-11-5.2	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	NN	5-11-5.2	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	NN	5-11-5.2	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	NN	5-11-5.2	SHERRY 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	NN	5-11-5.2	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	NN	5-11-5.2	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	NN	5-11-5.2	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	NN	5-11-5.2	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	NN	5-11-5.2	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	NN	5-11-5.2	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	NN	5-11-5.2	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	NN	5-11-5.2	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	NN	5-11-5.2	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	NN	5-11-5.2	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	NN	5-11-5.2	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	NN	5-11-5.2	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

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

51-02030 MOD

Lease No.	Tags	Parcel	Lessor	Lessee	Royalty	Book	Pg	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
10*21041	NN	5-11-5.2	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
10*21224	NN	5-11-5.2	RICKEY LYNN CROSS & VICTORIA ROSE CROSS	TH EXPLORATION LLC	1/8+	939	589	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*18722	OO	5-11-3	HIRAMS ESTATE FAMILY LIMITED LIABILITY LIMITED PARTNERSHIP	TH EXPLORATION LLC	1/8+	938	523	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19126	OO	5-11-3	KEVIN R. CORLEY AND ANITA L. CORLEY, HUSBAND AND WIFE	CHEVRON USA INC	1/8+	859	47	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	PP	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*19127	QQ	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	RR	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	RR	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	RR	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*47051.089.0	SS	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*19167	TT	5-11-1.2	JAY A CONNER PATTY LOUISE CONNER	CHESAPEAKE APPALACHIA LLC	1/8+	724	156	N/A	N/A	N/A	N/A	N/A	NA	30/392 Chesapeake Appalachia, LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*19219	UU	5-8-9.1	SCOTT E AND TAMMY SUE JACKSON	TRIENERGY HOLDINGS, LLC	1/8+	731	102	N/A	N/A	N/A	N/A	N/A	25/449 TriEnergy Holdings LLC to NPAR, LLC	756/332 NPAR, LLC to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC
10*47051.105.0	VV	5-8-9	JAMES B JACKSON JR AND MARION L JACKSON	TH EXPLORATION LLC	1/8+	859	478	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19168	WW	5-11-1.5	PAUL AND SANDY WHITT	CHESAPEAKE APPALACHIA LLC	1/8+	715	565	N/A	N/A	N/A	N/A	N/A	N/A	30/392 Chesapeake Appalachia, LLC, to Chevron USA Inc	40/127 Chevron USA Inc to TH Exploration, LLC
10*19167	XX	5-11-1.3	JAY A CONNER PATTY LOUISE CONNER	CHESAPEAKE APPALACHIA LLC	1/8+	724	156	N/A	N/A	N/A	N/A	N/A	N/A	30/392 Chesapeake Appalachia, LLC, to Chevron USA Inc	40/127 Chevron USA Inc. to TH Exploration, LLC

*** Force pool interest

RECEIVED
Office of Oil
SEP 18 2010
WV Department of
Environmental Protection

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

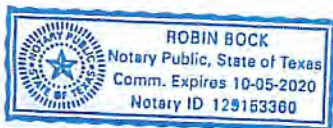
Jan Pest
MARSHALL County 03:44:28 PM
Instrument No 1416299
Date Recorded 10/19/2016
Document Type HIS
Pages Recorded 1
Book-Page 28-62
Recording Fee \$5.00
Additional \$6.00

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



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

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.

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

SI-02030 MOD
05/10/2019

MICHAEL MURAN
BRIGHTON RESOURCES
8851 ELLSWORTH AVENUE, 11
PITTSBURGH PA 15232-1707

BOOK 040 PAGE 0127

STATE OF WEST VIRGINIA §
§
COUNTY OF MARSHALL §

Marshall County
Jan Pest, Clerk
Instrument 1428356
08/16/2017 @ 12:08:49 PM
ASSIGNMENTS
Book 40 of 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

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

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.

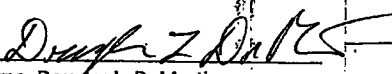
PARTIES AND AGREEMENT REFERENCE: THQ and HG entered into a letter agreement ("Letter Agreement") dated February 26, 2018 (the "Commencement Date") outlining pursuit of definitive agreements to allow THQ the right to permit, drill, extract, produce and market oil and gas from those certain oil and gas 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.

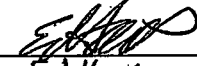
2. **MEMORANDUM FOR RECORDING PURPOSES ONLY:** This Memorandum is for recording purposes only and does not supplement or supersede the parties' respective rights set forth in the Letter Agreement or other agreements.

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

Tug Hill Operating, LLC

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

HG Energy II Appalachia, LLC

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
03/12/2018 @ 03:12:57 PM
AGREEMENT
Book 962 @ Page 488
Pages Recorded 3
Recording Cost \$ 11.00

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