



west virginia department of environmental protection

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

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

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

TUG HILL OPERATING, LLC
380 SOUTHPOINTE BLVD

CANONSBURG, PA 15317

Re: Permit Modification Approval for OLD CROW N-18HU
47-051-02123-00-00

Modified Lateral with Deep Well Approval

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 circular embossed seal.

James A. Martin
Chief

Operator's Well Number: OLD CROW N-18HU
Farm Name: DONNA VIVIAN YOHO (TOD) GARY LANCE YOHO
U.S. WELL NUMBER: 47-051-02123-00-00
Horizontal 6A New Drill
Date Modification Issued: August 6, 2019

Promoting a healthy environment.



west virginia department of environmental protection

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

Barry K. Lay, Chairman
dep.wv.gov

July 10, 2019

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

RE: Application for Deep Well Permit – API #47-051-02123

COMPANY: Tug Hill Operating, LLC

FARM: Donna Vivian Yoho (TOD) Gary Lance Yoho Old Crow N-18HU

COUNTY: Marshall DISTRICT: Franklin QUAD: Powhatan Point

The deep well review of the application for the above company is Approved to drill to Trenton for Point Pleasant completion. Pooling Docket No. 282-258

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

1. Comments to Notice of Deviation filed? No
2. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners? Yes
3. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells: **yes; Docket 282-258 Exception Location Hearing
4. Provided a plat showing that the proposed location is a distance of 400+ feet from the nearest lease line or unit boundary except at the toe which is 10 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.

** Old Crow N-17HU 47-051-02122; Old Crow N-19HU 47-051-02190; Old Crow N-20HU 47-051-02191; Bryan N-14HU 47-051-02031; Bryan N-13HU 47-051-02030; Bryan N-12HU 47-051-02029; Woodford-10HU 47-051-02152; Michter N-6HU 47-051-02206; Michter N-7HU 47-051-02207; MND 6 HHS 47-051-01732; MND20AU 47-051-02011; MND20BU 47-051-02012; MND20CU 47-051-02013; MND20DU 47-051-02014; Corley N-9HU 47-051-01983; Corley N-10HU 47-051-01998

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 7
Operator ID County District Quadrangle

2) Operator's Well Number: Old Crow N-18HU Well Pad Name: Old Crow

3) Farm Name/Surface Owner: Donna Vivian Yoho (TOD) Gary Lance Yoho Public Road Access: Rines Ridge Road (County Route 76)

4) Elevation, current ground: 1265' Elevation, proposed post-construction: 1265'

5) Well Type (a) Gas Oil Underground Storage

Other: _____

(b) If Gas Shallow Deep

Horizontal

6) Existing Pad: Yes or No Yes

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5/14/19

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

Point Pleasant is the target formation at a depth of 11,381' - 11,259' - thickness of 122' and anticipated pressure of approx. 9530 psi.

8) Proposed Total Vertical Depth: 11,531'

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 25,091'

11) Proposed Horizontal Leg Length: 13,145.37'

12) Approximate Fresh Water Strata Depths: 70' ; 886'

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: 2,167'

15) Approximate Coal Seam Depths: Sewickley Coal - 788' ; Pittsburgh Coal - 880'

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

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

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

WW-6B
(04/15)

API NO. 47-051 - 02123 *mod*
 OPERATOR WELL NO. Old Crow N-18HU
 Well Pad Name: Old Crow

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5/14/19

18) CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	30"	NEW	BW	BW	120'	120'	259FT^3(CTS)
Fresh Water	20"	NEW	J55	106.5#	986'	986'	1,592FT^3(CTS)
Coal	13 3/8"	NEW	J55	54.5#	2803'	2803'	1,976FT^3(CTS)
Intermediate	9 5/8"	NEW	HPP110	47#	10,373'	10,373'	3,388FT^3(CTS)
Production	5 1/2"	NEW	P110	23#	25,091'	25,091'	5,821FT^3(CTS)
Tubing	2 7/8"	NEW	P110	6.5#		11,480'	
Liners							

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	30"	36"	1.0	2,333	1,866	CLASS A	1.2
Fresh Water	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	16,510	10,864	SEE #24	1.18
Tubing	2 7/8"			11,385	11,624		
Liners							

PACKERS

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

WW-6B
(10/14)

API NO. 47-051 - 02123 MOD
OPERATOR WELL NO. Old Crow N-18HU
Well Pad Name: Old Crow

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2/14/19

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 32,857,500 lb proppant and 508,001' bbl of water. Max rate = 80 bpm; max psi = 12,000#.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 19.18 acres

22) Area to be disturbed for well pad only, less access road (acres): 6.64 acres

23) Describe centralizer placement for each casing string:

Will run 3 centralizers on surface casing at equal distance. Intermediate will have 1 centralizer every 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

25) Proposed borehole conditioning procedures:

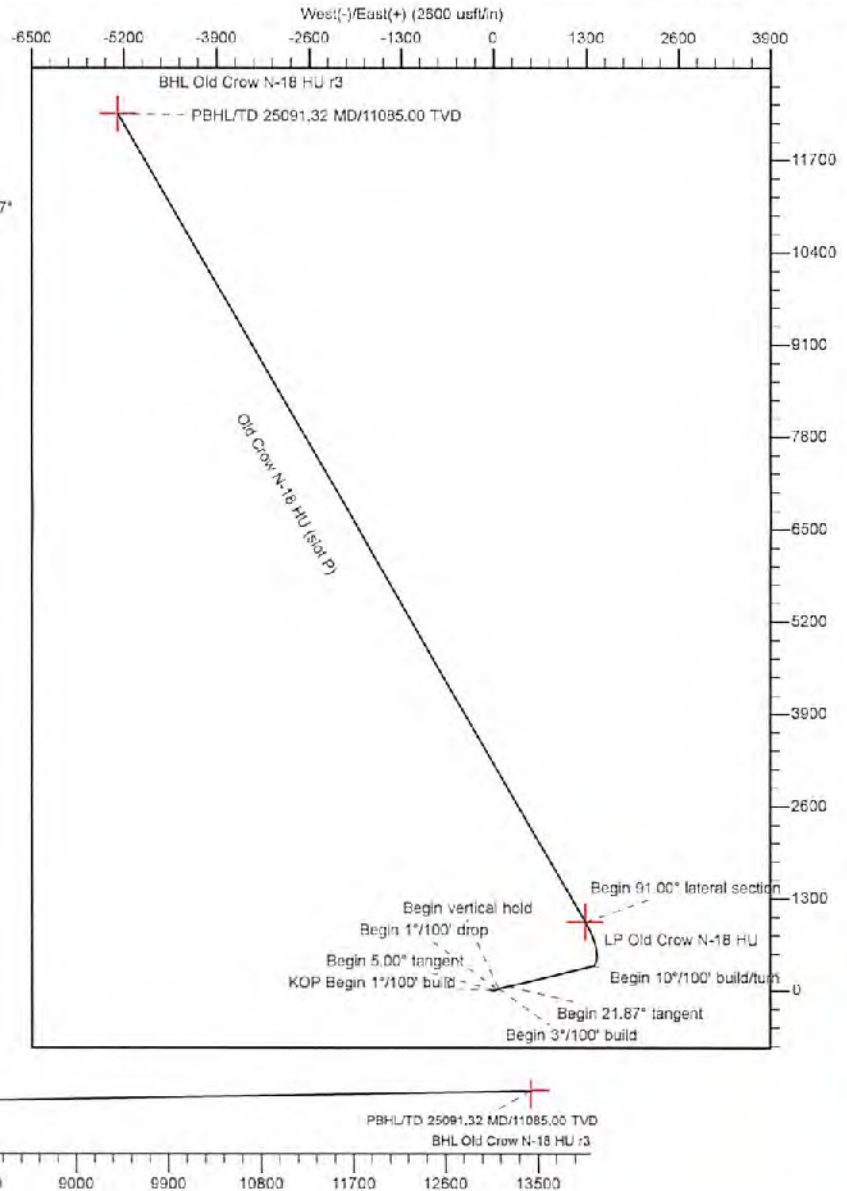
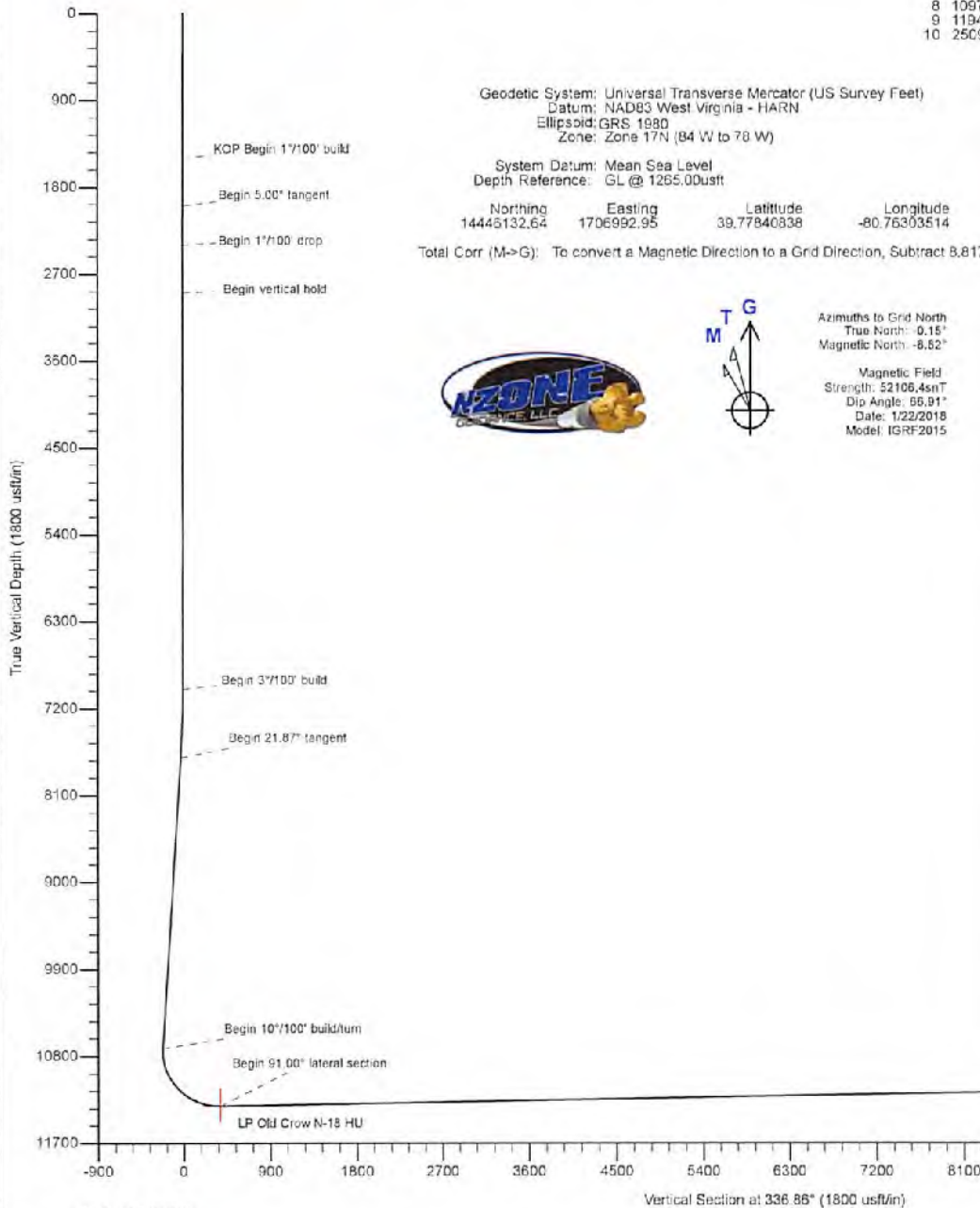
Will circulate a minimum of 3 hours at TD, short trip to curve, circulate bottoms up, check for flow, POOH

*Note: Attach additional sheets as needed.



Well: Old Crow N-18 HU (slot P)
 Site: Old Crow Pad
 Project: Marshall County, West Virginia.
 Design: rev3

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 1 1/2" build
3	2000.00	5.00	70.00	1999.37	7.46	20.49	1.00	70.000	-1.20	Begin 5.00" tangent
4	2400.00	5.00	70.00	2397.84	19.36	53.25	0.00	0.000	-3.11	Begin 1 1/2" drop
5	2900.00	0.00	70.00	2697.21	26.84	73.74	1.00	180.000	-4.30	Begin vertical hold
6	7002.79	0.00	70.00	7000.00	26.84	73.74	0.00	70.000	-4.30	Begin 3 1/2" build
7	7731.75	21.87	76.07	7711.39	59.93	207.13	3.00	76.068	-26.31	Begin 21.87" tangent
8	10979.94	21.87	76.07	10725.84	351.23	1361.43	0.00	0.000	-220.02	Begin 10 1/2" build/turn
9	11948.43	91.00	330.00	11314.00	968.43	1262.02	10.00	-104.605	382.54	Begin 91.00" lateral section
10	25091.32	91.00	330.00	11085.00	12348.67	-5278.62	0.00	0.000	13429.57	PBHL/TD 25091.32 MD/11085.00 TVD



101W 3e120-18

SI-02123
Nov



Planning Report - Geographic



Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Old Crow N-18 HU (slot P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1285.00usft
Project:	Marshall County, West Virginia.	MD Reference:	GL @ 1285.00usft
Site:	Old Crow Pad	North Reference:	Grid
Well:	Old Crow N-18 HU (slot P)	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	Old Crow Pad				
Site Position:		Northing:	14,446,179.89 usft	Latitude:	39.77853828
From:	Lat/Long	Easting:	1,706,970.33 usft	Longitude:	-80.76311519
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.152 °

Well	Old Crow N-18 HU (slot P)					
Well Position	+N-S	0.00 usft	Northing:	14,446,132.65 usft	Latitude:	39.77840838
	+E-W	0.00 usft	Easting:	1,706,992.95 usft	Longitude:	-80.76303514
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	1,265.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/22/2018	-8.666	66.908	52,105.40810452

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	336.86

Plan Survey Tool Program	Date	5/2/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	25,091.32 rev3 (Original Hole)	MWD MWD - Standard	



Planning Report - Geographic



Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Old Crow N-18 HU (slot P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1285.00usft
Project:	Marshall County, West Virginia.	MD Reference:	GL @ 1285.00usft
Site:	Old Crow Pad	North Reference:	Grid
Well:	Old Crow N-18 HU (slot P)	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	0.000		
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.000		
2,000.00	5.00	70.00	1,999.37	7.46	20.49	1.00	1.00	0.00	70.000		
2,400.00	5.00	70.00	2,397.84	19.38	53.25	0.00	0.00	0.00	0.000		
2,900.00	0.00	70.00	2,897.21	26.84	73.74	1.00	-1.00	0.00	180.000		
7,002.79	0.00	70.00	7,000.00	26.84	73.74	0.00	0.00	0.00	70.000		
7,731.75	21.87	76.07	7,711.39	59.93	207.13	3.00	3.00	0.83	76.088		
10,979.94	21.87	76.07	10,725.84	351.23	1,381.43	0.00	0.00	0.00	0.000		
11,948.43	91.00	330.00	11,314.00	968.43	1,292.02	10.00	7.14	-10.95	-104.605	LP Old Crow N-18 HL	
25,091.32	91.00	330.00	11,085.00	12,348.67	-5,278.62	0.00	0.00	0.00	0.000	BHL Old Crow N-18 F	

51-02123
MWD



Planning Report - Geographic



Database:	DB_Jul2218dt_v14	Local Co-ordinate Reference:	Well Old Crow N-18 HU (slot P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1265.00usft
Project:	Marshall County, West Virginia.	MD Reference:	GL @ 1265.00usft
Site:	Old Crow Pad	North Reference:	Grid
Well:	Old Crow N-18 HU (slot P)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
100.00	0.00	0.00	100.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
200.00	0.00	0.00	200.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
300.00	0.00	0.00	300.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
400.00	0.00	0.00	400.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
500.00	0.00	0.00	500.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
600.00	0.00	0.00	600.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
700.00	0.00	0.00	700.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
800.00	0.00	0.00	800.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
900.00	0.00	0.00	900.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,446,132.65	1,706,992.95	39.77840838	-80.76303514	
KOP Begin 1"/100' build										
1,600.00	1.00	70.00	1,599.99	0.30	0.82	14,446,132.95	1,706,993.77	39.77840920	-80.76303222	
1,700.00	2.00	70.00	1,699.96	1.19	3.28	14,446,133.84	1,706,996.23	39.77841164	-80.76302346	
1,800.00	3.00	70.00	1,799.96	2.69	7.38	14,446,135.33	1,707,000.32	39.77841570	-80.76300885	
1,900.00	4.00	70.00	1,899.88	4.77	13.12	14,446,137.42	1,707,006.06	39.77842140	-80.76298842	
2,000.00	5.00	70.00	1,999.37	7.46	20.49	14,446,140.10	1,707,013.43	39.77842871	-80.76296215	
Begin 5.00° tangent										
2,100.00	5.00	70.00	2,098.99	10.44	28.68	14,446,143.09	1,707,021.62	39.77843684	-80.76293297	
2,200.00	5.00	70.00	2,198.60	13.42	36.87	14,446,146.07	1,707,029.81	39.77844497	-80.76290379	
2,300.00	5.00	70.00	2,298.22	16.40	45.06	14,446,149.05	1,707,038.00	39.77845309	-80.76287461	
2,400.00	5.00	70.00	2,397.84	19.38	53.25	14,446,152.03	1,707,046.19	39.77846122	-80.76284544	
Begin 1"/100' drop										
2,500.00	4.00	70.00	2,497.53	22.06	60.62	14,446,154.71	1,707,053.57	39.77846853	-80.76281917	
2,600.00	3.00	70.00	2,597.35	24.15	66.36	14,446,156.80	1,707,059.30	39.77847423	-80.76279873	
2,700.00	2.00	70.00	2,697.25	25.64	70.46	14,446,158.29	1,707,063.40	39.77847829	-80.76278413	
2,800.00	1.00	70.00	2,797.21	26.54	72.92	14,446,159.19	1,707,065.86	39.77848074	-80.76277536	
2,900.00	0.00	70.00	2,897.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
Begin vertical hold										
3,000.00	0.00	70.00	2,997.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
3,100.00	0.00	70.00	3,097.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
3,200.00	0.00	70.00	3,197.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
3,300.00	0.00	70.00	3,297.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
3,400.00	0.00	70.00	3,397.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
3,500.00	0.00	70.00	3,497.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
3,600.00	0.00	70.00	3,597.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
3,700.00	0.00	70.00	3,697.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
3,800.00	0.00	70.00	3,797.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
3,900.00	0.00	70.00	3,897.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
4,000.00	0.00	70.00	3,997.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
4,100.00	0.00	70.00	4,097.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
4,200.00	0.00	70.00	4,197.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
4,300.00	0.00	70.00	4,297.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
4,400.00	0.00	70.00	4,397.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
4,500.00	0.00	70.00	4,497.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
4,600.00	0.00	70.00	4,597.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
4,700.00	0.00	70.00	4,697.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
4,800.00	0.00	70.00	4,797.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
4,900.00	0.00	70.00	4,897.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	

SI-02123
MOD



Planning Report - Geographic



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Project:	Marshall County, West Virginia	MD Reference:	GL @ 1265.00usft
Site:	Old Crow Pad	North Reference:	Grid
Well:	Old Crow N-18 HU (slot P)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,000.00	0.00	70.00	4,997.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
5,100.00	0.00	70.00	5,097.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
5,200.00	0.00	0.00	5,197.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
5,300.00	0.00	70.00	5,297.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
5,400.00	0.00	0.00	5,397.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
5,500.00	0.00	70.00	5,497.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
5,600.00	0.00	0.00	5,597.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
5,700.00	0.00	70.00	5,697.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
5,800.00	0.00	70.00	5,797.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
5,900.00	0.00	70.00	5,897.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
6,000.00	0.00	70.00	5,997.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
6,100.00	0.00	70.00	6,097.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
6,200.00	0.00	70.00	6,197.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
6,300.00	0.00	0.00	6,297.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
6,400.00	0.00	70.00	6,397.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
6,500.00	0.00	0.00	6,497.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
6,600.00	0.00	70.00	6,597.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
6,700.00	0.00	0.00	6,697.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
6,800.00	0.00	70.00	6,797.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
6,900.00	0.00	70.00	6,897.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
7,000.00	0.00	70.00	6,997.21	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
7,002.79	0.00	70.00	7,000.00	26.84	73.74	14,446,159.49	1,707,066.68	39.77848155	-80.76277244	
Begin 3°/100' build										
7,100.00	2.92	76.07	7,097.17	27.43	78.14	14,446,160.08	1,707,069.08	39.77848317	-80.76278389	
7,200.00	5.92	76.07	7,196.86	29.29	83.61	14,446,161.93	1,707,076.55	39.77848620	-80.76273728	
7,300.00	8.92	76.07	7,296.01	32.39	96.14	14,446,165.04	1,707,089.08	39.77849685	-80.76269265	
7,400.00	11.92	76.07	7,394.35	36.75	113.68	14,446,169.39	1,707,106.63	39.77850847	-80.76263017	
7,500.00	14.92	76.07	7,491.61	42.33	135.20	14,446,174.98	1,707,129.14	39.77852365	-80.76254997	
7,600.00	17.92	76.07	7,587.52	49.14	163.63	14,446,181.78	1,707,156.57	39.77854213	-80.76245229	
7,700.00	20.92	76.07	7,681.83	57.14	195.89	14,446,189.79	1,707,188.83	39.77856388	-80.76233739	
7,731.75	21.87	76.07	7,711.39	59.93	207.13	14,446,192.56	1,707,200.07	39.77857145	-80.76229735	
Begin 21.87° tangent										
7,800.00	21.87	76.07	7,774.73	66.05	231.80	14,446,198.70	1,707,224.75	39.77858608	-80.76220947	
7,900.00	21.87	76.07	7,867.53	75.02	267.95	14,446,207.86	1,707,260.90	39.77861245	-80.76208071	
8,000.00	21.87	76.07	7,960.34	83.98	304.11	14,446,216.63	1,707,297.05	39.77863681	-80.76195195	
8,100.00	21.87	76.07	8,053.14	92.95	340.26	14,446,225.80	1,707,333.20	39.77866118	-80.76182319	
8,200.00	21.87	76.07	8,145.94	101.92	376.41	14,446,234.57	1,707,369.36	39.77868554	-80.76169443	
8,300.00	21.87	76.07	8,238.75	110.89	412.56	14,446,243.54	1,707,405.51	39.77870991	-80.76156567	
8,400.00	21.87	76.07	8,331.55	119.88	448.72	14,446,252.51	1,707,441.66	39.77873427	-80.76143690	
8,500.00	21.87	76.07	8,424.35	128.83	484.87	14,446,261.47	1,707,477.81	39.77875864	-80.76130814	
8,600.00	21.87	76.07	8,517.16	137.79	521.02	14,446,270.44	1,707,513.97	39.77878300	-80.76117938	
8,700.00	21.87	76.07	8,609.96	146.78	557.17	14,446,279.41	1,707,550.12	39.77880737	-80.76105062	
8,800.00	21.87	76.07	8,702.77	155.73	593.33	14,446,288.38	1,707,586.27	39.77883173	-80.76092186	
8,900.00	21.87	76.07	8,795.57	164.70	629.48	14,446,297.35	1,707,622.42	39.77885609	-80.76079309	
9,000.00	21.87	76.07	8,888.37	173.67	665.63	14,446,306.31	1,707,658.58	39.77888046	-80.76066433	
9,100.00	21.87	76.07	8,981.18	182.64	701.78	14,446,315.28	1,707,694.73	39.77890482	-80.76053557	
9,200.00	21.87	76.07	9,073.98	191.60	737.93	14,446,324.25	1,707,730.88	39.77892918	-80.76040681	
9,300.00	21.87	76.07	9,166.79	200.57	774.09	14,446,333.22	1,707,767.03	39.77895355	-80.76027805	
9,400.00	21.87	76.07	9,259.59	209.54	810.24	14,446,342.19	1,707,803.19	39.77897791	-80.76014928	
9,500.00	21.87	76.07	9,352.39	218.51	846.39	14,446,351.16	1,707,839.34	39.77900227	-80.76002052	
9,600.00	21.87	76.07	9,445.20	227.48	882.54	14,446,360.12	1,707,875.49	39.77902664	-80.75989176	
9,700.00	21.87	76.07	9,538.00	236.44	918.70	14,446,369.09	1,707,911.64	39.77905100	-80.75976299	
9,800.00	21.87	76.07	9,630.81	245.41	954.85	14,446,378.06	1,707,947.79	39.77907536	-80.75963423	
9,900.00	21.87	76.07	9,723.61	254.38	991.00	14,446,387.03	1,707,983.95	39.77909973	-80.75950547	

51-0223
mod



Planning Report - Geographic



Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Old Crow N-18 HU (slot P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1265.00usft
Project:	Marshall County, West Virginia.	MD Reference:	GL @ 1265.00usft
Site:	Old Crow Pad	North Reference:	Grid
Well:	Old Crow N-18 HU (slot P)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,000.00	21.87	76.07	9,816.41	263.35	1,027.15	14,446,396.00	1,708,020.10	39.77912409	-80.75937670
10,100.00	21.87	76.07	9,909.22	272.32	1,063.31	14,446,404.96	1,708,056.25	39.77914845	-80.75924794
10,200.00	21.87	76.07	10,002.02	281.29	1,099.46	14,446,413.93	1,708,092.40	39.77917281	-80.75911918
10,300.00	21.87	76.07	10,094.83	290.25	1,135.61	14,446,422.90	1,708,128.56	39.77919717	-80.75899042
10,400.00	21.87	76.07	10,187.63	299.22	1,171.76	14,446,431.87	1,708,164.71	39.77922154	-80.75886165
10,500.00	21.87	76.07	10,280.43	308.19	1,207.92	14,446,440.84	1,708,200.86	39.77924590	-80.75873289
10,600.00	21.87	76.07	10,373.24	317.16	1,244.07	14,446,449.81	1,708,237.01	39.77927026	-80.75860412
10,700.00	21.87	76.07	10,466.04	326.13	1,280.22	14,446,458.77	1,708,273.17	39.77929462	-80.75847536
10,800.00	21.87	76.07	10,558.85	335.09	1,316.37	14,446,467.74	1,708,309.32	39.77931898	-80.75834660
10,900.00	21.87	76.07	10,651.65	344.06	1,352.53	14,446,476.71	1,708,345.47	39.77934334	-80.75821783
10,979.94	21.87	76.07	10,725.84	351.23	1,381.43	14,446,483.88	1,708,374.37	39.77936282	-80.75811490
Begin 10°/100' build/turn									
11,000.00	21.45	70.75	10,744.48	353.34	1,388.51	14,446,485.99	1,708,381.46	39.77936856	-80.75808965
11,100.00	21.99	43.54	10,837.62	372.99	1,418.75	14,446,505.63	1,708,411.69	39.77942228	-80.75798185
11,200.00	26.41	21.47	10,929.00	407.34	1,439.83	14,446,539.96	1,708,432.78	39.77951647	-80.75790646
11,300.00	33.20	6.58	11,015.84	455.36	1,451.14	14,446,588.01	1,708,444.08	39.77964826	-80.75786577
11,400.00	41.20	356.58	11,095.50	515.59	1,452.31	14,446,648.23	1,708,445.26	39.77981365	-80.75786101
11,500.00	49.81	349.44	11,165.57	586.19	1,443.32	14,446,718.04	1,708,436.27	39.78000761	-80.75789232
11,600.00	58.77	343.94	11,223.91	665.02	1,424.44	14,446,797.67	1,708,417.39	39.78022425	-80.75795876
11,700.00	67.91	339.41	11,268.75	749.69	1,396.25	14,446,882.34	1,708,389.19	39.78045698	-80.75805831
11,800.00	77.17	335.43	11,298.73	837.62	1,359.59	14,446,970.27	1,708,352.54	39.78069874	-80.75818794
11,900.00	86.48	331.75	11,312.94	926.15	1,315.59	14,447,058.79	1,708,308.53	39.78094217	-80.75834372
11,948.43	91.00	330.00	11,314.00	968.43	1,282.02	14,447,101.08	1,708,284.97	39.78105847	-80.75842718
Begin 91.00° lateral section									
12,000.00	91.00	330.00	11,313.10	1,013.08	1,286.24	14,447,145.73	1,708,259.19	39.78118129	-80.75851852
12,100.00	91.00	330.00	11,311.36	1,099.67	1,216.25	14,447,232.32	1,708,209.19	39.78141946	-80.75869564
12,200.00	91.00	330.00	11,309.62	1,188.26	1,166.26	14,447,318.91	1,708,159.20	39.78165762	-80.75887276
12,300.00	91.00	330.00	11,307.87	1,272.85	1,116.26	14,447,405.49	1,708,109.21	39.78189579	-80.75904988
12,400.00	91.00	330.00	11,306.13	1,359.44	1,066.27	14,447,492.08	1,708,059.21	39.78213395	-80.75922700
12,500.00	91.00	330.00	11,304.39	1,446.02	1,016.27	14,447,578.67	1,708,009.22	39.78237212	-80.75940412
12,600.00	91.00	330.00	11,302.65	1,532.61	966.28	14,447,665.26	1,707,959.23	39.78261028	-80.75958125
12,700.00	91.00	330.00	11,300.91	1,619.20	916.29	14,447,751.85	1,707,909.23	39.78284845	-80.75975837
12,800.00	91.00	330.00	11,299.16	1,705.79	866.29	14,447,838.44	1,707,859.24	39.78308661	-80.75993550
12,900.00	91.00	330.00	11,297.42	1,792.38	816.30	14,447,925.03	1,707,809.24	39.78332477	-80.76011283
13,000.00	91.00	330.00	11,295.68	1,878.97	766.30	14,448,011.61	1,707,759.25	39.78356294	-80.76028975
13,100.00	91.00	330.00	11,293.94	1,965.56	716.31	14,448,098.20	1,707,709.26	39.78380110	-80.76046689
13,200.00	91.00	330.00	11,292.19	2,052.14	666.32	14,448,184.79	1,707,659.26	39.78403926	-80.76064402
13,300.00	91.00	330.00	11,290.45	2,138.73	616.32	14,448,271.38	1,707,609.27	39.78427743	-80.76082115
13,400.00	91.00	330.00	11,288.71	2,225.32	566.33	14,448,357.97	1,707,559.27	39.78451559	-80.76099828
13,500.00	91.00	330.00	11,286.97	2,311.91	516.33	14,448,444.56	1,707,509.28	39.78475375	-80.76117542
13,600.00	91.00	330.00	11,285.22	2,398.50	466.34	14,448,531.15	1,707,459.29	39.78499191	-80.76135256
13,700.00	91.00	330.00	11,283.48	2,485.09	416.35	14,448,617.73	1,707,409.29	39.78523007	-80.76152969
13,800.00	91.00	330.00	11,281.74	2,571.68	366.35	14,448,704.32	1,707,359.30	39.78546824	-80.76170683
13,900.00	91.00	330.00	11,280.00	2,658.26	316.36	14,448,790.91	1,707,309.31	39.78570640	-80.76188397
14,000.00	91.00	330.00	11,278.25	2,744.85	266.37	14,448,877.50	1,707,259.31	39.78594456	-80.76206111
14,100.00	91.00	330.00	11,276.51	2,831.44	216.37	14,448,964.09	1,707,209.32	39.78618272	-80.76223826
14,200.00	91.00	330.00	11,274.77	2,918.03	166.38	14,449,050.68	1,707,159.32	39.78642088	-80.76241540
14,300.00	91.00	330.00	11,273.03	3,004.62	116.38	14,449,137.27	1,707,109.33	39.78665904	-80.76259255
14,400.00	91.00	330.00	11,271.28	3,091.21	66.39	14,449,223.85	1,707,059.34	39.78689720	-80.76276969
14,500.00	91.00	330.00	11,269.54	3,177.80	16.40	14,449,310.44	1,707,009.34	39.78713536	-80.76294684
14,600.00	91.00	330.00	11,267.80	3,264.39	-33.60	14,449,397.03	1,706,959.35	39.78737351	-80.76312399
14,700.00	91.00	330.00	11,266.06	3,350.97	-83.59	14,449,483.62	1,706,909.35	39.78761167	-80.76330114
14,800.00	91.00	330.00	11,264.31	3,437.56	-133.59	14,449,570.21	1,706,859.36	39.78784983	-80.76347829
14,900.00	91.00	330.00	11,262.57	3,524.15	-183.58	14,449,656.80	1,706,809.37	39.78808799	-80.76365544



Planning Report - Geographic



Database:	DB_Jul2218dt_v14	Local Co-ordinate Reference:	Well Old Crow N-18 HU (slot P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1285.00usft
Project:	Marshall County, West Virginia.	MD Reference:	GL @ 1265.00usft
Site:	Old Crow Pad	North Reference:	Grid
Well:	Old Crow N-18 HU (slot P)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
15,000.00	91.00	330.00	11,260.83	3,610.74	-233.57	14,448,743.39	1,706,759.37	39.78832615	-80.76383259	
15,100.00	91.00	330.00	11,259.09	3,697.33	-283.57	14,449,829.97	1,706,709.38	39.78856431	-80.76400975	
15,200.00	91.00	330.00	11,257.35	3,783.92	-333.56	14,449,916.56	1,706,659.38	39.78880246	-80.76418691	
15,300.00	91.00	330.00	11,255.60	3,870.50	-383.55	14,450,003.15	1,706,609.39	39.78904062	-80.76436406	
15,400.00	91.00	330.00	11,253.86	3,957.09	-433.55	14,450,089.74	1,706,559.40	39.78927878	-80.76454122	
15,500.00	91.00	330.00	11,252.12	4,043.68	-483.54	14,450,176.33	1,706,509.40	39.78951693	-80.76471638	
15,600.00	91.00	330.00	11,250.38	4,130.27	-533.54	14,450,262.92	1,706,459.41	39.78975509	-80.76489554	
15,700.00	91.00	330.00	11,248.63	4,216.86	-583.53	14,450,349.51	1,706,409.42	39.78999325	-80.76507270	
15,800.00	91.00	330.00	11,246.89	4,303.45	-633.52	14,450,436.09	1,706,359.42	39.79023140	-80.76524987	
15,900.00	91.00	330.00	11,245.15	4,390.03	-683.52	14,450,522.68	1,706,309.43	39.79046956	-80.76542703	
16,000.00	91.00	330.00	11,243.41	4,476.62	-733.51	14,450,609.27	1,706,259.43	39.79070771	-80.76560420	
16,100.00	91.00	330.00	11,241.66	4,563.21	-783.51	14,450,695.86	1,706,209.44	39.79094587	-80.76578136	
16,200.00	91.00	330.00	11,239.92	4,649.80	-833.50	14,450,782.45	1,706,159.45	39.79118402	-80.76595853	
16,300.00	91.00	330.00	11,238.18	4,736.39	-883.49	14,450,869.04	1,706,109.45	39.79142218	-80.76613570	
16,400.00	91.00	330.00	11,236.44	4,822.98	-933.49	14,450,955.63	1,706,059.46	39.79166033	-80.76631287	
16,500.00	91.00	330.00	11,234.69	4,909.57	-983.48	14,451,042.21	1,706,009.46	39.79189848	-80.76649004	
16,600.00	91.00	330.00	11,232.95	4,996.15	-1,033.48	14,451,128.80	1,705,959.47	39.79213664	-80.76666722	
16,700.00	91.00	330.00	11,231.21	5,082.74	-1,083.47	14,451,215.39	1,705,909.48	39.79237479	-80.76684439	
16,800.00	91.00	330.00	11,229.47	5,169.33	-1,133.46	14,451,301.98	1,705,859.48	39.79261294	-80.76702157	
16,900.00	91.00	330.00	11,227.72	5,255.92	-1,183.46	14,451,388.57	1,705,809.49	39.79285110	-80.76719874	
17,000.00	91.00	330.00	11,225.98	5,342.51	-1,233.45	14,451,475.16	1,705,759.49	39.79308925	-80.76737592	
17,100.00	91.00	330.00	11,224.24	5,429.10	-1,283.44	14,451,561.75	1,705,709.50	39.79332740	-80.76755310	
17,200.00	91.00	330.00	11,222.50	5,515.69	-1,333.44	14,451,648.33	1,705,659.51	39.79356555	-80.76773028	
17,300.00	91.00	330.00	11,220.76	5,602.27	-1,383.43	14,451,734.92	1,705,609.51	39.79380370	-80.76790746	
17,400.00	91.00	330.00	11,219.01	5,688.86	-1,433.43	14,451,821.51	1,705,559.52	39.79404185	-80.76808465	
17,500.00	91.00	330.00	11,217.27	5,775.45	-1,483.42	14,451,908.10	1,705,509.53	39.79428001	-80.76826183	
17,600.00	91.00	330.00	11,215.53	5,862.04	-1,533.41	14,451,994.69	1,705,459.53	39.79451816	-80.76843902	
17,700.00	91.00	330.00	11,213.79	5,948.63	-1,583.41	14,452,081.28	1,705,409.54	39.79475631	-80.76861620	
17,800.00	91.00	330.00	11,212.04	6,035.22	-1,633.40	14,452,167.87	1,705,359.54	39.79499446	-80.76879339	
17,900.00	91.00	330.00	11,210.30	6,121.81	-1,683.40	14,452,254.46	1,705,309.55	39.79523261	-80.76897058	
18,000.00	91.00	330.00	11,208.56	6,208.39	-1,733.39	14,452,341.04	1,705,259.56	39.79547076	-80.76914777	
18,100.00	91.00	330.00	11,206.82	6,294.98	-1,783.38	14,452,427.63	1,705,209.56	39.79570891	-80.76932496	
18,200.00	91.00	330.00	11,205.07	6,381.57	-1,833.38	14,452,514.22	1,705,159.57	39.79594705	-80.76950215	
18,300.00	91.00	330.00	11,203.33	6,468.16	-1,883.37	14,452,600.81	1,705,109.57	39.79618520	-80.76967935	
18,400.00	91.00	330.00	11,201.59	6,554.75	-1,933.37	14,452,687.40	1,705,059.58	39.79642335	-80.76985654	
18,500.00	91.00	330.00	11,199.85	6,641.34	-1,983.36	14,452,773.99	1,705,009.59	39.79666150	-80.77003374	
18,600.00	91.00	330.00	11,198.10	6,727.93	-2,033.35	14,452,860.57	1,704,959.59	39.79689965	-80.77021093	
18,700.00	91.00	330.00	11,196.36	6,814.51	-2,083.35	14,452,947.16	1,704,909.60	39.79713780	-80.77038813	
18,800.00	91.00	330.00	11,194.62	6,901.10	-2,133.34	14,453,033.75	1,704,859.61	39.79737594	-80.77056533	
18,900.00	91.00	330.00	11,192.88	6,987.69	-2,183.33	14,453,120.34	1,704,809.61	39.79761409	-80.77074253	
19,000.00	91.00	330.00	11,191.13	7,074.28	-2,233.33	14,453,206.93	1,704,759.62	39.79785224	-80.77091974	
19,100.00	91.00	330.00	11,189.39	7,160.87	-2,283.32	14,453,293.52	1,704,709.62	39.79809038	-80.77109694	
19,200.00	91.00	330.00	11,187.65	7,247.46	-2,333.32	14,453,380.10	1,704,659.63	39.79832853	-80.77127415	
19,300.00	91.00	330.00	11,185.91	7,334.05	-2,383.31	14,453,466.69	1,704,609.64	39.79856668	-80.77145135	
19,400.00	91.00	330.00	11,184.17	7,420.63	-2,433.30	14,453,553.28	1,704,559.64	39.79880482	-80.77162856	
19,500.00	91.00	330.00	11,182.42	7,507.22	-2,483.30	14,453,639.87	1,704,509.65	39.79904297	-80.77180577	
19,600.00	91.00	330.00	11,180.68	7,593.81	-2,533.29	14,453,726.46	1,704,459.65	39.79928111	-80.77198298	
19,700.00	91.00	330.00	11,178.94	7,680.40	-2,583.29	14,453,813.05	1,704,409.66	39.79951926	-80.77216019	
19,800.00	91.00	330.00	11,177.20	7,766.99	-2,633.28	14,453,899.64	1,704,359.67	39.79975740	-80.77233740	
19,900.00	91.00	330.00	11,175.45	7,853.58	-2,683.27	14,453,986.22	1,704,309.67	39.79999555	-80.77251461	
20,000.00	91.00	330.00	11,173.71	7,940.17	-2,733.27	14,454,072.81	1,704,259.68	39.80023369	-80.77269183	
20,100.00	91.00	330.00	11,171.97	8,026.75	-2,783.26	14,454,159.40	1,704,209.68	39.80047183	-80.77286904	
20,200.00	91.00	330.00	11,170.23	8,113.34	-2,833.25	14,454,245.99	1,704,159.69	39.80070998	-80.77304626	
20,300.00	91.00	330.00	11,168.48	8,199.93	-2,883.25	14,454,332.58	1,704,109.70	39.80094812	-80.77322348	
20,400.00	91.00	330.00	11,166.74	8,286.52	-2,933.24	14,454,419.17	1,704,059.70	39.80118626	-80.77340070	



Planning Report - Geographic



Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Old Crow N-18 HU (slot P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1265.00usft
Project:	Marshall County, West Virginia.	MD Reference:	GL @ 1265.00usft
Site:	Old Crow Pad	North Reference:	Grid
Well:	Old Crow N-18 HU (slot P)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
20,500.00	91.00	330.00	11,165.00	8,373.11	-2,983.24	14,454,505.78	1,704,009.71	39.80142441	-80.77357792	
20,600.00	91.00	330.00	11,163.26	8,459.70	-3,033.23	14,454,592.34	1,703,959.72	39.80166255	-80.77375514	
20,700.00	91.00	330.00	11,161.51	8,546.29	-3,083.22	14,454,678.93	1,703,909.72	39.80190069	-80.77393236	
20,800.00	91.00	330.00	11,159.77	8,632.87	-3,133.22	14,454,765.52	1,703,859.73	39.80213883	-80.77410959	
20,900.00	91.00	330.00	11,158.03	8,719.46	-3,183.21	14,454,852.11	1,703,809.73	39.80237897	-80.77428881	
21,000.00	91.00	330.00	11,156.29	8,806.05	-3,233.21	14,454,938.70	1,703,759.74	39.80261511	-80.77446404	
21,100.00	91.00	330.00	11,154.54	8,892.64	-3,283.20	14,455,025.29	1,703,709.75	39.80285326	-80.77464127	
21,200.00	91.00	330.00	11,152.80	8,979.23	-3,333.19	14,455,111.88	1,703,659.75	39.80309140	-80.77481850	
21,300.00	91.00	330.00	11,151.06	9,065.82	-3,383.19	14,455,198.48	1,703,609.76	39.80332954	-80.77499573	
21,400.00	91.00	330.00	11,149.32	9,152.41	-3,433.18	14,455,285.05	1,703,559.76	39.80356768	-80.77517296	
21,500.00	91.00	330.00	11,147.57	9,238.99	-3,483.18	14,455,371.64	1,703,509.77	39.80380582	-80.77535019	
21,600.00	91.00	330.00	11,145.83	9,325.58	-3,533.17	14,455,458.23	1,703,459.78	39.80404396	-80.77552743	
21,700.00	91.00	330.00	11,144.09	9,412.17	-3,583.18	14,455,544.82	1,703,409.78	39.80428210	-80.77570466	
21,800.00	91.00	330.00	11,142.35	9,498.76	-3,633.16	14,455,631.41	1,703,359.79	39.80452024	-80.77588190	
21,900.00	91.00	330.00	11,140.61	9,585.35	-3,683.15	14,455,718.00	1,703,309.80	39.80475837	-80.77605914	
22,000.00	91.00	330.00	11,138.86	9,671.94	-3,733.14	14,455,804.59	1,703,259.80	39.80499651	-80.77623637	
22,100.00	91.00	330.00	11,137.12	9,758.53	-3,783.14	14,455,891.17	1,703,209.81	39.80523465	-80.77641361	
22,200.00	91.00	330.00	11,135.38	9,845.11	-3,833.13	14,455,977.76	1,703,159.81	39.80547279	-80.77659086	
22,300.00	91.00	330.00	11,133.64	9,931.70	-3,883.13	14,455,064.35	1,703,109.82	39.80571093	-80.77676810	
22,400.00	91.00	330.00	11,131.89	10,018.29	-3,933.12	14,455,150.94	1,703,059.83	39.80594906	-80.77694534	
22,500.00	91.00	330.00	11,130.15	10,104.88	-3,983.11	14,455,237.53	1,703,009.83	39.80618720	-80.77712259	
22,600.00	91.00	330.00	11,128.41	10,191.47	-4,033.11	14,455,324.12	1,702,959.84	39.80642534	-80.77729983	
22,700.00	91.00	330.00	11,126.67	10,278.06	-4,083.10	14,455,410.70	1,702,909.84	39.80666347	-80.77747708	
22,800.00	91.00	330.00	11,124.92	10,364.64	-4,133.10	14,455,497.29	1,702,859.85	39.80690161	-80.77765433	
22,900.00	91.00	330.00	11,123.18	10,451.23	-4,183.09	14,455,583.88	1,702,809.86	39.80713975	-80.77783158	
23,000.00	91.00	330.00	11,121.44	10,537.82	-4,233.08	14,455,670.47	1,702,759.86	39.80737788	-80.77800883	
23,100.00	91.00	330.00	11,119.70	10,624.41	-4,283.08	14,455,757.06	1,702,709.87	39.80761602	-80.77818608	
23,200.00	91.00	330.00	11,117.95	10,711.00	-4,333.07	14,455,843.65	1,702,659.87	39.80785415	-80.77836334	
23,300.00	91.00	330.00	11,116.21	10,797.59	-4,383.06	14,455,930.24	1,702,609.88	39.80809229	-80.77854059	
23,400.00	91.00	330.00	11,114.47	10,884.18	-4,433.06	14,457,016.82	1,702,559.89	39.80833042	-80.77871785	
23,500.00	91.00	330.00	11,112.73	10,970.76	-4,483.05	14,457,103.41	1,702,509.89	39.80856856	-80.77889510	
23,600.00	91.00	330.00	11,110.98	11,057.35	-4,533.05	14,457,190.00	1,702,459.90	39.80880669	-80.77907236	
23,700.00	91.00	330.00	11,109.24	11,143.94	-4,583.04	14,457,276.59	1,702,409.91	39.80904482	-80.77924962	
23,800.00	91.00	330.00	11,107.50	11,230.53	-4,633.03	14,457,363.18	1,702,359.91	39.80928296	-80.77942688	
23,900.00	91.00	330.00	11,105.76	11,317.12	-4,683.03	14,457,449.77	1,702,309.92	39.80952109	-80.77960415	
24,000.00	91.00	330.00	11,104.02	11,403.71	-4,733.02	14,457,536.36	1,702,259.92	39.80975922	-80.77978141	
24,100.00	91.00	330.00	11,102.27	11,490.30	-4,783.02	14,457,622.94	1,702,209.93	39.80999736	-80.77995867	
24,200.00	91.00	330.00	11,100.53	11,576.88	-4,833.01	14,457,709.53	1,702,159.94	39.81023549	-80.78013594	
24,300.00	91.00	330.00	11,098.79	11,663.47	-4,883.00	14,457,796.12	1,702,109.94	39.81047362	-80.78031321	
24,400.00	91.00	330.00	11,097.05	11,750.06	-4,933.00	14,457,882.71	1,702,059.95	39.81071175	-80.78049047	
24,500.00	91.00	330.00	11,095.30	11,836.65	-4,982.99	14,457,969.30	1,702,009.95	39.81094989	-80.78066774	
24,600.00	91.00	330.00	11,093.56	11,923.24	-5,032.99	14,458,055.89	1,701,959.96	39.81118802	-80.78084501	
24,700.00	91.00	330.00	11,091.82	12,009.83	-5,082.98	14,458,142.48	1,701,909.97	39.81142615	-80.78102229	
24,800.00	91.00	330.00	11,090.08	12,096.42	-5,132.97	14,458,229.06	1,701,859.97	39.81166428	-80.78119956	
24,900.00	91.00	330.00	11,088.33	12,183.00	-5,182.97	14,458,315.65	1,701,809.98	39.81190241	-80.78137683	
25,000.00	91.00	330.00	11,086.59	12,269.59	-5,232.96	14,458,402.24	1,701,759.98	39.81214054	-80.78155411	
25,091.32	91.00	330.00	11,085.00	12,348.67	-5,278.62	14,458,481.31	1,701,714.33	39.81235800	-80.78171600	

PBHL/TD 25091.32 MD/11085.00 TVD



Planning Report - Geographic



Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Old Crow N-18 HU (slot P)
Company:	Tug Hill Operating LLC	TVD Reference:	GL @ 1265.00usft
Project:	Marshall County, West Virginia.	MD Reference:	GL @ 1265.00usft
Site:	Old Crow Pad	North Reference:	Grid
Well:	Old Crow N-18 HU (slot P)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Design Targets										
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)			
- Shape										
BHL Old Crow N-18 HU - plan hits target center - Point	0.00	0.00	11,085.00	12,348.67	-5,278.62	14,458,481.31	1,701,714.33	39.81235800	-80.78171800	
LP Old Crow N-18 HU - plan hits target center - Point	0.00	0.01	11,314.00	988.43	1,292.02	14,447,101.08	1,708,284.97	39.78105847	-80.75842718	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S	+E/-W		
		(usft)	(usft)		
1,500.00	1,500.00	0.00	0.00	KOP Begin 1°/100' build	
2,000.00	1,999.37	7.46	20.49	Begin 5.00° tangent	
2,400.00	2,397.84	19.38	53.25	Begin 1°/100' drop	
2,900.00	2,897.21	26.84	73.74	Begin vertical hold	
7,002.79	7,000.00	26.84	73.74	Begin 3°/100' build	
7,731.75	7,711.39	59.93	207.13	Begin 21.87° tangent	
10,979.94	10,725.84	351.23	1,381.43	Begin 10°/100' build/turn	
11,948.43	11,314.00	988.43	1,292.02	Begin 91.00° lateral section	
25,091.32	11,085.00	12,348.67	-5,278.62	PBHL/TD 25091.32 MD/11085.00 TVD	

WW-6A1
(5/13)

Operator's Well No. Old Crow N-18HU

**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

APR 26 2019

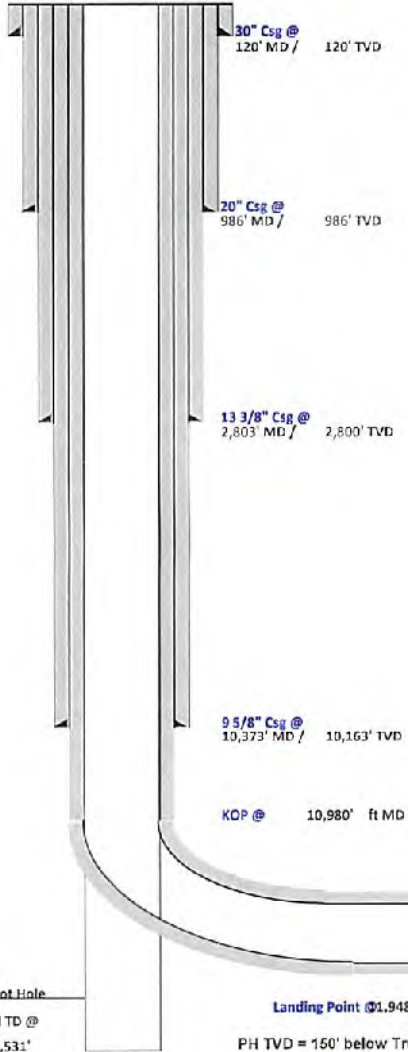
WV Department of
Environmental Protection

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 
 Its: Permitting Specialist - Appalachia Region



WELL NAME: Old Crow N-18HU
STATE: WV **COUNTY:** Marshall
DISTRICT: Franklin
DF Elev: 1,265' **GL Elev:** 1,265'
TD: 25,091'
TH Latitude: 39.77840838
TH Longitude: -80.76303514
BH Latitude: 39.812358
BH Longitude: 80.791716



FORMATION TOPS	
Formation	Depth TVD
Deepest Fresh Water	886'
Sewickley Coal	788'
Pittsburgh Coal	880'
Big Lime	2,077'
Berea	2,626'
Tully	6,469'
Marcellus	6,550'
Onondaga	6,603'
Salina	7,300'
Lockport	8,336'
Utica	11,022'
Point Pleasant	11,259'
Landing Depth	11,314'
Trenton	11,381'
Pilot Hole TD	11,531'

CASING SUMMARY							
Type	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cement
Conductor	36	30	120'	120'	BW	BW	Surface
Surface	26	20	986'	986'	106.5	J55	Surface
Intermediate 1	17 1/2	13 3/8	2,803'	2,800'	54.5	J55	Surface
Intermediate 2	12 1/4	9 5/8	10,373'	10,163'	47	HPP110	Surface
Production	8 1/2	5 1/2	25,091'	11,085'	23	HCP110	Surface

CEMENT SUMMARY				DRILLING DETAILS	
	Sacks	Class	Density	Fluid Type	Centralizer Notes
Conductor	338	A	15.6	Air	None
Surface	1,717	A	15.6	Air	3 Centralizers at equal distance
Intermediate 1	2,142	A	15	Air	1 Centralizer every other jt
Intermediate 2	2,849	A	14.5	Air	1 Centralizer every other jt
Production	5,256	A	15	Air / SOB M	1 every other joint in lateral; 1 per joint in curve; 1 every other jt to sfc

Handwritten signature and date: 5/14/19

Pilot Hole
 PH TD @ 11,531'
 Landing Point @ 1,948' MD / 11,314' TVD
 PH TVD = 150' below Trenton Top

Lateral TD @ 25,091' ft MD
 11,085' ft TVD

51-02123 W00



Tug Hill Operating, LLC Casing and Cement Program

Old Crow N-18HU

Casing

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	20"	J55	26"	986'	CTS
Intermediate 1	13 3/8"	J55	17 1/2"	2,803'	CTS
Intermediate 2	9 5/8"	HPP110	12 1/4"	10,373'	CTS
Production	5 1/2"	HCP110	8 1/2"	25,091'	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

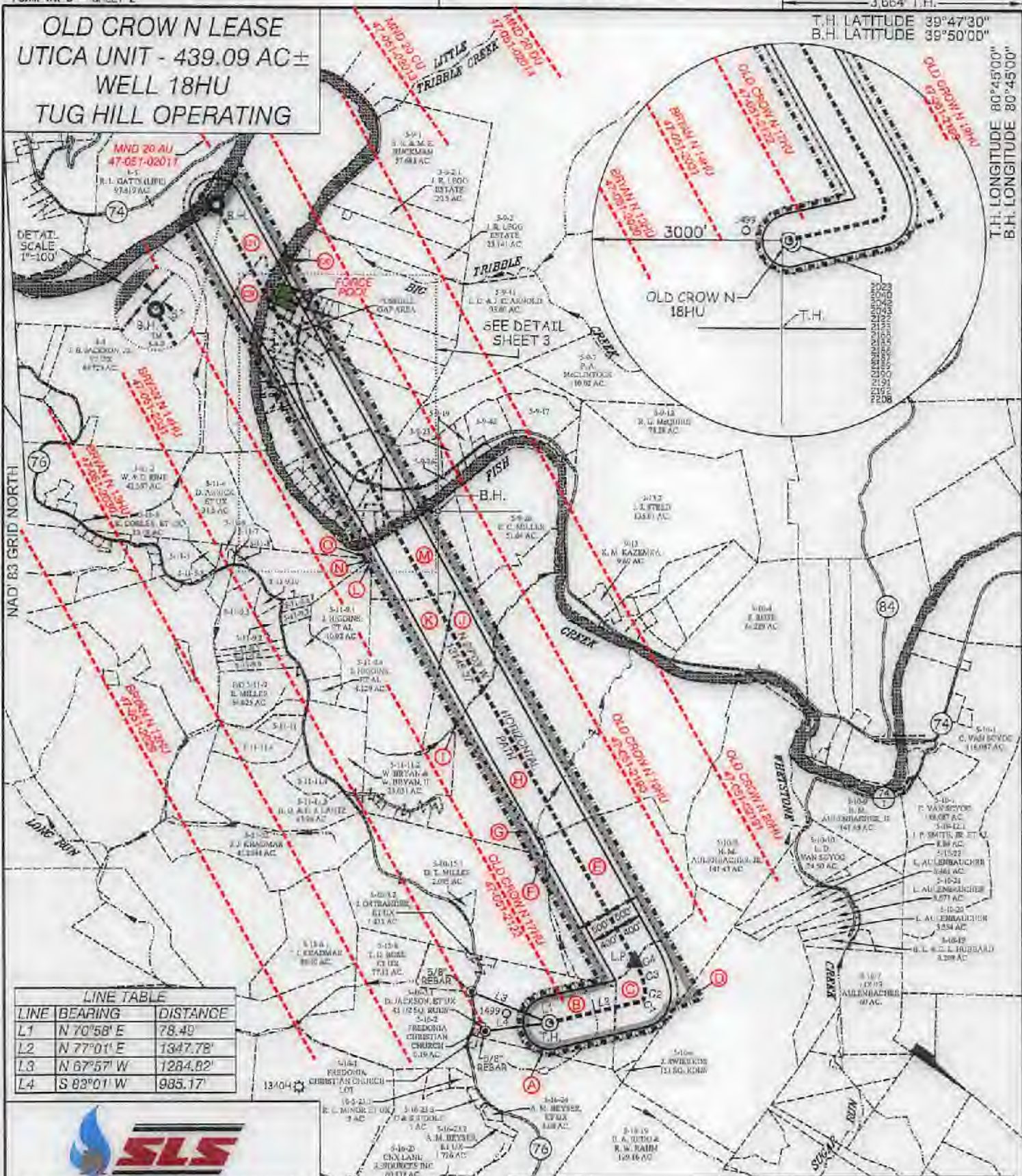
Intermediate 2: Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 15.6 ppg, Y=1.99

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

**OLD CROW N LEASE
UTICA UNIT - 439.09 AC ±
WELL 18HU
TUG HILL OPERATING**

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

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



LINE TABLE

LINE	BEARING	DISTANCE
L1	N 70°58' E	78.40'
L2	N 77°01' E	1347.78'
L3	N 67°57' W	1284.82'
L4	S 89°01' W	985.17'

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	84.95'	86.17'	N 47°08' E	81.02'
C2	143.98'	315.71'	N 04°40' E	142.72'
C3	351.75'	1126.17'	N 17°28' W	350.32'
C4	98.16'	1591.33'	N 27°16' W	98.16'

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www.slsurvey.com

P.S. 849 *C. Victor Moyers*



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

LEGEND

- UNIT BOUNDARY
- LEASED TRACTS INSIDE
- UNIT BOUNDARY
- SURFACE LINE
- PROPOSED UTICA
- WELL LATERAL
- 400' OFFSET LINE
- 500' OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- SURFACE OWNER (SEE TABLE)
- LEASE # (SEE ADDITIONAL SHEETS)

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'83 S.P.C.(FT)	N. 468,181.25	E. 1,613,634.59
NAD'83 GEO.	LAT-(N) 39.778408	LONG-(W) 80.763035
NAD'83 UTM (M)	N. 4,403,190.04	E. 520,292.48
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 469,078.3	E. 1,614,643.1
NAD'83 GEO.	LAT-(N) 39.781058	LONG-(W) 80.758427
NAD'83 UTM (M)	N. 4,403,485.2	E. 520,686.3
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 480,570.6	E. 1,603,461.3
NAD'83 GEO.	LAT-(N) 39.812358	LONG-(W) 80.761716
NAD'83 UTM (M)	N. 4,406,953.9	E. 516,633.6

SCALE 1" = 2000' FILE NO. 0796P18HJR3.dwg
 DATE SEPTEMBER 26 20 18
 REVISED APRIL 25, MAY 14, JUNE 18, 20 19
 OPERATORS WELL NO. OLD CROW N-18HU
 API WELL NO. 47 - 051 - 02123 HGA
 NO. STATE COUNTY PERMIT MOD

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

WELL OPERATOR	TUG HILL OPERATING, LLC	DESIGNATED AGENT	DIANNA STAMPER
ADDRESS	1320 SOUTH UNIVERSITY DRIVE, SUITE 500	ADDRESS	5400 D BIG TYLER ROAD
	FORT WORTH, TX 76107		CHARLESTON, WV 25313

COUNTY NAME PERMIT

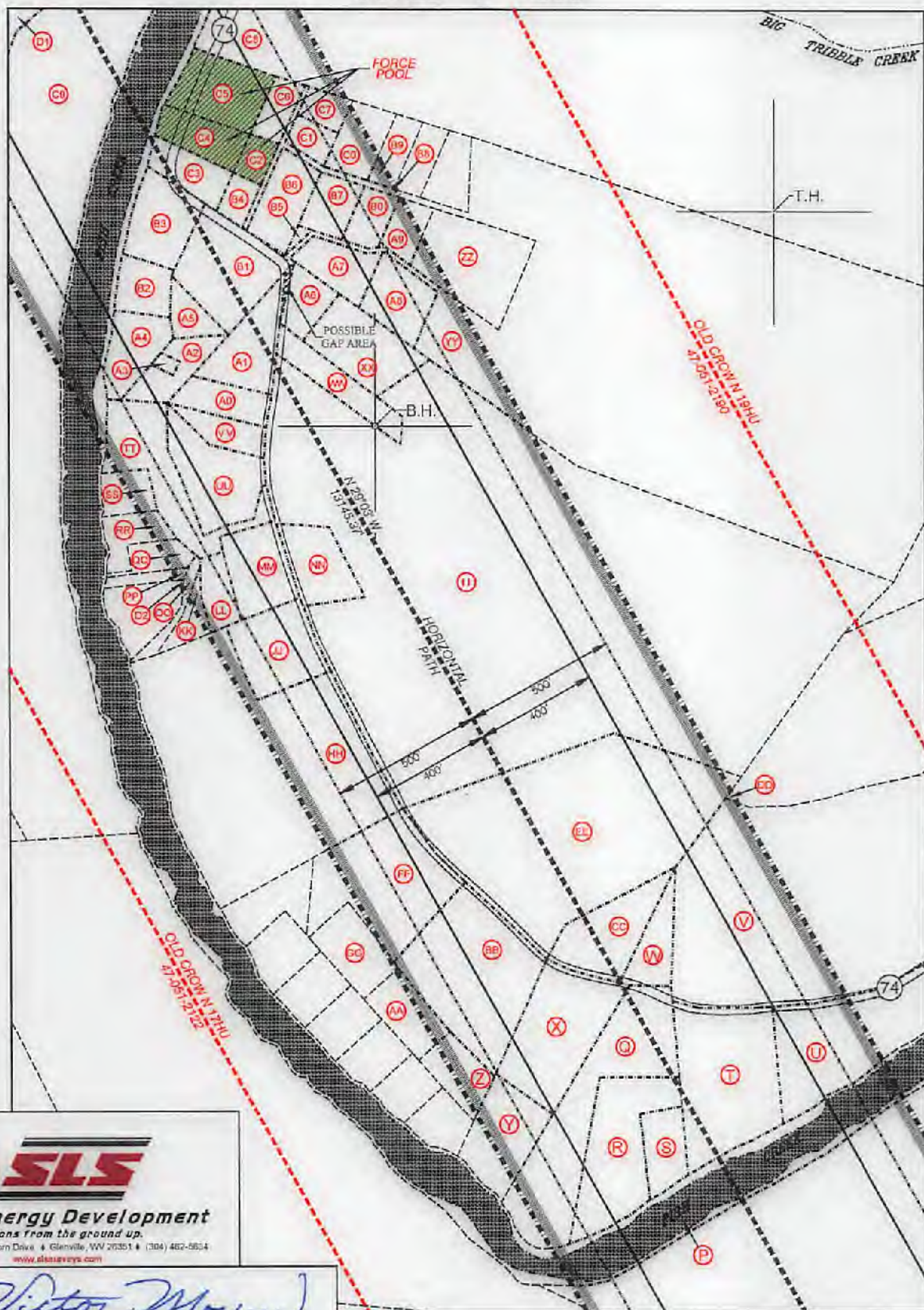
OLD CROW N LEASE
UTICA UNIT - 439.09 AC ±
WELL 18HU
TUG HILL OPERATING

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

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

SHEET 2 DETAIL
SCALE - 1" = 500'

NAD '83 GRID NORTH



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

LEGEND

- UNIT BOUNDARY
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- SURFACE OWNER (SEE TABLE)
- LEASE # (SEE ADDITIONAL SHEETS)

COUNTY NAME

PERMIT

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)			
NAD'83 S.P.C.(FT)	N. 468,131.25	E. 1,613,534.59	
NAD'83 GEO.	LAT-(N) 39.773408	LONG-(W) 80.783035	
NAD'83 UTM (M)	N. 4,409,190.04	E. 520,292.49	
LANDING POINT			
NAD'83 S.P.C.(FT)	N. 469,078.3	E. 1,614,643.1	
NAD'83 GEO.	LAT-(N) 39.781058	LONG-(W) 80.78427	
NAD'83 UTM (M)	N. 4,403,485.2	E. 520,686.3	
BOTTOM HOLE			
NAD'83 S.P.C.(FT)	N. 480,570.6	E. 1,608,461.3	
NAD'83 GEO.	LAT-(N) 39.812353	LONG-(W) 80.781716	
NAD'83 UTM (M)	N. 4,406,953.9	E. 518,683.6	

SCALE 1" = 500'	FILE NO. 8796P18HUR3.dwg
	OLD CROW NORTH 18HU_REV3
DATE SEPTEMBER 26, 2018	
REVISED APRIL 25, MAY 14, JUNE 18, 2019	
OPERATORS WELL NO. OLD CROW N-18HU	
API WELL NO. 47-051-02123#6A	
STATE COUNTY PERMIT	

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



MDD

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

DESIGNATED AGENT DIANNA STAMPER
 ADDRESS 5400 D BIG TYLER ROAD
 CHARLESTON, WV 25313

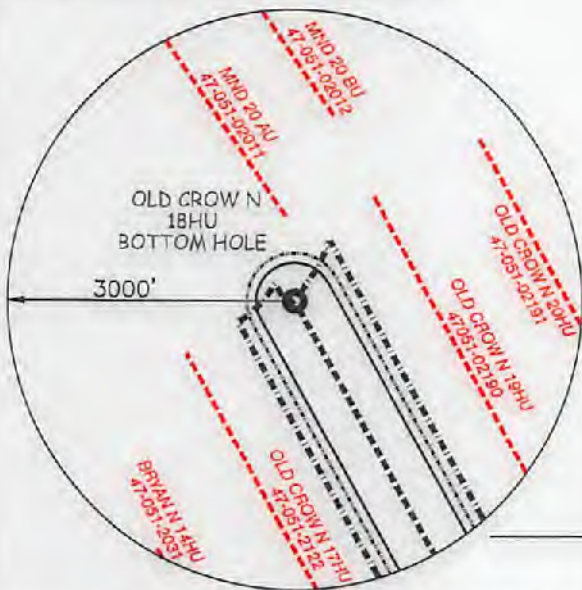
**OLD CROW N LEASE
UTICA UNIT - 439.09 AC±
WELL 18HU
TUG HILL OPERATING**

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

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NAD'88 S.P.C. (FT)	N. 488,131.25	E. 1,813,534.59
NAD'88 GEO.	LAT-(N) 39.778406	LONG-(W) 80.783035
NAD'88 UTM (M)	N. 4,403,180.04	E. 520,292.49
LANDING POINT		
NAD'88 S.P.C. (FT)	N. 489,078.3	E. 1,814,843.1
NAD'88 GEO.	LAT-(N) 39.781056	LONG-(W) 80.758427
NAD'88 UTM (M)	N. 4,403,485.2	E. 520,686.3
BOTTOM HOLE		
NAD'88 S.P.C. (FT)	N. 480,570.6	E. 1,806,461.3
NAD'88 GEO.	LAT-(N) 39.812358	LONG-(W) 80.781716
NAD'88 UTM (M)	N. 4,406,953.9	E. 518,683.6

T.H. LONGITUDE 80°45'00"
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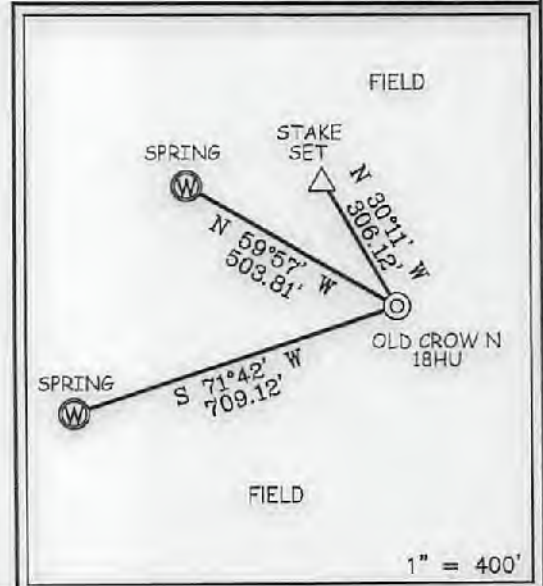


B.H.

NOTES ON SURVEY

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS > 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 525' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOP MARK SCALE ARE 1"=2000'
- PROPOSED LATERAL OR TOP HOLE OF OLD CROW N-18HU IS WITHIN 3000' OF THE TOP HOLES OR LATERALS OF EXISTING WELLS BRYAN N 13HU (47-051-02030), BRYAN N 14HU (47-051-02031), OLD CROW N-17HU (47-051-02122), OLD CROW N-18HU (47-051-02123), OLD CROW N-19HU (47-051-02190), MND20 AU (47-051-02011), MND20 BU (47-051-02012), MND20 CU (47-051-02013), MND20 DU (47-051-02014) & PROPOSED OLD CROW N-20HU (47-051-02191).

REFERENCES

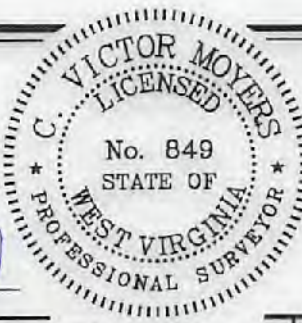


MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
5-9-17	DENNIS P. CADMUS	28.063
5-9-19	MARK STEPHEN STOCKLASK	2.38
5-9-23	DELBERT K. & LINDA K. MYERS	7.00
5-9-26	EDWIN C. MILLER	1.00
5-9-29.2	JAMES E. & AMY L. MCDONOUGH	2.807
5-9-30.1	DAVID JR., & MELISA LOVE	2.518
5-9-40	SHIRLEY A. HILL EST	368' X 425'
5-9-42	DENNIS P. CADMUS	5.42
5-11-5	KEVIN R. CORLEY, ET UX	10.36
5-11-5.3	ROBERT HARRIS ARRICK, ET UX	3.00
5-11-6	ROBERT & REBECCA ARRICK	1.29
5-11-7	MT. HOBART MISSIONARY BAPTIST CHURCH	0.25
5-11-8	MT. HOBART MISSIONARY BAPTIST CHURCH	LOT
5-11-9.2	MICHAEL R. BRYAN	3.143
5-11-9.3	JOSEPHIM & STEVEN HAUGHT	16.3
5-11-9.5	SOUTHERN COUNTRY FARMS INC.	2.559
5-11-9.6	SOUTHERN COUNTRY FARMS INC.	2.488
5-11-9.7	SEAN F. MOORE	2.026
5-11-9.8	SEAN F. MOORE	2.070
5-11-9.9	LEONARD L. PARSONS, ET UX	5.89
5-11-9.10	JOHN A. & JANET L. BEUCKE	2.348
5-11-11	BRAD M. & AMANDA J. BLAKE	5.00
5-11-11.1	NELLIE MARIE & ROBERT SPENCER	5.813
5-11-11.4	BRAD M. & AMANDA J. BLAKE	15.193

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

P.S. 849 *C. Victor Moyers*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE SEPTEMBER 26, 2018
REVISED APRIL 25, MAY 14, JUNE 18, 2019
OPERATORS WELL NO. OLD CROW N-18HU
API WELL NO. 47 - 051 - 02123
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8796P18HUR3.dwg
OLD CROW NORTH 18HU_REV3
HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'

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

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION GROUND = 1286.70' PROPOSED = 1264.89' WATERSHED TRIBUTARY OF FISH CREEK (HUC-10)

DISTRICT FRANKLIN COUNTY MARSHALL QUADRANGLE POWHATAN POINT 7.5'

SURFACE OWNER DONNA VIVIAN YOHO (TOD) GARY LANGE YOHO ACREAGE 71.205±

ROYALTY OWNER DONNA VIVIAN YOHO, ET AL - SEE ADDITIONAL SHEETS ACREAGE 71.205±

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION POINT PLEASANT ESTIMATED DEPTH TVD: 11,531' / TMD: 25,091'

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5400 D BIG TYLER ROAD
FORT WORTH, TX 76107 CHARLESTON, WV 25313

COUNTY NAME PERMIT

SI-02123-101

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
10*21468	5-16-25	A	JOHN A SWIERKOS	TH EXPLORATION LLC	1/8+	953 317	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19340	5-16-3	B	DONNA V YOHO	GASTAR EXPLORATION USA INC	1/8+	665 407	Gastar Exploration USA Inc to Atinum Marcellus I LLC: 23/353	Gastar Exploration SA Inc & Atinum Marcellus I LLC to AB Resources LLC: 23/617	AB Resources LLC to TriEnergy Holdings LLC: 23/633	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 Ltd Partnership: 24/319	Chief Explor. & Devel. LLC, Chief O&G LLC, Radler 2000 Ltd Prtnshp and Enerplus Resources (USA) Corp to Chevron USA Inc: 25/1	Chief Explor. & Devel. LLC, Chief O&G LLC, Radler 2000 Ltd Prtnshp and Enerplus Resources (USA) Corp to Chevron USA Inc: 25/105	AB Resources LLC to Chevron USA Inc: 756/397	Chevron USA Inc to TH Exploration LLC: 40/57
10*14919	5-16-5	C	CHESTNUT HOLDINGS INC	GASTAR EXPLORATION INC	1/8+	836 117	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration Inc to Atinum Marcellus I LLC: 32/428	Gastar Exploration Inc to TH Exploration II LLC: 36/9
10*21468	5-16-6	D	JOHN A SWIERKOS	TH EXPLORATION LLC	1/8+	953 317	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*14920	5-10-14	E	CHESTNUT HOLDINGS INC	GASTAR EXPLORATION INC	1/8+	836 119	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration Inc to Atinum Marcellus I LLC: 32/428	Gastar Exploration Inc to TH Exploration II LLC: 36/9
10*19017	5-10-15	F	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	Chevron USA Inc to TH Exploration LLC: 40/127
10*19126	5-10-16	G	KEVIN R. CORLEY AND ANITA L. CORLEY, HUSBAND AND WIFE	CHEVRON USA INC	1/8+	859 44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*14918	5-10-3	H	CHESTNUT HOLDINGS INC	GASTAR EXPLORATION INC	1/8+	836 115	N/A	N/A	N/A	N/A	N/A	N/A	Gastar Exploration Inc to Atinum Marcellus I LLC: 32/428	Gastar Exploration Inc to TH Exploration II LLC: 36/9
10*19109	5-10-16.4	I	JOHN W. MILLER AND MARY ALICE MILLER, HUSBAND AND	CHEVRON USA INC	1/8+	863 275	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*47051.260.0	5-10-2	J	WILLIAM A PRASCIK	TH EXPLORATION LLC	1/8+	879 302	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19021	5-10-17	K	MARCELLUS TX MINERAL PARTNERS LTD	CHEVRON USA INC	1/8+	800 216	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19034	5-10-17	K	JMK IRREVOCABLE TRUST	CHEVRON USA INC	1/8+	813 145	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19035	5-10-17	K	PURPLEBURGH VENTURES, LLC	CHEVRON USA INC	1/8+	813 138	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19021	5-11-10	L	MARCELLUS TX MINERAL PARTNERS LTD	CHEVRON USA INC	1/8+	800 216	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19034	5-11-10	L	JMK IRREVOCABLE TRUST	CHEVRON USA INC	1/8+	813 145	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19035	5-11-10	L	PURPLEBURGH VENTURES, LLC	CHEVRON USA INC	1/8+	813 138	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*18970	5-10-1	M	DONALD E BERISFORD	TH EXPLORATION LLC	1/8+	941 287	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19036	5-10-1	M	HAROLD W HOWARD JR	CHEVRON USA INC	1/8+	813 91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19037	5-10-1	M	NEVELLE SEELEY	CHEVRON USA INC	1/8+	813 116	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127
10*19039	5-10-1	M	RALPH B RUSSELL MARY ANN RUSSELL	CHEVRON USA INC	1/8+	813 106	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 40/127

REC'D
 Office Of
 APR 26
 Environmental Protection

APR 26 2019

Operator's Well No. Old Crow N - 18HU

210212
WW-6A1 Supplement

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
10*19040	5-10-1	M	RUTHANNE RUSSELL TOPPING	CHEVRON USA INC	1/8+	813 79	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19041	5-10-1	M	CHERYL L HILL	CHEVRON USA INC	1/8+	813 101	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19043	5-10-1	M	JACK R BERISFORD LINDA JO BERISFORD	CHEVRON USA INC	1/8+	813 96	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19045	5-10-1	M	JOHN W MURDOCK HELEN CAROLINA MURDOCK	CHEVRON USA INC	1/8+	814 327	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19049	5-10-1	M	RUTH ANN FERRIS	CHEVRON USA INC	1/8+	814 313	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19050	5-10-1	M	LARRY F JEFFERSON CATHY L JEFFERSON	CHEVRON USA INC	1/8+	814 473	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19059	5-10-1	M	MARY VANESSA GILSON	CHEVRON USA INC	1/8+	815 464	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19060	5-10-1	M	ALYSIA JORDAN	CHEVRON USA INC	1/8+	815 135	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19503	5-10-1	M	FRANK DALE BERISFORD AND KATHLEEN BERISFORD	TH EXPLORATION LLC	1/8+	942 625	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*19610	5-10-1	M	BRENT BERISFORD AND JEAN MARIE COSTA	TH EXPLORATION LLC	1/8+	944 207	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22637	5-10-1	M	HOWARD T CONNER AND NANETTE CONNER	TH EXPLORATION LLC	1/8+	968 219	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22639	5-10-1	M	EDWIN MARK KNABENSHUE	TH EXPLORATION LLC	1/8+	968 217	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22640	5-10-1	M	JESSICA M CREMEANS	TH EXPLORATION LLC	1/8+	984 532	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22641	5-10-1	M	CHRISTOPHER STALEY & MICHAEL ANNE STALEY	TH EXPLORATION LLC	1/8+	968 221	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22772	5-10-1	M	BILLIE J STALEY AND APRIL STALEY	TH EXPLORATION LLC	1/8+	970 8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23040	5-10-1	M	MARY L WHITTINGTON	TH EXPLORATION LLC	1/8+	977 300	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*23725	5-10-1	M	GRAYSVILLE CALVARY UNITED METHODIST	TH EXPLORATION LLC	1/8+	1011 550	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24029	5-10-1	M	MICHAEL L STEWART	TH EXPLORATION LLC	1/8+	1020 353	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24261	5-10-1	M	GREG STEWART	TH EXPLORATION LLC	1/8+	1020 351	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24514	5-10-1	M	GAYLE F BRITTON TRUST	TH EXPLORATION LLC	1/8+	1026 253	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24515	5-10-1	M	AARON M BROWN	TH EXPLORATION LLC	1/8+	1024 269	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24525	5-10-1	M	DAVID E BOWYER	TH EXPLORATION LLC	1/8+	1027 285	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24554	5-10-1	M	JOSH D AND LAUREN K HALE	TH EXPLORATION LLC	1/8+	1024 254	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24555	5-10-1	M	DAVID W HALE JR	TH EXPLORATION LLC	1/8+	1024 257	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*24556	5-10-1	M	BETTY L KEAN	TH EXPLORATION LLC	1/8+	1024 263	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*47051.127.1	5-10-1	M	EDWIN C MILLER AND KIMBERLY ANN MILLER	TH EXPLORATION LLC	1/8+	885 61	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*47051.127.2	5-10-1	M	JANE S BLANEY	TH EXPLORATION LLC	1/8+	898 547	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*47051.127.3	5-10-1	M	JOANNE SCHALL FOSTER	TH EXPLORATION LLC	1/8+	895 29	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*47051.127.4	5-10-1	M	RAYMOND E SCHALL	TH EXPLORATION LLC	1/8+	898 550	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*47051.127.5	5-10-1	M	FIRST CHRISTIAN CHURCH OF MOUNDSVILLE BY ROGER FRANCIS AND ROBERT ALBERT TRUSTEES	TH EXPLORATION LLC	1/8+	898 600	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*47051.127.6	5-10-1	M	BARBARA GODWIN AND CHARLES RODNEY GODWIN	TH EXPLORATION LLC	1/8+	902 419	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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10*22492	5-9-29	Q	FAITH MARIE FREESTONE AND ERIC FREESTONE	TH EXPLORATION LLC	1/8+	972	50	N/A	N/A	N/A	N/A	N/A	N/A		
10*22547	5-9-29	Q	LAWRENCE EDWARD MURPHY AND JOAN MARIE MURPHY	TH EXPLORATION LLC	1/8+	966	628	N/A	N/A	N/A	N/A	N/A	N/A		
10*22606	5-9-29	Q	ROBERT B MURPHY AND LINDA MURPHY	TH EXPLORATION LLC	1/8+	966	469	N/A	N/A	N/A	N/A	N/A	N/A		
10*22636	5-9-29	Q	CHANDA WILSON AND DANIEL WILSON	TH EXPLORATION LLC	1/8+	968	226	N/A	N/A	N/A	N/A	N/A	N/A		
10*23035	5-9-29	Q	DEAN S CARR	TH EXPLORATION LLC	1/8+	977	364	N/A	N/A	N/A	N/A	N/A	N/A		
10*23508	5-9-29	Q	MICHAEL A MURPHY	TH EXPLORATION LLC	1/8+	1009	98	N/A	N/A	N/A	N/A	N/A	N/A		
10*24888	5-9-29	Q	ARTHUR LEE MILLER ET AL	TH EXPLORATION LLC	1/8+	1027	187	N/A	N/A	N/A	N/A	N/A	N/A		
10*24984	5-9-29	Q	JONATHAN BAKER	TH EXPLORATION LLC	1/8+	1027	562	N/A	N/A	N/A	N/A	N/A	N/A		
10*25488	5-9-29	Q	SANDRA AKA KATHERINE S PARDINI	TH EXPLORATION LLC	1/8+	1031	544	N/A	N/A	N/A	N/A	N/A	N/A		
Q090332002	5-9-29	Q	LORETTA JEAN RIGGLE ET VIR	NOBLE ENERGY INC	1/8+	860	538	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 35/172	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
Q090332003	5-9-29	Q	PATTY BERISFORD ET VIR	NOBLE ENERGY INC	1/8+	860	555	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 35/313	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
Q090332007	5-9-29	Q	ROBERT RANDOLPH WOODBURN ET UX	NOBLE ENERGY INC	1/8+	860	568	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 35/313	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
10*17512	5-9-29.2	R	BONNIE LOU POSTLEWAIT	TH EXPLORATION LLC	1/8+	917	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*17530	5-9-29.2	R	WOODROW N WARD AND HILDA A WARD	TH EXPLORATION LLC	1/8+	916	208	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*17916	5-9-29.2	R	MARY E BISHOP	TH EXPLORATION LLC	1/8+	927	167	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18270	5-9-29.2	R	GERALD L BISHOP III	TH EXPLORATION LLC	1/8+	943	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18796	5-9-29.2	R	DWG OIL & GAS ACQUISITIONS LLC	TH EXPLORATION LLC	1/8+	938	476	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*19193	5-9-29.2	R	LARRY A GUMP	TRIENERGY HOLDINGS, LLC	1/8+	717	488	N/A	N/A	N/A	N/A	TriEnergy Holdings LLC to NPAR LLC: 24/430	NPAR LLC to Chevron USA Inc: 756/332	TriEnergy Holdings LLC & TriEnergy Inc to Chevron USA Inc: 28/356	Chevron USA Inc to TH Exploration LLC: 40/127
10*19572	5-9-29.2	R	DOUGLAS R BISHOP	TH EXPLORATION LLC	1/8+	943	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21478	5-9-29.2	R	CHILDRENS HOME SOCIETY OF WEST VIRGINIA	TH EXPLORATION LLC	1/8+	960	173	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21937	5-9-29.2	R	WHEELING SOCIETY FOR CRIPPLED CHILDREN JAY E PRAGER PRESIDENT	TH EXPLORATION LLC	1/8+	960	33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22044	5-9-29.2	R	MICHAEL A BISHOP	TH EXPLORATION LLC	1/8+	960	421	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

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10*22296	5-9-29.2	R	NOAH BAKER AND ALISA BAKER	TH EXPLORATION LLC	1/8+	962	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22326	5-9-29.2	R	RACHEL SONDA AND SCOTT SONDA	TH EXPLORATION LLC	1/8+	962	532	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22407	5-9-29.2	R	BRADLEY MURPHY	TH EXPLORATION LLC	1/8+	962	575	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22430	5-9-29.2	R	DEBORAH VANVRANKEN	TH EXPLORATION LLC	1/8+	964	510	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22492	5-9-29.2	R	FAITH MARIE FREESTONE AND ERIC FREESTONE	TH EXPLORATION LLC	1/8+	972	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22547	5-9-29.2	R	LAWRENCE EDWARD MURPHY AND JOAN MARIE MURPHY	TH EXPLORATION LLC	1/8+	966	628	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22606	5-9-29.2	R	ROBERT B MURPHY AND LINDA MURPHY	TH EXPLORATION LLC	1/8+	966	469	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22636	5-9-29.2	R	CHANDA WILSON AND DANIEL WILSON	TH EXPLORATION LLC	1/8+	968	226	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*23035	5-9-29.2	R	DEAN S CARR	TH EXPLORATION LLC	1/8+	977	364	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*23508	5-9-29.2	R	MICHAEL A MURPHY	TH EXPLORATION LLC	1/8+	1009	98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24888	5-9-29.2	R	ARTHUR LEE MILLER ET AL	TH EXPLORATION LLC	1/8+	1027	187	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24984	5-9-29.2	R	JONATHAN BAKER	TH EXPLORATION LLC	1/8+	1027	562	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*25488	5-9-29.2	R	SANDRA AKA KATHERINE S PARDINI	TH EXPLORATION LLC	1/8+	1031	544	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Q090332002	5-9-29.2	R	LORETTA JEAN RIGGLE ET VIR	NOBLE ENERGY INC	1/8+	860	538	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 35/172	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
Q090332003	5-9-29.2	R	PATTY BERISFORD ET VIR	NOBLE ENERGY INC	1/8+	860	555	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 35/313	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
Q090332007	5-9-29.2	R	ROBERT RANDOLPH WOODBURN ET UX	NOBLE ENERGY INC	1/8+	860	568	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 35/313	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
10*17512	5-9-29.1	S	BONNIE LOU POSTLEWAIT	TH EXPLORATION LLC	1/8+	917	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*17530	5-9-29.1	S	WOODROW N WARD AND HILDA A WARD	TH EXPLORATION LLC	1/8+	916	208	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*17916	5-9-29.1	S	MARY E BISHOP	TH EXPLORATION LLC	1/8+	927	167	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18270	5-9-29.1	S	GERALD L BISHOP III	TH EXPLORATION LLC	1/8+	943	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18796	5-9-29.1	S	DWG OIL & GAS ACQUISITIONS LLC	TH EXPLORATION LLC	1/8+	938	476	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18971	5-9-29.1	S	WONETTA V JOHNSON & NORMAN G JOHNSON	TH EXPLORATION LLC	1/8+	941	285	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*19572	5-9-29.1	S	DOUGLAS R BISHOP	TH EXPLORATION LLC	1/8+	943	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*19608	5-9-29.1	S	CLIFFORD VAN SCYOC AND DENISE VAN SCYOC	TH EXPLORATION LLC	1/8+	953	252	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

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10*21478	5-9-29.1	S	CHILDRENS HOME SOCIETY OF WEST VIRGINIA	TH EXPLORATION LLC	1/8+	960 173	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21937	5-9-29.1	S	WHEELING SOCIETY FOR CRIPPLED CHILDREN JAY E PRAGER PRESIDENT	TH EXPLORATION LLC	1/8+	960 33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22044	5-9-29.1	S	MICHAEL A BISHOP	TH EXPLORATION LLC	1/8+	960 421	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22296	5-9-29.1	S	NOAH BAKER AND ALISA BAKER	TH EXPLORATION LLC	1/8+	962 200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22326	5-9-29.1	S	RACHEL SONDA AND SCOTT SONDA	TH EXPLORATION LLC	1/8+	962 532	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22407	5-9-29.1	S	BRADLEY MURPHY	TH EXPLORATION LLC	1/8+	962 575	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22430	5-9-29.1	S	DEBORAH VANVRANKEN	TH EXPLORATION LLC	1/8+	964 510	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22492	5-9-29.1	S	FAITH MARIE FREESTONE AND ERIC FREESTONE	TH EXPLORATION LLC	1/8+	972 50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22547	5-9-29.1	S	LAWRENCE EDWARD MURPHY AND JOAN MARIE MURPHY	TH EXPLORATION LLC	1/8+	966 628	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22606	5-9-29.1	S	ROBERT B MURPHY AND LINDA MURPHY	TH EXPLORATION LLC	1/8+	966 469	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22636	5-9-29.1	S	CHANDA WILSON AND DANIEL WILSON	TH EXPLORATION LLC	1/8+	968 226	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*23035	5-9-29.1	S	DEAN S CARR	TH EXPLORATION LLC	1/8+	977 364	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*23508	5-9-29.1	S	MICHAEL A MURPHY	TH EXPLORATION LLC	1/8+	1009 98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24888	5-9-29.1	S	ARTHUR LEE MILLER ET AL	TH EXPLORATION LLC	1/8+	1027 187	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24984	5-9-29.1	S	JONATHAN BAKER	TH EXPLORATION LLC	1/8+	1027 562	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*25488	5-9-29.1	S	SANDRA AKA KATHERINE S PARDINI	TH EXPLORATION LLC	1/8+	1031 544	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Q090332002	5-9-29.1	S	LORETTA JEAN RIGGLE ET VIR	NOBLE ENERGY INC	1/8+	860 538	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 35/172	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy nc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
Q090332003	5-9-29.1	S	PATTY BERISFORD ET VIR	NOBLE ENERGY INC	1/8+	860 555	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 35/313	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy nc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
Q090332007	5-9-29.1	S	ROBERT RANDOLPH WOODBURN ET UX	NOBLE ENERGY INC	1/8+	860 568	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 35/313	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy nc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
Q090332002	5-9-28	T	LORETTA JEAN RIGGLE ET VIR	NOBLE ENERGY INC	1/8+	860 538	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 35/172	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy nc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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10*24888	5-9-27	U	ARTHUR LEE MILLER ET AL	TH EXPLORATION LLC	1/8+	1027 187	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24984	5-9-27	U	JONATHAN BAKER	TH EXPLORATION LLC	1/8+	1027 562	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*25488	5-9-27	U	SANDRA AKA KATHERINE S PARDINI	TH EXPLORATION LLC	1/8+	1031 544	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*17512	5-9-25	V	BONNIE LOU POSTLEWAIT	TH EXPLORATION LLC	1/8+	917 68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*17530	5-9-25	V	WOODROW N WARD AND HILDA A WARD	TH EXPLORATION LLC	1/8+	916 208	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*17916	5-9-25	V	MARY E BISHOP	TH EXPLORATION LLC	1/8+	927 167	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18270	5-9-25	V	GERALD L BISHOP III	TH EXPLORATION LLC	1/8+	943 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*18796	5-9-25	V	DWG OIL & GAS ACQUISITIONS LLC	TH EXPLORATION LLC	1/8+	938 476	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*19572	5-9-25	V	DOUGLAS R BISHOP	TH EXPLORATION LLC	1/8+	943 12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21478	5-9-25	V	CHILDRENS HOME SOCIETY OF WEST VIRGINIA	TH EXPLORATION LLC	1/8+	960 173	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*21937	5-9-25	V	WHEELING SOCIETY FOR CRIPPLED CHILDREN JAY E PRAGER PRESIDENT	TH EXPLORATION LLC	1/8+	960 33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22044	5-9-25	V	MICHAEL A BISHOP	TH EXPLORATION LLC	1/8+	960 421	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22296	5-9-25	V	NOAH BAKER AND ALISA BAKER	TH EXPLORATION LLC	1/8+	962 200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22326	5-9-25	V	RACHEL SONDA AND SCOTT SONDA	TH EXPLORATION LLC	1/8+	962 532	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22407	5-9-25	V	BRADLEY MURPHY	TH EXPLORATION LLC	1/8+	962 575	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22430	5-9-25	V	DEBORAH VANVRANKEN	TH EXPLORATION LLC	1/8+	964 510	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22492	5-9-25	V	FAITH MARIE FREESTONE AND ERIC FREESTONE	TH EXPLORATION LLC	1/8+	972 50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22547	5-9-25	V	LAWRENCE EDWARD MURPHY AND JOAN MARIE MURPHY	TH EXPLORATION LLC	1/8+	966 628	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22606	5-9-25	V	ROBERT B MURPHY AND LINDA MURPHY	TH EXPLORATION LLC	1/8+	966 469	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*22636	5-9-25	V	CHANDA WILSON AND DANIEL WILSON	TH EXPLORATION LLC	1/8+	968 226	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*23035	5-9-25	V	DEAN S CARR	TH EXPLORATION LLC	1/8+	977 364	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*23508	5-9-25	V	MICHAEL A MURPHY	TH EXPLORATION LLC	1/8+	1009 98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24888	5-9-25	V	ARTHUR LEE MILLER ET AL	TH EXPLORATION LLC	1/8+	1027 187	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*24984	5-9-25	V	JONATHAN BAKER	TH EXPLORATION LLC	1/8+	1027 562	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*25250	5-9-25	V	LINDA KAY MYERS	TH EXPLORATION LLC	1/8+	1030 118	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10*25488	5-9-25	V	SANDRA AKA KATHERINE S PARDINI	TH EXPLORATION LLC	1/8+	1031 544	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Q090332002	5-9-25	V	LORETTA JEAN RIGGLE ET VIR	NOBLE ENERGY INC	1/8+	860 538	N/A	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 35/172	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

51-02122

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Operator's Well No. Old Crow N - 18HU

51-0223
WW-6A1 Supplement

WV Department of Environmental Protection

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page		Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	
Q090332003	5-9-25	V	PATTY BERISFORD ET VIR	NOBLE ENERGY INC	1/8+	860	555	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 35/313	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy nc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
Q090332007	5-9-25	V	ROBERT RANDOLPH WOODBURN ET UX	NOBLE ENERGY INC	1/8+	860	568	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 35/313	CNX Gas Company LLC to Noble Energy Inc: 37/169	Noble Energy nc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
10*21547	5-9-30.3	W	GARY A MILLER AND MARCELLE T MILLER	TH EXPLORATION LLC	1/8+	952	370	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21548	5-9-30.3	W	JEANNE M MILLER	TH EXPLORATION LLC	1/8+	952	386	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21719	5-9-30.3	W	ROBERT A MILLER	TH EXPLORATION LLC	1/8+	952	389	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22566	5-9-30.3	W	KENNETH A MILLER	TH EXPLORATION LLC	1/8+	964	233	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CVX935271	5-9-30.3	W	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-30.3	W	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-30.3	W	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-30.3	W	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-30.3	W	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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51-02123

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10*21548	5-9-30.1	X	JEANNE M MILLER	TH EXPLORATION LLC	1/8+	952	386	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21719	5-9-30.1	X	ROBERT A MILLER	TH EXPLORATION LLC	1/8+	952	389	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22566	5-9-30.1	X	KENNETH A MILLER	TH EXPLORATION LLC	1/8+	964	233	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CVX935271	5-9-30.1	X	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-30.1	X	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-30.1	X	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-30.1	X	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-30.1	X	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-30.1	X	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-30.1	X	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936061	5-9-30.1	X	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-30.1	X	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936112	5-9-30.1	X	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-30.1	X	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-30.1	X	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-30.1	X	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
10*21547	5-9-30.2	Y	GARY A MILLER AND MARCELLE T MILLER	TH EXPLORATION LLC	1/8+	952	370	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21548	5-9-30.2	Y	JEANNE M MILLER	TH EXPLORATION LLC	1/8+	952	386	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21719	5-9-30.2	Y	ROBERT A MILLER	TH EXPLORATION LLC	1/8+	952	389	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22566	5-9-30.2	Y	KENNETH A MILLER	TH EXPLORATION LLC	1/8+	964	233	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CVX935271	5-9-30.2	Y	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX935273	5-9-30.2	Y	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	N/A	WV Department of Environmental Protection Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-30.2	Y	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-30.2	Y	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-30.2	Y	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-30.2	Y	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-30.2	Y	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-30.2	Y	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-30.2	Y	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936112	5-9-30.2	Y	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-30.2	Y	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-30.2	Y	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-30.2	Y	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-38.7	Z	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-38.7	Z	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-38.7	Z	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-38.7	Z	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936053	5-9-38.7	Z	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-38.7	Z	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-38.7	Z	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-38.7	Z	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-38.7	Z	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936112	5-9-38.7	Z	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-38.7	Z	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-38.7	Z	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX866959	5-9-38.7	Z	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	WVA Department of Environmental Protection Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-38.8	AA	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-38.8	AA	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-38.8	AA	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-38.8	AA	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-38.8	AA	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-38.8	AA	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-38.8	AA	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936061	5-9-38.8	AA	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853 426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-38.8	AA	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853 418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936112	5-9-38.8	AA	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853 449	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-38.8	AA	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853 445	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-38.8	AA	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696 7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-38.8	AA	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695 629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-40	BB	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853 59	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-40	BB	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853 430	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX935273	5-9-40	BB	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-40	BB	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-40	BB	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
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CVX936054	5-9-40	BB	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-40	BB	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-40	BB	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936112	5-9-40	BB	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696 7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-40	BB	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695 629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
10*21547	5-9-30	CC	GARY A MILLER AND MARCELLE T MILLER	TH EXPLORATION LLC	1/8+	952 370	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21548	5-9-30	CC	JEANNE M MILLER	TH EXPLORATION LLC	1/8+	952 386	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*21719	5-9-30	CC	ROBERT A MILLER	TH EXPLORATION LLC	1/8+	952 389	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*22566	5-9-30	CC	KENNETH A MILLER	TH EXPLORATION LLC	1/8+	964 233	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CVX935271	5-9-30	CC	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853 59	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-30	CC	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853 430	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-30	CC	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853 422	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-30	CC	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864 47	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936054	5-9-30	CC	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-30	CC	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-30	CC	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-30	CC	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
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CVX866958	5-9-30	CC	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX866959	5-9-30	CC	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Development LLC, Chief Exploration & Development LLC, Radler 2000, & Radler 2000 LP; Corp to Chevron USA Inc: 25/1	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC: 25/484	USA: 756/332	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia, LLC: 988/286	Memorandum of Operating Agreement between TH Exploration and HG Energy II
CVX935271	5-9-24	DD	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia, LLC: 988/286	Memorandum of Operating Agreement between TH Exploration and HG Energy II
CVX935273	5-9-24	DD	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia, LLC: 988/286	Memorandum of Operating Agreement between TH Exploration and HG Energy II
CVX935276	5-9-24	DD	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia, LLC: 988/286	Memorandum of Operating Agreement between TH Exploration and HG Energy II
CVX935969	5-9-24	DD	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia, LLC: 988/286	Memorandum of Operating Agreement between TH Exploration and HG Energy II
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CVX936054	5-9-24	DD	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia, LLC: 988/286	Memorandum of Operating Agreement between TH Exploration and HG Energy II
CVX936058	5-9-24	DD	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia LLC: HG Energy II between TH Exploration and HG Energy II	Appalachia, LLC: 988/286	Memorandum of Operating Agreement between TH Exploration and HG Energy II

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CVX936062	5-9-39	EE	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
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CVX936113	5-9-39	EE	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853 445	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
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CVX866959	5-9-39	EE	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695 629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-39	EE	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696 7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-39	EE	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695 629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-38	FF	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853 59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-38	FF	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853 430	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-38	FF	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853 422	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

WV Department of Environmental Protection

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Operator's Well No. Old Crow N - 18HU

WW-6A1 Supplement

51-02123

Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page		Assignment	Assignment	Assignment	WV Department of Environmental Protection	Assignment	Assignment	Assignment	Assignment
CVX935969	5-9-38	FF	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-38	FF	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-38	FF	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-38	FF	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-38	FF	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-38	FF	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936112	5-9-38	FF	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-38	FF	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX866958	5-9-38	FF	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696 7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-38	FF	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695 629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-38.9	GG	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853 59	N/A		N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-38.9	GG	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853 430	N/A		N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-38.9	GG	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853 422	N/A		N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-38.9	GG	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864 47	N/A		N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-38.9	GG	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864 39	N/A		N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-38.9	GG	MARY JO CRONIN	CHEVRON USA INC	1/8+	864 43	N/A		N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936058	5-9-38.9	GG	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-38.9	GG	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-38.9	GG	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936112	5-9-38.9	GG	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-38.9	GG	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-38.9	GG	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-38.9	GG	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-37	HH	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX935273	5-9-37	HH	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-37	HH	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-37	HH	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-37	HH	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-37	HH	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-37	HH	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-37	HH	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-37	HH	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936112	5-9-37	HH	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853 449	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-37	HH	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853 445	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-37	HH	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696 7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-37	HH	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695 629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-37	HH	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696 7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-37	HH	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695 629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
PENDING	5-9-33	II	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1034 626	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CVX935271	5-9-36	JJ	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853 59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-36	JJ	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853 430	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX935276	5-9-36	JJ	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-36	JJ	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-36	JJ	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
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CVX936061	5-9-36	JJ	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
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CVX936112	5-9-36	JJ	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX866959	5-9-36	JJ	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695 629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-36	JJ	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696 7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-36	JJ	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695 629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-32.4	KK	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853 59	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-32.4	KK	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853 430	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-32.4	KK	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853 422	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

51-02123

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CVX935969	5-9-32.4	KK	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-32.4	KK	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-32.4	KK	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-32.4	KK	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-32.4	KK	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-32.4	KK	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936112	5-9-32.4	KK	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-32.4	KK	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
CVX866958	5-9-32.4	KK	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696 7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-32.4	KK	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695 629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-32.3	LL	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853 59	N/A		N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-32.3	LL	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853 430	N/A		N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-32.3	LL	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853 422	N/A		N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-32.3	LL	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864 47	N/A		N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-32.3	LL	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864 39	N/A		N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-32.3	LL	MARY JO CRONIN	CHEVRON USA INC	1/8+	864 43	N/A		N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936058	5-9-32.3	LL	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-32.3	LL	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-32.3	LL	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936112	5-9-32.3	LL	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-32.3	LL	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-32.3	LL	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-32.3	LL	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-32.9	MM	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX935273	5-9-32.9	MM	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-32.9	MM	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-32.9	MM	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-32.9	MM	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-32.9	MM	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-32.9	MM	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-32.9	MM	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-32.9	MM	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936112	5-9-32.9	MM	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-32.9	MM	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-32.9	MM	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-32.9	MM	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
PENDING	5-9-33.4	NN	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1034	626	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CVX935271	5-9-32.12	OO	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-32.12	OO	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-32.12	OO	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-32.12	OO	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936053	5-9-32.12	OO	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-32.12	OO	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-32.12	OO	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-32.12	OO	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-32.12	OO	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936112	5-9-32.12	OO	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-32.12	OO	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-32.12	OO	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

WW-6A1 Supplement

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Office of Oil and Gas

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Operator's Well No. Old Crow N - 18HU

WV Department of
Environmental Protection

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CVX866959	5-9-32.12	OO	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-32.1	PP	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-32.1	PP	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-32.1	PP	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-32.1	PP	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-32.1	PP	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-32.1	PP	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-32.1	PP	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936061	5-9-32.1	PP	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
CVX936062	5-9-32.1	PP	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
CVX936112	5-9-32.1	PP	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
CVX936113	5-9-32.1	PP	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
CVX866958	5-9-32.1	PP	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-32.1	PP	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-32.2	QQ	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
CVX935273	5-9-32.2	QQ	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	

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CVX935969	5-9-32.2	QQ	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-32.2	QQ	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
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CVX936062	5-9-32.2	QQ	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
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CVX866959	5-9-32.2	QQ	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-32.6	RR	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
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SI-02120

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CVX935271	5-9-32.13	SS	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
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CVX935276	5-9-32.13	SS	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-32.13	SS	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
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CVX936054	5-9-32.13	SS	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
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CVX936061	5-9-32.13	SS	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX866958	5-9-32.13	SS	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-32.13	SS	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-32.7	TT	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-32.7	TT	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-32.7	TT	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936061	5-9-32	UU	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-32	UU	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936112	5-9-32	UU	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-32	UU	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-32	UU	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-32	UU	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-32.11	VV	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX935273	5-9-32.11	VV	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-32.11	VV	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-32.11	VV	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-32.11	VV	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-32.11	VV	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-32.11	VV	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-32.11	VV	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-32.11	VV	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936112	5-9-32.11	VV	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX936113	5-9-32.11	VV	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX866958	5-9-32.11	VV	ANITA L SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	41/154	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX866959	5-9-32.11	VV	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	AB Resources LLC to Development LLC, Chief Exploration & Development LLC, Radler 2000 LP: 24/484	AB Resources LLC to Development LLC, Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	41/154	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX935271	5-9-32.10	WW	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	41/154	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX935273	5-9-32.10	WW	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	41/154	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX935276	5-9-32.10	WW	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	41/154	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX935969	5-9-32.10	WW	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	41/154	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286

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CVX936053	5-9-32.10	WW	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-32.10	WW	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-32.10	WW	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-32.10	WW	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-32.10	WW	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936112	5-9-32.10	WW	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-32.10	WW	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-32.10	WW	ANITA L SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX866959	5-9-32.10	WW	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695 629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX868337	5-9-33.1	XX	RALPH DUNLAP	TRIENERGY HOLDINGS, LLC	1/8+	737 433	N/A	N/A	N/A	N/A	TriEnergy Holdings LLC to NPAR LLC: 25/449	NPAR LLC to Chevron USA Inc: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX868399	5-9-33.2	YY	KEITH D. DANIELS AND BEVERLY A DANIELS	TRIENERGY HOLDINGS, LLC	1/8+	735 216	N/A	N/A	N/A	N/A	TriEnergy Holdings LLC to NPAR LLC: 25/449	NPAR LLC to Chevron USA Inc: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX939752	5-9-4	ZZ	LLOYD C ARNOLD AND JUDITH C ARNOLD	CHEVRON USA INC	1/8+	915 582	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to TH Exploration LLC: 43/95
CVX936589	5-9-4.19	A0	LLOYD C. ARNOLD AND JUDITH C ARNOLD	CHEVRON USA INC	1/8+	863 511	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936591	5-9-4.19	A0	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	861 595	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-32.8	A1	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853 59	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-32.8	A1	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853 430	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-32.8	A1	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853 422	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX935969	5-9-32.8	A1	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX936053	5-9-32.8	A1	LOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX936054	5-9-32.8	A1	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX936058	5-9-32.8	A1	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX936061	5-9-32.8	A1	CARA MAE CUFFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX936062	5-9-32.8	A1	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX936112	5-9-32.8	A1	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286
CVX936113	5-9-32.8	A1	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration Appalachia LLC: 988/286

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CVX866958	5-9-32.8	A1	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-32.8	A1	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-32.5	A2	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853	59	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-32.5	A2	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853	430	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-32.5	A2	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-32.5	A2	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936053	5-9-32.5	A2	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-32.5	A2	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936058	5-9-32.5	A2	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863 594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
CVX936061	5-9-32.5	A2	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853 426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
CVX936062	5-9-32.5	A2	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853 418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
CVX936112	5-9-32.5	A2	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853 449	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
CVX936113	5-9-32.5	A2	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853 445	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
CVX866958	5-9-32.5	A2	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696 7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
CVX866959	5-9-32.5	A2	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695 629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
Q078775000	5-9-34.2	A3	MILLARD BONNETTE JR AND SANDRA J BONNETTE	NOBLE ENERGY INC	1/8+	810 70	N/A	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 34/177	CNX Gas Company to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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Q079517000	5-9-34.6	A4	EARL B SUTER JR AND LORETTA J SUTER	NOBLE ENERGY INC	1/8+	809 640	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
10*18638	5-9-34	A5	TAMMY L MITCHELL AND ADAM J MITCHELL	TH EXPLORATION LLC	1/8+	936 248	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Q078775000	5-9-34.5	A6	MILLARD BONNETTE JR AND SANDRA J BONNETTE	NOBLE ENERGY INC	1/8+	810 70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
Q079517000	5-9-34.5	A6	EARL B SUTER JR AND LORETTA J SUTER	NOBLE ENERGY INC	1/8+	809 640	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX868337	5-9-33.3	A7	RALPH DUNLAP	TRIENERGY HOLDINGS, LLC	1/8+	737 433	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936589	5-9-4.13	A8	LLOYD C. ARNOLD AND JUDITH C ARNOLD	CHEVRON USA INC	1/8+	863 511	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936591	5-9-4.13	A8	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	861 595	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936589	5-9-4.11	A9	LLOYD C. ARNOLD AND JUDITH C ARNOLD	CHEVRON USA INC	1/8+	863 511	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936591	5-9-4.11	A9	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	861 595	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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Noble Energy Inc to CNX Gas Company LLC: 34/177

CNX Gas Company to Noble Energy Inc: 37/169

Noble Energy Inc to HG Energy II Appalachia LLC: 39/1

TriEnergy Holdings LLC to NPAR LLC: 25/449

NPAR LLC to Chevron USA Inc: 756/332

Chevron USA Inc to HG Energy II Appalachia LLC: 41/154

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Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page		Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
CVX936589	5-9-4.17	B0	LLOYD C. ARNOLD AND JUDITH C ARNOLD	CHEVRON USA INC	1/8+	863	511	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936591	5-9-4.17	B0	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	861	595	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936589	5-9-4.16	B1	LLOYD C. ARNOLD AND JUDITH C ARNOLD	CHEVRON USA INC	1/8+	863	511	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936591	5-9-4.16	B1	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	861	595	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
Q078775000	5-9-34.3	B2	MILLARD BONNETTE JR AND SANDRA J BONNETTE	NOBLE ENERGY INC	1/8+	810	70	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 34/177	CNX Gas Company to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 39/1 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
10*26004	5-9-34.1	B3	VAN SCYOC LOUIS ET UX	AB RESOURCES LLC	1/8+	697	461	N/A	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/382	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332 Chevron USA Inc to TH Exploration LLC: 43/95
10*26004	5-9-34.4	B4	VAN SCYOC LOUIS ET UX	AB RESOURCES LLC	1/8+	697	461	N/A	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/382	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332 Chevron USA Inc to TH Exploration LLC: 43/95
10*26016	5-9-4.4	B5	SIMMONS LINDA J	TRIENERGY HOLDINGS, LLC	1/8+	731	341	N/A	N/A	N/A	N/A	N/A	N/A	TriEnergy Holdings LLC to NPAR LLC: 25/449 NPAR LLC to Chevron USA Inc: 756/332 Chevron USA Inc to TH Exploration LLC: 43/95

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Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page		Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
CVX936589	5-9-4.20	B6	LLOYD C. ARNOLD AND JUDITH C ARNOLD	CHEVRON USA INC	1/8+	863	511	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936591	5-9-4.20	B6	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	861	595	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
Q078779000	5-9-4.5	B7	ROBERT SYDNEY ANDERSON & VICTORIA JO ANDEDRSON	NOBLE ENERGY INC	1/8+	810	74	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 34/177	CNX Gas Company to Noble Energy Inc: 37/169	Noble Energy nc to HG Energy II Appalachia LLC: 39/1
Q078778000	5-9-4.12	B8	SAMUEL L CANTERBURY AND DEBRA N CANTERBURY	NOBLE ENERGY INC	1/8+	810	68	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 34/177	CNX Gas Company to Noble Energy Inc: 37/169	Noble Energy nc to HG Energy II Appalachia LLC: 39/1
CVX936589	5-9-4.15	B9	LLOYD C. ARNOLD AND JUDITH C ARNOLD	CHEVRON USA INC	1/8+	863	511	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936591	5-9-4.15	B9	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	861	595	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936589	5-9-4.14	C0	LLOYD C. ARNOLD AND JUDITH C ARNOLD	CHEVRON USA INC	1/8+	863	511	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936591	5-9-4.14	C0	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	861	595	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
CVX868468	5-9-4.10	C1	DEBORAH S. MIDCAP	TRIENERGY HOLDINGS, LLC	1/8+	737 260	N/A	N/A	N/A	N/A	TriEnergy Holdings LLC to NPAR LLC: 25/449	NPAR LLC to Chevron USA Inc: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX868688	5-9-4.9	C2	THOMAS E. MIDCAP FREDA M MIDCAP	TRIENERGY HOLDINGS, LLC	1/8+	738 482	N/A	N/A	N/A	N/A	TriEnergy Holdings LLC to NPAR LLC: 25/449	NPAR LLC to Chevron USA Inc: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
N/A	5-9-4.6	C3	HARRY E KARR JR	N/A	N/A	N/A	FORCE POOL							
N/A	5-9-4.6	C3	MICHAELA L KARR	N/A	N/A	N/A	FORCE POOL							
Q077357000	5-9-4.2	C4	LINDA J SIMMONS	NOBLE ENERGY INC	1/8+	805 575	N/A	N/A	N/A	N/A	Noble Energy Inc to CNX Gas Company LLC: 33/28	CNX Gas Company to Noble Energy Inc: 37/169	Noble Energy Inc to HG Energy II Appalachia LLC: 39/1	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
N/A	5-9-4.1	C5	HARRY E KARR JR	N/A	N/A	N/A	FORCE POOL							
N/A	5-9-4.1	C5	MICHAELA L KARR	N/A	N/A	N/A	FORCE POOL							
N/A	5-9-4.3	C6	HARRY E KARR JR	N/A	N/A	N/A	FORCE POOL							
CVX868463	5-9-4.7	C7	FRANCIS D. BARR AND TERRI L BARR	TRIENERGY HOLDINGS, LLC	1/8+	737 252	N/A	N/A	N/A	N/A	TriEnergy Holdings LLC to NPAR LLC: 25/449	NPAR LLC to Chevron USA Inc: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX868688	5-9-4.8	C8	THOMAS E. MIDCAP FREDA M MIDCAP	TRIENERGY HOLDINGS, LLC	1/8+	738 482	N/A	N/A	N/A	N/A	TriEnergy Holdings LLC to NPAR LLC: 25/449	NPAR LLC to Chevron USA Inc: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935271	5-9-35	C9	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853 59	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-35	C9	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853 430	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
CVX935276	5-9-35	C9	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853	422	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	Assignment
CVX935969	5-9-35	C9	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864	47	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	Assignment
CVX936053	5-9-35	C9	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	Assignment
CVX936054	5-9-35	C9	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	Assignment
CVX936058	5-9-35	C9	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	Assignment
CVX936061	5-9-35	C9	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	Assignment
CVX936062	5-9-35	C9	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	Assignment
CVX936112	5-9-35	C9	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	Assignment

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Lease ID	Parcel	Tag	Grantor, Lessor, Etc.	Grantee, Lessee, Etc.	Royalty	Deed Book/Page	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment	Assignment
CVX936113	5-9-35	C9	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853 445	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-35	C9	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696 7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
CVX866959	5-9-35	C9	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695 629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286	
10*25370	5-8-8	D0	JAMES EDWARD & LAURA J FRANCIS	TH EXPLORATION LLC	1/8+	PENDING	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10*25487	5-8-8	D0	STONE HILL MINERALS HOLDINGS LLC	TH EXPLORATION LLC	1/8+	1031 538	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CVX935271	5-9-35.1	D1	CHARLES W. MILLER AND ESTHER JEAN MILLER	CHEVRON USA INC	1/8+	853 59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935273	5-9-35.1	D1	PAUL PARSONS ET UX	CHEVRON USA INC	1/8+	853 430	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935276	5-9-35.1	D1	SHARON LYN RUSSELL	CHEVRON USA INC	1/8+	853 422	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX935969	5-9-35.1	D1	TIMOTHY HUFF ET UX	CHEVRON USA INC	1/8+	864 47	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

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CVX936053	5-9-35.1	D1	LLOYD C. ARNOLD ET UX	CHEVRON USA INC	1/8+	864	39	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936054	5-9-35.1	D1	MARY JO CRONIN	CHEVRON USA INC	1/8+	864	43	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936058	5-9-35.1	D1	RICHARD KURPIL ET UX	CHEVRON USA INC	1/8+	863	594	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936061	5-9-35.1	D1	CLARA MAE CLIFTON	CHEVRON USA INC	1/8+	853	426	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936062	5-9-35.1	D1	GEORGE EDWARDS ET UX	CHEVRON USA INC	1/8+	853	418	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936112	5-9-35.1	D1	DONNA FAE KYLE	CHEVRON USA INC	1/8+	853	449	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX936113	5-9-35.1	D1	JUDITH MAY CONNER	CHEVRON USA INC	1/8+	853	445	N/A	N/A	N/A	N/A	N/A	N/A	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-35.1	D1	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154 Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286

51-02123 MDD

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CVX866959	5-9-35.1	D1	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866958	5-9-35.1	D1	ANITA L. SLOUGH AND WILLIAM O. JOBES	AB RESOURCES LLC	1/8+	696	7	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
CVX866959	5-9-35.1	D1	PAUL SCHEIBELHOOD ET AL	AB RESOURCES LLC	1/8+	695	629	N/A	AB Resources LLC to Chief Exploration & Development LLC & Radler 2000 LP: 24/484	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/1	Chief Exploration & Development LLC, Radler 2000, & Enerplus Resources Corp to Chevron USA Inc: 25/105	AB Resources LLC to NPAR LLC: 25/484	NPAR LLC to Chevron USA: 756/332	Chevron USA Inc to HG Energy II Appalachia LLC: 41/154	Memorandum of Operating Agreement between TH Exploration LLC and HG Energy II Appalachia, LLC: 988/286
10*21546	5-8-7	D2	EDWIN C MILLER AND KIMBERLY ANN MILLER	TH EXPLORATION LLC	1/8+	957	257	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Document Type ASH
Pages Recorded 77
Book-Page 36-9
Recording Fee \$77.00
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WHEN RECORDED, RETURN TO:
EPE International, LLC
1320 South University Drive, Suite 500
Fort Worth, Texas 76107
Attn: David Kalish

Execution Version

ASSIGNMENT AND BILL OF SALE

STATE OF WV

§
§
§

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF MARSHALL

THIS ASSIGNMENT AND BILL OF SALE (this "Assignment"), dated April 7, 2016, but effective as of 7:00 A.M. Houston time on January 1, 2016 (the "Effective Time"), is between Gasbar Exploration Inc, a Delaware corporation, whose address is 1331 Lamar Street, Suite 650 Houston, Texas 77010 ("Assignor"), and TH Exploration II, LLC, a Texas limited liability company, whose address is 1320 South University Drive, Suite 500, Fort Worth, Texas 76107 ("Assignee"). Assignor and Assignee are each, individually, referred to herein as a "Party" and, collectively, as the "Parties".

Capitalized terms used but not defined herein shall have the respective meanings set forth in that certain Purchase and Sale Agreement (the "Purchase Agreement"), dated as of February 19, 2016, by and between Assignor and Assignee (as Successor-in-interest).

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

For Ten Dollars (\$10.00) and other good and valuable consideration (the receipt and sufficiency of which are hereby acknowledged), Assignor does hereby forever GRANT, BARGAIN, SELL, CONVEY, ASSIGN, TRANSFER, SET OVER AND DELIVER unto Assignee, all of Assignor's right, title and interest in and to the following interests and properties (such right, title and interest described in subsections (a) through (c) of this Section 1, less and except the Excluded Assets, collectively, the "Conveyed Interests").

(a) all oil, gas and/or mineral leases of Assignor, together with any and all other right, title and interest of Assignor in and to the leasehold estates created thereby, including subleases, royalties, overriding royalties, net profits interest, carried interests or similar rights or interests in such leases, and together with all rights, privileges, benefits and powers conferred upon Assignor with respect to the use and occupation of the lands covered thereby that may be necessary, convenient or incidental to the possession and enjoyment of such leases, located in Marshall, Wetzell, Doddridge, Harrison, Lewis, Marion, and Monongalia Counties, West Virginia and Greene, Butler, Fayette, Somerset, and Clearfield Counties, Pennsylvania, including those described on Exhibit A—Part 1 attached hereto (subject to any reservations, limitations or depth restrictions described on Exhibit A—Part 1), (Assignor's interest in such leases and other right, title and interest as so limited, the "Leases");

(b) all rights and interests in, under or derived from all unitization agreements in effect with respect to any of the Leases and the units created thereby, including those described

US-4084680

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APR 26 2019
WV Department of
Environmental Protection

51-02123
MOR

STATE OF WEST VIRGINIA §
§
COUNTY OF MARSHALL §

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

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "Assignment") is made and entered into this 1 day of August, 2017 (the "Effective Date"), by and between CHEVRON U.S.A. INC. (hereinafter "Assignor") and TH EXPLORATION, LLC (hereinafter "Assignee") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated the 1st day of August, 2017 (the "Acreage Trade Agreement"). Capitalized terms used but not defined herein and defined in the Acreage Trade Agreement shall have the meanings given to such terms in the Acreage Trade Agreement.

WITNESSETH:

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

WHEREAS, Assignor desires to assign, set over, and transfer to Assignee all of Assignor's right, title, and interest in and to the Leases as described below, subject to certain overriding royalty interests and less and except certain exclusions.

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

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

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

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

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MEMORANDUM OF OPERATING AGREEMENT AND FINANCING STATEMENT

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

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

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

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

1. The Operator shall conduct and direct and have full control of all operations on the Contract Area as permitted and required by, and within the limits of, the Operating Agreement

2. The liability of the parties under the Operating Agreement shall be several, not joint or collective. Each party shall be responsible only for its obligations and shall be liable only for its proportionate share of costs.

3. Each Non-Operator grants to Operator a lien upon its oil and gas rights, oil and gas leases and mineral interests in the Contract Area, and a security interest in its share of oil and/or gas when extracted and its interest in all fixtures, inventory, personal property and equipment located on or used on the Contract Area and in all its contract rights and receivables related thereto and arising therefrom to secure payment of its present and future share of costs and expenses, together with interest thereon at the rate provided in the Accounting Procedure referred to above. To the extent that Operator has a security interest under the Uniform Commercial Code ("Code") of the state or states in which the Contract Area is located, Operator without prejudice and in addition to all other legal, equitable and contractual remedies which are expressly reserved, shall be entitled to exercise the rights and remedies of a secured party under the Code. The bringing of a suit and the obtaining of judgment by Operator for the secured indebtedness shall not be deemed an election of remedies or otherwise affect the rights or security interests for the payment thereof.

4. The Operator grants to Non-Operator a lien and security interest equivalent to that granted to Operator as described in Paragraph 3 above, to secure payment by Operator of its own share of costs and expenses when due.

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Environmental Protection

5-1-0233
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SI-02123
MJD

COPY

STATE OF WEST VIRGINIA §
COUNTY OF MARSHALL §

Marshall County
Jan Pest, Clerk
Instrument 1453305
04/24/2019 @ 11:51:22 AM
ASSIGNMENTS
Book 43 @ Page 503
Pages Recorded 10
Recording Cost \$ 17.00

ASSIGNMENT AND CONVEYANCE

THIS ASSIGNMENT AND CONVEYANCE (the "Assignment") is made and entered into this 23rd day of April, 2019 (the "Effective Date"), by and between AMERICAN PETROLEUM PARTNERS OPERATING, LLC, (hereinafter "Assignor") and TH EXPLORATION, LLC (hereinafter "Assignee") pursuant to the terms of that certain Acreage Trade Agreement between the Assignor and the Assignee dated November 15, 2018 (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-2, attached hereto and made a part hereof (hereinafter the "Leases"); and

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

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

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

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

2. Special Warranty. Assignor represents and warrants that Assignor has not conveyed or otherwise encumbered (other than Permitted Encumbrances) its interest in the Leases since the time that Assignor obtained its interests in the Leases. Assignor does covenant, promise and agree, to and with the Assignee, its respective successors and assigns, to forever specially warrant and defend the title to the Leases or portions thereof included under this Assignment, unto the Assignee and its respective successors and assigns, against the lawful claims of Assignor, and all persons claiming, or to claim, the same or any part thereof, by, through or under Assignor.

Assignor represents and warrants that Assignor has paid any and all bonuses, rentals, royalties, overriding royalties, and other payments required by the Leases which were due for the period in which Assignor held its interests in the Leases, and that Assignor has fully performed all conditions necessary to maintain the Leases in full force and effect during such period, free and clear of all Encumbrances, except for and subject only to Permitted Encumbrances.

3. Successors and Assigns. The terms of this Assignment shall be binding upon and inure to the benefit of the parties hereto and each of their respective successors

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Office of Oil and Gas
APR 26 2019
WV Department of
Environmental Protection

**UTICA PERMIT**

May 14, 2019

WVDEP Office of Oil & Gas
Conservation Commission
Attn: Susan Rose
601 57th Street, SE
Charleston, WV 25304-2345

VIA: FEDEX

Subject: Permit Modification Request for Old Crow N-18HU API # 47-051-02123 (Revised Directional Drilling Plan) located in Franklin District; Marshall County, WV

Dear Susan:

Tug Hill Operating, LLC would like to submit the enclosed permit application modification request to our approved permit for the Old Crow N-18HU API # 47-051-02123 for a new well to explore for Point Pleasant (Utica) potential. This proposed well is located in Marshall County, WV. This will replace the permit modification submitted on 4/26/2019. We are extending our lateral to within 10' of the unit boundary and therefore would request a hearing to discuss this exception.

Please find the following enclosed revisions for extending the bottom hole location of the well:

- Revised Offset Operator within 1500 feet (additional tracts highlighted in yellow)
- Revised Site Safety Plan (on CD)
- Revised WW-6B
- Revised Mylar Well Plat

If you have any question or need any additional information, please feel free to call me at 304-376-0111. Thank you for reviewing this application. As always, I truly appreciate your help.

Sincerely,

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

Amy L. Miller
Permitting Specialist – Appalachia Region



UTICA PERMIT

April 25, 2019

WVDEP Office of Oil & Gas
Conservation Commission
Attn: Susan Rose
601 57th Street, SE
Charleston, WV 25304-2345

VIA: FEDEX

Subject: Permit Modification Request for Old Crow N-18HU API # 47-051-02123 (Revised Directional Drilling Plan) located in Franklin District; Marshall County, WV

Dear Susan:

Tug Hill Operating, LLC would like to submit the enclosed permit application modification request to our pending permit for the Old Crow N-18HU API # 47-051-02123 for a new well to explore for Point Pleasant (Utica) potential. This proposed well is located in Marshall County, WV.

Please find the following enclosed revisions for extending the bottom hole location of the well:

- Revised Offset Operator within 1500 feet
- Revised Site Safety Plan (on CD)
- Revised WW-6B
- Revised Mylar Well Plat
- Revised WW-6A1

If you have any question or need any additional information, please feel free to call me at 304-376-0111. Thank you for reviewing this application. As always, I truly appreciate your help.

Sincerely,

Amy L. Miller
Permitting Specialist – Appalachia Region

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Office of Oil and Gas

APR 26 2019

WV Department of
Environmental Protection

SI-02123

Offset Operators within 1500'				
Old Crow N - 18HU				
County	District	Parcel	Owner	Address
MARSHALL	FRANKLIN	5-10-1	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-10-1	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-10-2	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-10-3	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-10-9	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-10-14	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-10-15	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-10-16	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-10-16.4	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-10-17	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-11-9	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-11-10	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-15-8	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-16-1	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-16-2	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-16-19	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-16-23	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-16-23.1	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-16-25	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-16-3	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-16-3.1	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-16-3.2	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107

MARSHALL	FRANKLIN	5-16-4	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-16-5	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-16-6	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-8-5	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-8-7	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-8-8	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-8-9	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-2	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-2.1	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.1	HARRY E KARR JR	3816 Fish Creek Road Proctor, WV 26055
MARSHALL	FRANKLIN	5-9-4.1	MICHAELA L KARR	3816 Fish Creek Road Proctor, WV 26055
MARSHALL	FRANKLIN	5-9-4.2	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.3	HARRY E KARR JR	3816 Fish Creek Road Proctor, WV 26055
MARSHALL	FRANKLIN	5-9-4.4	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-4.5	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.6	HARRY E KARR JR	3816 Fish Creek Road Proctor, WV 26055
MARSHALL	FRANKLIN	5-9-4.6	MICHAELA L KARR	3816 Fish Creek Road Proctor, WV 26055
MARSHALL	FRANKLIN	5-9-4.7	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.8	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.9	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.10	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.11	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.12	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.13	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.14	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.15	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.16	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.17	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.18	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101

MARSHALL	FRANKLIN	5-9-4.19	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-4.20	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-19	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-19	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-20	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-21	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-21	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-22	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-22	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-23	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-23	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-24	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-25	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-25	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-26	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-26	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-27	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-27	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-28	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-28	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-29	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-29	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-29.1	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-29.1	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-29.2	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-29.2	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-30	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107

MARSHALL	FRANKLIN	5-9-30	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-30.1	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-30.1	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-30.2	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-30.2	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-30.3	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-30.3	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-31	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-32	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.1	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.10	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.11	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.12	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.13	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.2	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.3	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.4	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.5	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.5	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.6	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.7	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.8	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-32.9	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-33	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-33.1	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-33.2	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-33.3	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-33.4	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-34	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-34.1	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107

MARSHALL	FRANKLIN	5-9-34.2	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-34.3	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-34.4	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	5-9-34.5	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-34.6	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-35	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-35.1	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-36	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-37	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-38	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-38.1	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-38.10	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-38.2	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-38.3	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-38.4	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-38.5	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-38.6	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-38.7	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-38.8	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-38.9	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-39	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-40	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101
MARSHALL	FRANKLIN	5-9-41	TH EXPLORATION LLC	1320 S. University Dr. Suite 500 FT Worth, TX 76107
MARSHALL	FRANKLIN	FISH CREEK	HG ENERGY II APPALACHIA LLC	5260 Dupont Road Parkersburg, WV 26101



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

May 29, 2019

Michaela L. Karr
3816 Fish Creek Rd
Proctor WV 26055

91 7199 9991 7039 1715 2038

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Old Crow N-18HU

Dear Sir or Ma'am:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commission's granting approval to the proposed deviations. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received within ten 10 days from the date of delivery, the application will be processed in the normal manner.

If you have any questions please call me at (304) 926-0499, extension 1274.

Sincerely,

Susan Rose
Administrator

encl:



June 6, 2019

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number:
9171 9999 9170 3917 1520 38.

Item Details

Status: Delivered, Left with Individual
Status Date / Time: June 3, 2019, 2:53 pm
Location: PROCTOR, WV 26055
Postal Product: First-Class Mail®
Extra Services: Certified Mail™
 Return Receipt Electronic

Shipment Details

Weight: 4lb, 15.4oz

Recipient Signature

Signature of Recipient:	<table border="1"> <tr> <td style="font-size: small;">Signature</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="font-size: small;">Printed Name</td> <td>Harold B. Kwan, Jr.</td> </tr> </table>	Signature	X	Printed Name	Harold B. Kwan, Jr.	
Signature	X					
Printed Name	Harold B. Kwan, Jr.					
Address of Recipient:	<table border="1"> <tr> <td style="font-size: small;">Delivery Address</td> <td>3816 Fox Chase Rd</td> </tr> </table>	Delivery Address	3816 Fox Chase Rd			
Delivery Address	3816 Fox Chase Rd					

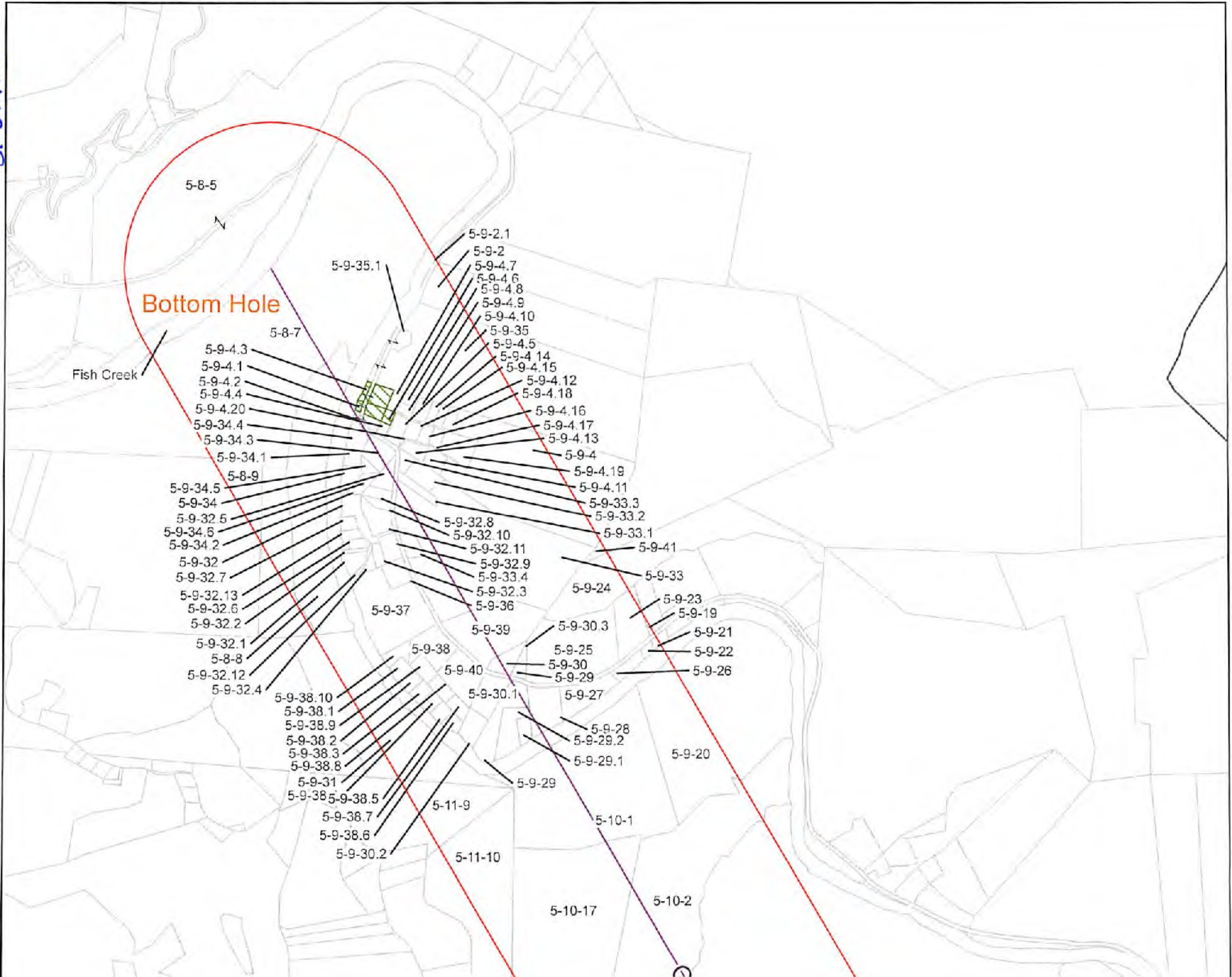
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Sincerely,
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 Washington, D.C. 20260-0004

Old Crow N-18HU

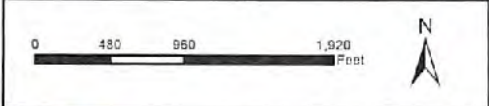
SI-02123





Coordinate System: NAD 1983 UTM Zone 17N
 Projection: Transverse Mercator
 Datum: North American 1983
 False Easting: 1,640,414.6967
 False Northing: 5,000
 Central Meridian: -81.0000
 Scale Factor: 0.9996
 Latitude of Origin: 39.0000
 Units: Foot US

CONFIDENTIAL



1500 Foot Buffer
 Utica Well
 Force Pool

Old Crow N-18HU
Operators within 1500 Feet of Well Borehole





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

May 29, 2019

HG Energy II Appalachia LLC
 5260 Dupont Rd
 Parkersburg WV 26101

91 7199 9991 7039 1715 2069

RE: Intentional Deviation of New Deep Well
 Tug Hill Operating, LLC – Old Crow N-18HU

Dear Sir:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commission's granting approval to the proposed deviations. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

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Sincerely,

Susan Rose
 Administrator

encl:

June 6, 2019

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number:
9171 9999 9170 3917 1520 69.

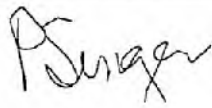

Item Details

Status:	Delivered, Front Desk/Reception/Mail Room
Status Date / Time:	May 31, 2019, 12:23 pm
Location:	PARKERSBURG, WV 26101
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight: 4lb, 15.6oz

Recipient Signature

Signature of Recipient:	
Address of Recipient:	

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Sincerely,
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Washington, D.C. 20260-0004



 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

May 29, 2019

TH Exploration
 1320 S. University Dr Ste 500
 Ft Worth TX 76107

 91 7199 9991 7039 1715 2052

RE: Intentional Deviation of New Deep Well
 Tug Hill Operating, LLC – Old Crow N-18HU

Dear Sir:

Please be advised that Tug Hill Operating, LLC, has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commission's granting approval to the proposed deviations. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

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Sincerely,

Susan Rose
 Administrator

encl:



June 6, 2019

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number: 9171 9999 9170 3917 1520 52.

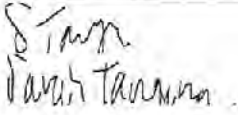

Item Details

Status:	Delivered, Front Desk/Reception/Mail Room
Status Date / Time:	June 3, 2019, 4:01 pm
Location:	FORT WORTH, TX 76107
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

Shipment Details

Weight:	4lb, 16.0oz
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Recipient Signature

Signature of Recipient:	
Address of Recipient:	

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Washington, D.C. 20260-0004



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

May 29, 2019

Harry E. Karr Jr
3816 Fish Creek Rd
Proctor WV 26055

91 7199 9991 7039 1715 2045

RE: Intentional Deviation of New Deep Well
Tug Hill Operating, LLC – Old Crow N-18HU

Dear Sir:

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If you have any questions please call me at (304) 926-0499, extension 1274.

Sincerely,

Susan Rose
Administrator

encl:

51-02123



June 6, 2019

Dear Susan Rose:

The following is in response to your request for proof of delivery on your item with the tracking number: 9171 9999 9170 3917 1520 45.

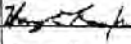
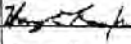
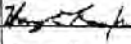
Item Details

Status:	Delivered, Left with Individual
Status Date / Time:	June 3, 2019, 2:53 pm
Location:	PROCTOR, WV 26055
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™
	Return Receipt Electronic

Shipment Details

Weight: 4lb, 15.5oz

Recipient Signature

Signature of Recipient:	<table border="1"> <tr> <td style="font-size: small;">Signature</td> <td>X </td> </tr> <tr> <td style="font-size: small;">Print Name</td> <td>HARRY E. KARR JR</td> </tr> </table>	Signature	X 	Print Name	HARRY E. KARR JR	
Signature	X 					
Print Name	HARRY E. KARR JR					
Address of Recipient:	<table border="1"> <tr> <td style="font-size: small;">Delivery Address</td> <td>3816 Fox Creek Rd</td> </tr> </table>	Delivery Address	3816 Fox Creek Rd			
Delivery Address	3816 Fox Creek Rd					

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Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004



April 25, 2019

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

RE: Old Crow N-18HU

Subject: Proposed Voluntary Pooling and Unitization

Dear Susan:

Tug Hill Operating, LLC is authorized through, either lease or other agreement, to unitize and pool all lands falling within the boundaries of the proposed voluntary unit included with this submission, except for the following parcels which we intend to force pool:

5-9-4.6

5-9-4.1

5-9-4.3

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

Sincerely,

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

Amy L. Miller
Permitting Specialist
Tug Hill Operating

RECEIVED
Office of Oil and Gas
APR 26 2019
WV Department of
Environmental Protection