



west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Tuesday, November 16, 2021
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

EQT PRODUCTION COMPANY
625 LIBERTY AVE., SUITE 1700

PITTSBURGH, PA 15222

Re: Permit Modification Approval for 14H
47-103-03416-00-00

Lateral Extension

EQT PRODUCTION COMPANY

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 blue ink signature of James A. Martin, Chief, is written over the text. The signature is stylized and cursive.

James A. Martin
Chief

Operator's Well Number: 14H
Farm Name: MICHAEL KUHN
U.S. WELL NUMBER: 47-103-03416-00-00
Horizontal 6A New Drill
Date Modification Issued: 11/16/2021

Promoting a healthy environment.

11/19/2021



November 4, 2021

Via FedEx Overnight

West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304

RE: Well Work Permit Modification
Michael Kuhn 14H Well
Permit Number 47-103-03416
Center District, Wetzel County, WV

WVDEP Recipient,

Attached please find following information to modify the existing Well Work Permit for this well:

- Check in the amount of \$5,000 for the expedited permit fee
- Completed Form WW-6B and supporting documents, approved by the Oil and Gas Inspector
- Revised Well Bore Diagram
- Well Location Plat
- Completed Form WW-6A1 and supporting documentation
- Hydraulic Fracturing Monitoring Plan
- DVD with the updated Water Management Plan

EQT is proposing to extend the lateral from the previously permitted length and add an additional source to the previously approved Water Management Plan. The modification to the Water Management Plan will apply to all wells on the pad.

EQT Production trusts that if any portion of the submitted documentation is found to be inadequate for processing the permit, notification will be made to our Permitting department at your earliest convenience. It is EQT Production's intent to cooperate fully to provide any additional requested documentation and clarification in a timely manner such that permitting proceeds in a predictable and logical manner.

Best Regards,

A handwritten signature in blue ink, appearing to read 'J. Zavatchan'.

John Zavatchan
Project Specialist – Permitting
jzavatchan@eqt.com
724-746-9073

11/19/2021

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

1) Well Operator: EQT Production Company 306686 Wetzel Center Big Run
Operator ID County District Quadrangle

2) Operator's Well Number: 14H Well Pad Name: Michael Kuhn

3) Farm Name/Surface Owner: Rachel Elizabeth Wyall & Sheldon R Norris Public Road Access: CR 19/3

4) Elevation, current ground: 1509' (built) Elevation, proposed post-construction: 1509' (built)

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

Other _____

(b) If Gas Shallow Deep _____

Horizontal

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus, 7,736', 51', 2,620 PSI

8) Proposed Total Vertical Depth: 7736'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 25,605'

11) Proposed Horizontal Leg Length: 14,647'

12) Approximate Fresh Water Strata Depths: 75', 361'

13) Method to Determine Fresh Water Depths: Offset Wells - 47-103-01884 & 43-103-01813

14) Approximate Saltwater Depths: 2027', 2100', 2295', 2369'

15) Approximate Coal Seam Depths: 1163'-1166', 1260'-1266'

16) Approximate Depth to Possible Void (coal mine, karst, other): N/A

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: _____

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	26	New	A-500	85.6	40	40	50 ft ³ / CTS
Fresh Water	13 3/8	New	J-55	54.5	1316	1316 ✓	1210 ft ³ / CTS
Coal							
Intermediate	9 5/8	New	J-55	36	2823	2823 ✓	1100 ft ³ / CTS
Production	5 1/2	New	P-110	20	25605	25605 ✓	500' above intermediate casing
Tubing							
Liners							

Bryan Harris 10/21/21 ✓

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	26	30	0.312	1050	18	Class A	1.18
Fresh Water	13 3/8	17 1/2	0.380	2730	2184	Class A / Type 1	1.13 - 1.19
Coal							
Intermediate	9 5/8	12 3/8	0.352	3520	2816	Class A / Type 1	1.13 - 1.19
Production	5 1/2	8 1/2	0.361	14360 ✓	11488	Class A/H	1.04 - 2.10
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill and complete the horizontal portion of this well in the Marcellus Formation. Cement casing.

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

Hydraulic fracturing is completed in accordance with state regulations using water recycled from previously fractured wells and obtained from freshwater sources. This water is mixed with sand and a small percentage (less than 0.1%) of chemicals (including 15% Hydrochloric acid, friction reducer, biocide, and scale inhibitor), referred to in the industry as a "slickwater" completion. Maximum anticipated internal casing pressure is expected to be approximately 10,000 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 350,000 gallons of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 200,000-600,000 pounds of proppant per stage.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 12.25 acres (2.87 acres previously disturbed)

22) Area to be disturbed for well pad only, less access road (acres): 5.17 acres (2.72 acres existing)

23) Describe centralizer placement for each casing string:

- Surface: Bow spring centralizers – One centralizer at the shoe and one spaced every 500'.
- Intermediate: Bow spring centralizers– One centralizer at the shoe and one spaced every 500'.
- Production: One solid body centralizer spaced every joint from production casing shoe to KOP.

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

Conductor: Class A no additives
Surface: Calcium Chloride. Used to speed the setting of cement slurries
Intermediate: Calcium Chloride. Used to speed the setting of cement slurries.
Production: Calcium Carbonate, Fluid Loss, Extender, Dispersent, Viscosifier, Defoamer, POZ, Bonding Agent, Retarder, Anti-Settling/Suspension Agent

25) Proposed borehole conditioning procedures:

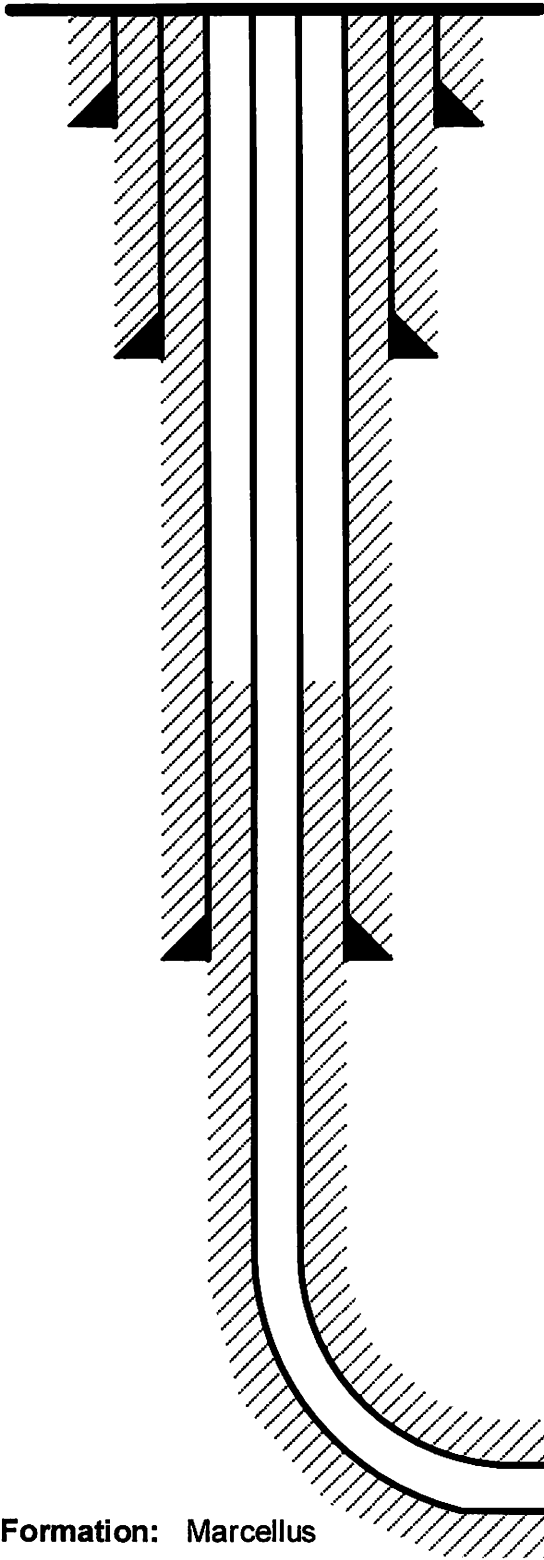
Surface: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.
Intermediate: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.
Production: Perform a cleanup cycle by pumping 3-8 bottoms up or until the shakers are clean. Check volume of cuttings coming across the shakers every 15 minutes.

*Note: Attach additional sheets as needed.

EQT Production**Wellbore Diagram**

Well: Michael Kuhn 14H
Pad: Michael Kuhn
Elevation: 1523' GL 1536' KB

County: Wetzell
State: West Virginia



Conductor @ 40'

26", 85.6#, A-500, cement to surface w/ Class A

Surface @ 1,316'

13-3/8", 54.5#, J-55, cement to surface w/ Class A/Type I

Intermediate @ 2,823'

9-5/8", 36#, J-55, cement to surface w/ Class A/Type I

Production @ 25,605' MD / 7,736' TVD

5-1/2", 20#, P-110, cement to 500' inside 9-5/8" w/ Class A/H

Formation: Marcellus

NOT TO SCALE

WEST VIRGINIA GEOLOGICAL PROGNOSIS

BIG467

Horizontal Well
 Ped Name: MICHAEL KUHN
 BIG467

Drilling Objectives:
 Quads:
 County:
 Elevation:
 Recommended Azimuth:

Marcellus
 Wotzel
 1536 KB
 Degrees

Big Run

1523 GL

Recommended total wellbore length:

Proposed Logging Suite:

-No Pilot Hole Needed

Coal requirements:

Run a directional survey from the surface through the deepest coal seam

ESTIMATED FORMATION TOPS

Derived from well 4710302775

Formation	Top (TVD)	Base (TVD)	Lithology	Comments
Fresh Water Zone	1	361		FW from offsets @ 75,361,
Sewickley Coal	1163	1166	Coal	
Pittsburgh Coal	1260	1266	Coal	SW @ 2027,2100,2295,2369
Big Injun	2623	2773	Sandstone	Hydrocarbon prod/show in offset @ 2395,2679,3320,3432,3569, . . .
Int. esg pt	2823			50 ft below Big Injun
Berea	2891	3151	Sandstone	RED ROCK SHOWS NOT LISTED IN OFFSETS
Gantz	3256	3324	Silty sand	
Fifty foot	3324	3412	Silty sand	Outside of Storage Boundary
Thirty foot	3412	3609	Silty sand	
Bayard	3609	3683	Sandstone	
Upper Speechley	4014	4067	Silty sand	
Speechley	4067	4150	Silty sand	
Balltown	4150	4514	Silty sand	
Bradford	4514	5629	Silty sand	
Benson	5629	6037	Silty sand	
Alexander	6037	6468	Silty sand	
Elk	6468	7272	Silty sand	
Sonyea	7272	7441	Gray shale	
Middlesex	7441	7485	Black Shale	
Genesee	7485	7572	Gray shale interbedded	
Genesee	7572	7599	Black Shale	
Tully	7599	7622	Limestone	
Hamilton	7622	7725	Gray shale with some	
Marcellus	7725	7776	Black Shale	
-Purcell	7742	7744	Limestone	
-Cherry Valley	7754	7756	Limestone	
-Lateral Zone	7751			
Onondaga	7776		Limestone	

Top RR Base RR

Comments:

Note that this is a TVD prog for a horizontal well (azimuth of degrees; target formation = Marcellus). All measurements taken from assumed KB elevation. Water and coal information estimated from surrounding well data.

RECOMMENDED CASING POINTS

	CSG OD		CSG DEPTH	Planned Depth
Conductor:	24"			40
Freshwater / Coal:	13 3/8"			1316 50' below Pittsburgh
Intermediate 1:	9 5/8"			2823 50' below big injun
Production:	5 1/2"			@ TD

=====

**EQT Production
Hydraulic Fracturing Monitoring Plan
Pad ID: Michael Kuhn
County: Wetzel**

May 14, 2021

Purpose

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to identify and notify conventional well operators near EQT hydraulic fracturing in Wetzel County, WV prior to hydraulic fracturing at the following EQT wells on the Michael Kuhn well pad: 4H, 6H, 8H, 10H, 12H, 14H, 16H

Due to the requirements under 35CSR8 5.11, the permittee is required to review the area surrounding the proposed well pad so as to identify and evaluate potential conduits for unintended fracture propagation.

A report is required to be submitted along with a well work permit application.

The plan is being implemented as an additional safety measure to be utilized in conjunction with existing best management practices and emergency action plans for the site. These additional measures include coordination with well operators of the timing and location of the hydraulic fracturing, establishment of measures well operators should implement, and assurance that the OOG is notified of the timeline, as well as any issues that may arise during fracturing.

1. Communications with Well Operators

EQT, using available data (WV Geological Survey, WVDEP website, and IHS data service), has identified all known wells and well operators within 500 feet of this pad and the lateral sections that are known or could reasonably be expected to be within range of the fracture propagation. A map showing these wells along with a list of the wells and operators is included in **Attachment A**.

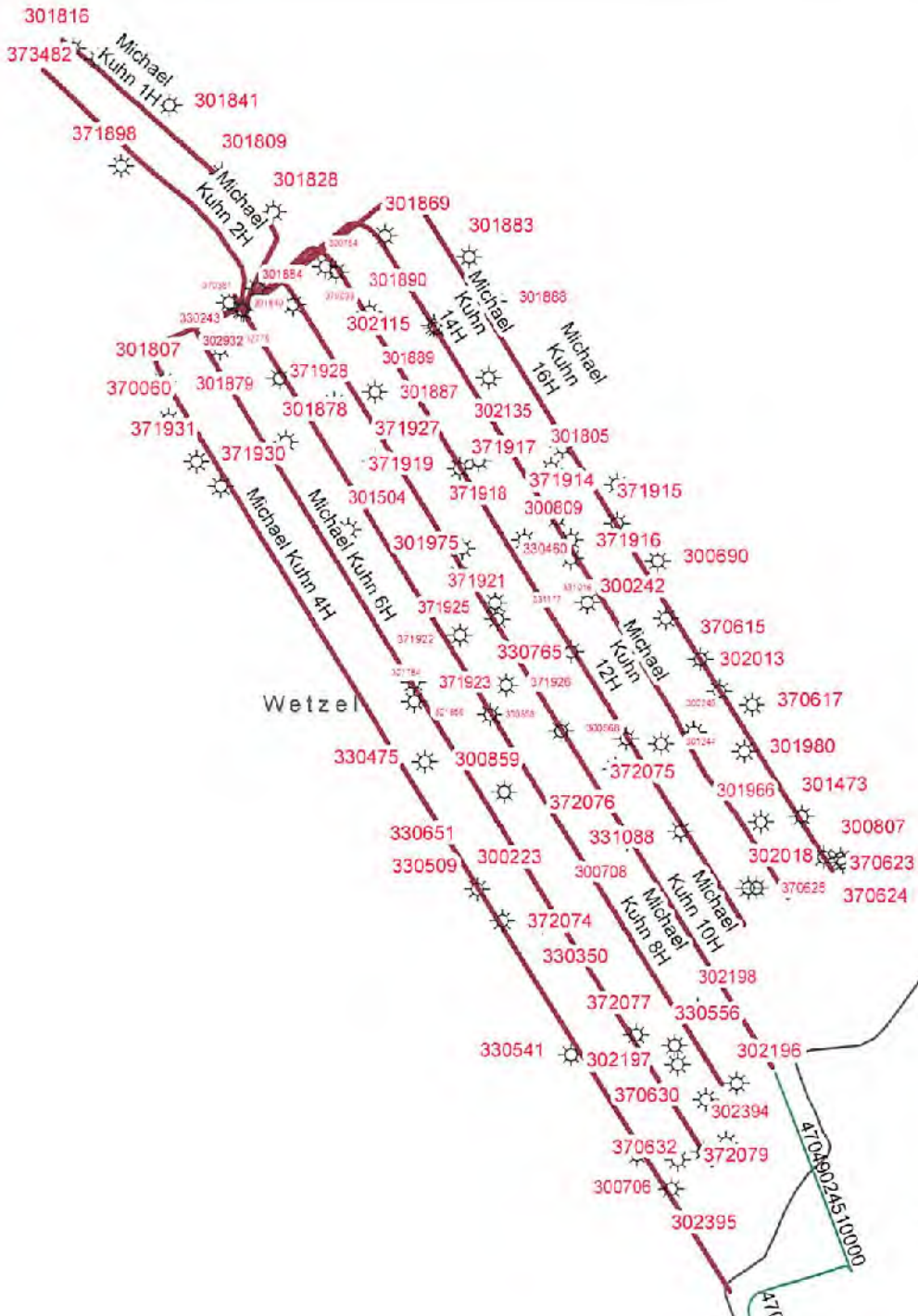
EQT will notify these operators of the hydraulic fracturing schedule for these wells, and coordinate with them throughout the fracturing process.

EQT will recommend to these operators at a minimum to:

1. Inspect their surface equipment prior to fracturing to establish integrity and establish pre-frac well conditions
2. Observe wells closely during and after fracturing and monitor for abnormal increases in water, gas or pressure
3. Inspect or install master valves or other necessary equipment for wellhead integrity capable of a pressure recommended by EQT
4. Notify the OOG and EQT if any changes in water, gas production, pressure, or other anomalies are identified

2. Reporting

EQT will provide information relating to the hydraulic fracturing schedule, communication with other operators, and ongoing monitoring of the work upon request of OOG or immediately in the event of any noted abnormalities.



EQT EQT Corporation
625 Liberty Avenue
Pittsburgh, PA 15222

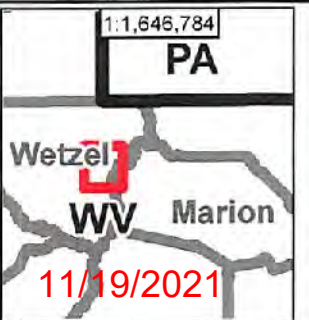
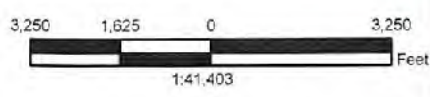
Michael Kuhn

Vertical Offsets and
Foreign Laterals
within 500'

Created By: Keiren Waltman Printed By: McClay O on 10/19/2021

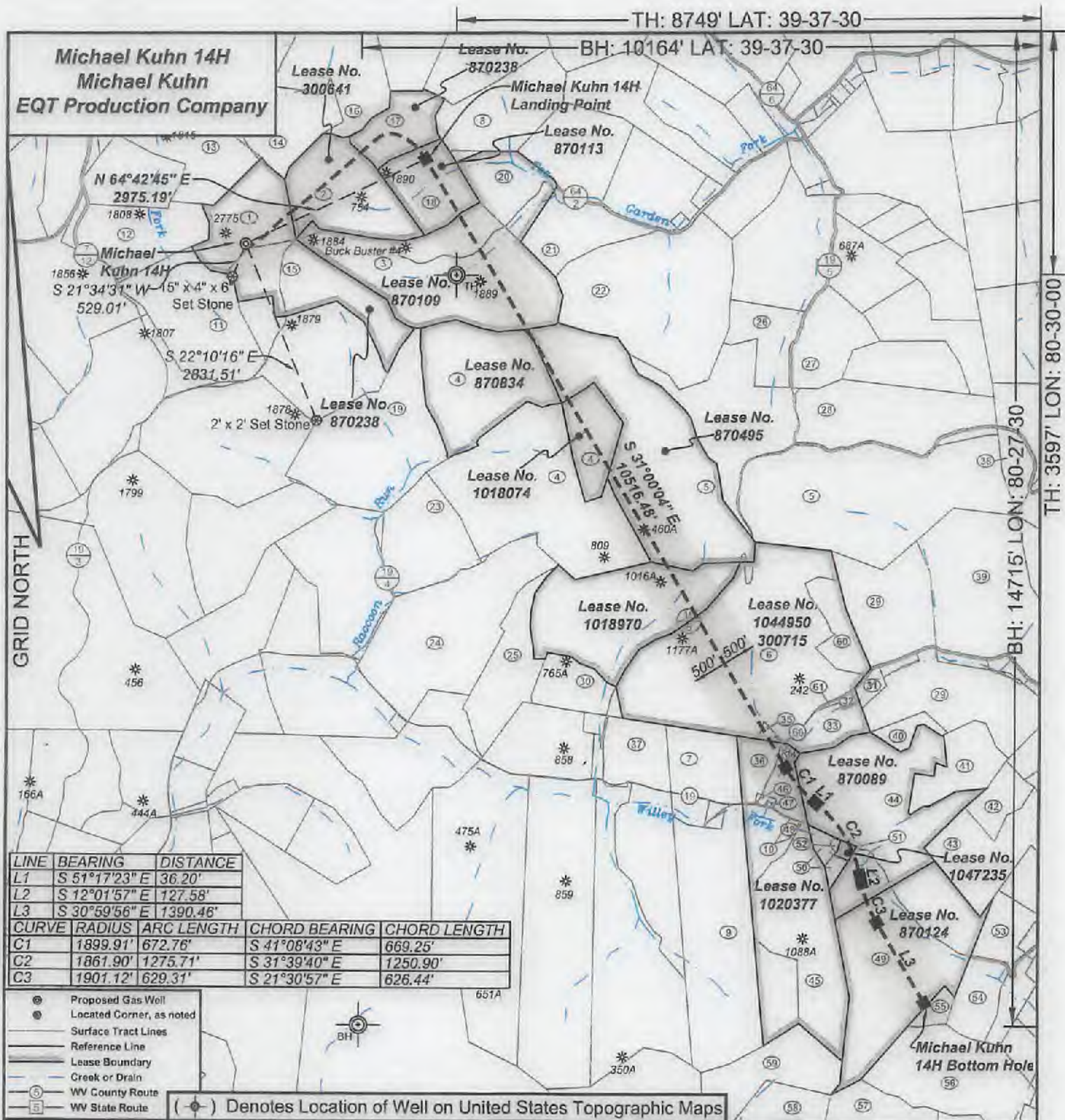
- Legend**
- Foreign Offset Wells
 - Foreign Horizontals
 - Well Lateral_FM
 - Formation**
 - Geneseo
 - Marcellus
 - Utica

Disclaimer:
This map is confidential and is to be used only for the express informational purposes for which it was created. Unauthorized use, copying, or dissemination is strictly prohibited. EQT does not warrant the accuracy of the location of any items shown on this map, including, but not limited to, any structures, well or pipeline facilities, property boundaries, topography, roadways, or waterways. The items shown on the map may not have been placed on the map using survey lines or GPS coordinates. The specific location of any of the map items should be determined by a field survey performed by a licensed surveyor upon consultation with EQT.



371925	Completed Wells	UNKNOWN	UNCLASSIFIED	UNKVNH	UNCLASSIFIED	39.59960100	-80.51386300	UNKNOWN	NAD27	0.00	0.00	0.00
371926	Completed Wells	UNKNOWN	UNCLASSIFIED	UNKVNH	UNCLASSIFIED	39.59698800	-80.50861800	UNKNOWN	NAD27	0.00	0.00	0.00
371919	Completed Wells	UNKNOWN	UNCLASSIFIED	UNKVNH	UNCLASSIFIED	39.60671300	-80.51629810	UNKNOWN	NAD27	0.00	0.00	0.00
370615	Completed Wells	UNKNOWN	UNCLASSIFIED	UNKVNH	UNCLASSIFIED	39.59655300	-80.49973500	UNKNOWN	NAD27	0.00	0.00	0.00
370617	Completed Wells	HOPE NATURAL GAS	UNCLASSIFIED	UNKVNH	UNCLASSIFIED	39.59408500	-80.49617600	HOPE NATURAL GAS	NAD27	0.00	0.00	0.00

Horizontals												
UWI	ACT_STATUS	CLRR_OPER	FNL_CLASS	INIT_CLASS	LATITUDE	LONGITUDE	OPER_NAME	ELEV_RF_CD	ELEVATION	TOT_DEPTH	TVD	WELL_NAME
47049023460000	Completed Wells	EQT PRODUCTION CO	DEVELOPMENT WELL-GAS	DEVELOPMENT WELL		39.56398000	-80.48958100	EQT PRODUCTION CO	KB	1447.00	13610.00	7770.00 WV 514744 BROWER ET AL
47049024510000	Completed Wells	EQT PRODUCTION CO	DEVELOPMENT WELL-GAS	DEVELOPMENT WELL		39.56399560	-80.48968610	EQT PRODUCTION CO	KB	1440.00	17027.00	7835.00 HS 01076



- ⊙ Proposed Gas Well
- Located Corner, as noted
- Surface Tract Lines
- Reference Line
- Lease Boundary
- Creek or Drain
- ⊙ WV County Route
- ⊙ WV State Route

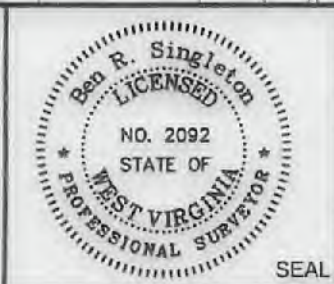
(⊙) Denotes Location of Well on United States Topographic Maps



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 Department of Environmental Protection.

Ben R. Singleton

P.S. 2092



FILE NO: 49-20
 DRAWING NO: Michael Kuhn 14H
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1:2500
 PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

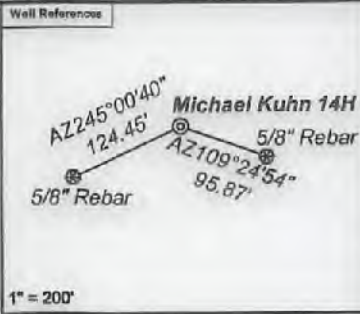
DATE: November 2 20 21
 OPERATOR'S WELL NO.: Michael Kuhn 14H
 API WELL NO MOD
 47 - 103 - 03416
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: 1509' WATERSHED: Knob Fork of West Virginia Fork Fishing Creek QUADRANGLE: Big Run
 DISTRICT: Center COUNTY: Wetzel 11/19/2021
 SURFACE OWNER: Rachel Elizabeth Wyatt & Sheldon R. Norris ACREAGE: 36.40
 ROYALTY OWNER: Michael G. Kuhn LEASE NO: 870238 ACREAGE: 202
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: 7736'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Joseph C. Mallow
 ADDRESS: 400 Woodcliff Drive ADDRESS: 115 Professional Place PO Box 280
 Canonsburg, PA 15317 Bridgeport, WV 26330

Michael Kuhn 14H
Michael Kuhn
EQT Production Company

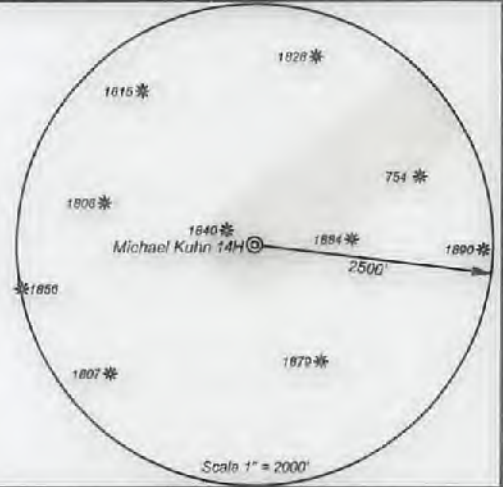
Tract I.D.	Tax Map No.	Parcel No.	County	District	Surface Tract Owner	Acres
1	20	32	Wetzel	Center	Rachel Elizabeth Wyatt & Sheldon R. Norris	36.40
2	12	8	Wetzel	Church	William B. Franck Jr.	48.44
3	17	1	Wetzel	Church	Buck Buster Hunt Club of WV Inc.	102.00
4	4	12	Wetzel	Grant	Robert L. McCann Jr. & Annette B. McCann	150.78
5	5	1	Wetzel	Grant	Reconco Run Properties LLC	370.01
6	10	2.1	Wetzel	Grant	Richard L. Ehrhart	139.18
7	10	2.1	Wetzel	Grant	John Gump Jr. & Mary Jo Gump	25.00
8	13	7	Wetzel	Church	Daniel T. & Kristie D. Park	35.00
9	10	38	Wetzel	Grant	Tammy D. Chambers	80.87
10	10	31.2	Wetzel	Grant	Zachary W. Adams	15.01
11	29	35	Wetzel	Center	Rachel Elizabeth Wyatt & Sheldon R. Norris	54.00
12	20	3.1	Wetzel	Center	Rachel Elizabeth Wyatt & Sheldon R. Norris	45.00
13	30	27	Wetzel	Center	Robert E. & Linda E. Rix	45.75
14	20	18	Wetzel	Center	Robert E. & Linda E. Rix	60.10
15	20	36	Wetzel	Center	Rachel Elizabeth Wyatt & Sheldon R. Norris	45.00
16	20	3	Wetzel	Center	Robert F. & Linda Rix	107.00
17	13	6	Wetzel	Church	William B. & Pamela S. Franck	26.50
18	13	9	Wetzel	Church	William B. Franck Jr.	35.00
19	4	11	Wetzel	Grant	Liberty Holding Company	89.05
20	13	10	Wetzel	Church	Buck Buster Hunt Club of WV Inc.	27.50
21	18	1	Wetzel	Church	Andrew Pinter	31.80
22	18	2	Wetzel	Church	David Stolzenstein, et al.	95.50
23	9	5	Wetzel	Grant	Michael & Carol Dolaney	36.50
24	9	12	Wetzel	Grant	Bert Barr	60.25
25	9	54	Wetzel	Grant	Calvin N. Barr, et al.	32.82
26	18	16	Wetzel	Church	Steven W. & Carolyn L. Blair	19.00
27	18	11	Wetzel	Church	Thomas E. Kahl	29.00
28	18	17	Wetzel	Church	Cecil Summers	57.30
29	10	4	Wetzel	Grant	Gary R. Taylor	86.05
30	10	9	Wetzel	Grant	Gregory A. Burdine	22.50
31	10	11	Wetzel	Grant	Erney J. Skeneing	5.52
32	10	2.2	Wetzel	Grant	Erney J. & Renova L. Skeneing	6.98
33	10	2	Wetzel	Grant	Joseph W. Judge	12.75
34	10	31.1	Wetzel	Grant	Norman & Stacy Adams	6.92
35	10	10	Wetzel	Grant	Leroy & Hazel Kinspeck	1.02
36	10	31	Wetzel	Grant	John Gump Jr. & Mary Jo Gump	19.33
37	10	20	Wetzel	Grant	Billy J. & Frances J. Higgins Irrevocable Trust	21.06
38	18	19	Wetzel	Church	Harold Richmond	45.12
39	10	5	Wetzel	Grant	Ernie Paul Park	99.01
40	10	12	Wetzel	Grant	Gary R. Taylor	6.25
41	10	25	Wetzel	Grant	Gary R. Taylor	28.00
42	10	26	Wetzel	Grant	Suzie Harper, et al.	15.00
43	10	25	Wetzel	Grant	EQT Gathering, LLC	24.00
44	10	23	Wetzel	Grant	Joseph B. & Delores Ann Gump	97.70
45	10	22	Wetzel	Grant	Richard E. & Jay A. Griffith	60.00
46	10	22	Wetzel	Grant	Joseph B. Gump, et al.	6.25
47	10	22	Wetzel	Grant	Joseph B. Gump, et al.	6.25
48	10	31.3	Wetzel	Grant	Zachary W. Adams	1.34
49	10	40	Wetzel	Grant	Renald Gump	94.50
50	10	33	Wetzel	Grant	Brady Greff	5.58
51	10	53.1	Wetzel	Grant	Bobby L. Gump, et al.	1.52
52	10	33.2	Wetzel	Grant	Michael Six	6.44
53	10	41	Wetzel	Grant	Joshua R. Gump	15.53
54	10	45.1	Wetzel	Grant	Bruce W. & Crystal F. Bradley	15.00
55	10	44	Wetzel	Grant	Ronald Keith & Delores P. Gump	4.10
56	15	2	Wetzel	Grant	Coastal Forest Resources Company	61.00
57	15	8	Wetzel	Grant	Coastal Forest Resources Company	49.00
58	15	7	Wetzel	Grant	Timothy E. Tius	115.00
59	15	1	Wetzel	Grant	Timothy E. Tius	43.20
60	10	3	Wetzel	Grant	William & Lisa Stensling	17.30
61	10	2.4	Wetzel	Grant	Joseph W. Judge	9.21



Notes:
 Michael Kuhn 14H coordinates are
 NAD 27 N: 407,819.83 E: 1,709,537.34
 NAD 27 Lat: 39.515126 Long: -80.531055
 NAD 83 UTM N: 4,385,155.73 E: 540,269.31
 Michael Kuhn 14H Landing Point coordinates are
 NAD 27 N: 409,090.72 E: 1,712,227.43
 NAD 27 Lat: 39.518899 Long: -80.521558
 NAD 83 UTM N: 4,385,556.63 E: 541,082.44
 Michael Kuhn 14H Bottom Hole coordinates are
 NAD 27 N: 396,585.68 E: 1,719,741.64
 NAD 27 Lat: 39.584800 Long: -80.494394
 NAD 83 UTM N: 4,381,785.06 E: 543,435.21
 West Virginia Coordinate system of 1927 (North Zone)
 based upon Differential GPS Measurements.
 Plat orientation, corner and well lies are based upon
 the grid north meridian.
 Well location references are based upon the grid north
 meridian.
 UTM coordinates are NAD83, Zone 17, Meters.

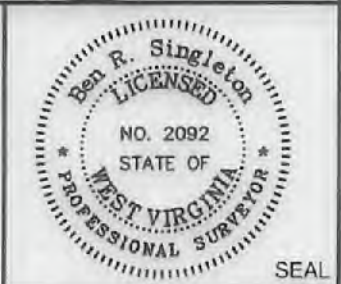


Lease No.	Owner	Acres
300641	Beulah Deloris Ballard	47
870236	Miriam K. Knowles, a/k/a Miriam M. Knowles and Philip G. Knowles, et al.	26.5
870113	Beulah Deloris Ballard, et al.	28
870109	Buckbusters Hunting Club of WVA, LLC	127.5
870934	Shiben Estates, Inc., et al.	60.75
870495	Shiben Estates, Inc.	129
1018074	John R. Papik and Tamara Lea Papik, et al.	23.1063
1018970	Three Rivers Royalty, LLC, et al.	75
1044950	Patrick Harold Hasenbuhler, et al.	139.18
300715	Patrick Harold Hasenbuhler, et al.	100.00
1020377	Patrick Harold Hasenbuhler, et al.	110
870089	Ervin Park, et al.	97.7
1047235	Russell C. Blackburn, et al.	1,525
870124	Ronald Keith Gump, II and Deloris Paula Gump, et al.	94.5



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 Department of Environmental Protection.

Ben R. Singleton
 P.S. 2092



FILE NO: 49-20
 DRAWING NO: Michael Kuhn 14H
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1:2500
 PROVEN SOURCE OF ELEVATION: NGS CORS Station



DATE: November 2 20 21
 OPERATOR'S WELL NO.: Michael Kuhn 14H
 API WELL NO M0D
 47 - 103 - 03416
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: 1509' WATERSHED: Knob Fork of West Virginia Fork Fishing Creek QUADRANGLE: Big Run
 DISTRICT: Center COUNTY: Wetzel
 SURFACE OWNER: Rachel Elizabeth Wyatt & Sheldon R. Norris ACREAGE: 36.40
 ROYALTY OWNER: Michael G. Kuhn LEASE NO: 870238 ACREAGE: 202
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: 7736'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Joseph C. Mallow
 ADDRESS: 400 Woodcliff Drive ADDRESS: 115 Professional Place PO Box 280
 Canonsburg, PA 15317 Bridgeport, WV 26330

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

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

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

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

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

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

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

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

Well Operator: EQT Production Company
 By: John Zavatchan *John F. Zavatchan Jr.*
 Its: Project Specialist - Permitting

Lease No.	Grantor, Lessor, etc.	Acres	Grantee, Lessee, etc.	Royalty	Book/Page
<u>870238</u>	<u>Michael G. Kuhn</u> Michael G. Kuhn, a single man Drilling Appalachian Corporation Grenadier Energy Partners, LLC Drilling Appalachian Corporation Statoil USA Onshore Properties Inc.	202 ac	Drilling Appalachian Corporation Grenadier Energy Partners, LLC Statoil USA Onshore Properties Inc. Statoil USA Onshore Properties Inc. EQT Production Company	*at least 1/8th per WV Code 22-6-8"	OG 77A/56 OG 118A/108 & 136A/538 OG 138A/1 OG 138A/54 OG 175A/707
<u>300641</u>	<u>Beulah Deloris Ballard</u> David Ballard and Malinda Ballard, his wife The Carter Oil Company Hope Natural Gas Company Consolidation Gas Supply Corporation Consolidated Gas Transmission Corporation CNG Transmission Corporation Eastern States Oil & Gas, Inc. Blazer Energy Corp. Eastern States Oil & Gas, Inc., Blazer Energy Corp., et al.	47 ac	The Carter Oil Company The Hope Natural Gas Company Consolidation Gas Supply Corporation Consolidated Gas Transmission Corporation CNG Transmission Corporation Eastern States Oil & Gas, Inc. Blazer Energy Corp. Eastern States Oil & Gas, Inc. EQT Production Company	*at least 1/8th per WV Code 22-6-8"	DB 58/165 DB 91/1 DB 233/387 OG 66A/69 Corp. Book 13/151 OG 76A/232 Corp. Book 12/253 Corp. Book 12/259 Corp. Book 13/14
<u>870238</u>	<u>Miriam K. Knowles, a/k/a Miriam M. Knowles and Philip G. Knowles, et al.</u> Miriam K. Knowles, a/k/a Miriam M. Knowles and Philip G. Knowles, her husband	26.5 ac	EQT Production Company	*at least 1/8th per WV Code 22-6-8"	OG 193A/249
<u>870113</u>	<u>Beulah Deloris Ballard, et al.</u> Doyle P. Ballard and Beulah D. Ballard, husband and wife Drilling Appalachian Corporation Grenadier Energy Partners, LLC Drilling Appalachian Corporation Statoil USA Onshore Properties Inc.	28 ac	Drilling Appalachian Corporation Grenadier Energy Partners, LLC Statoil USA Onshore Properties Inc. Statoil USA Onshore Properties Inc. EQT Production Company	*at least 1/8th per WV Code 22-6-8"	OG 79A/480 OG 118A/108 & 136A/538 OG 138A/1 OG 138A/54 OG 175A/707
<u>870109</u>	<u>Buckbusters Hunting Club of WVA, LLC</u> Buck Buster Hunting Club of WV Inc. Drilling Appalachian Corporation Grenadier Energy Partners, LLC Drilling Appalachian Corporation Statoil USA Onshore Properties Inc.	127.5 ac	Drilling Appalachian Corporation Grenadier Energy Partners, LLC Statoil USA Onshore Properties Inc. Statoil USA Onshore Properties Inc. EQT Production Company	*at least 1/8th per WV Code 22-6-8"	OG 80A/244 OG 118A/108 & 136A/538 OG 138A/1 OG 138A/54 OG 175A/707
<u>870834</u>	<u>Shiben Estates, Inc., et al.</u> Shiben Estates, Inc. Grenadier Energy Partners, LLC Grenadier Energy Partners, LLC Drilling Appalachian Corporation Statoil USA Onshore Properties Inc.	60.75 ac	Grenadier Energy Partners, LLC Drilling Appalachian Corporation Statoil USA Onshore Properties Inc. Statoil USA Onshore Properties Inc. EQT Production Company	*at least 1/8th per WV Code 22-6-8"	OG 123A/790 OG 125A/319 OG 138A/1 OG 138A/54 OG 175A/707

870495	<u>Shiben Estates, Inc.</u>			"at least 1/8th per WV Code 22-6-8"	
	Jennie Potts and W. F. Potts, her husband	129 ac	The Wheeling Natural Gas Company		OG 2A/86
	The Wheeling Natural Gas Company		The Manufacturers Light & Heat Company		OG 9A/138
	The Manufacturers Light & Heat Company		Union Gasoline & Oil Corporation		OG 24A/215
	Union Gasoline & Oil Corporation		The Preston Oil Company		OG 39A/387
	The Preston Oil Company		The Manufacturers Light & Heat Company		RB 31/302
	The Manufacturers Light & Heat Company		John Lavelle		OG 48A/359
	John Lavelle		Mark Chisler trading as M-Trading Company		OG 76A/714
	Mark Chisler dba or trading as M-Trading Company		Drilling Appalachian Corporation		OG 77A/216
	Drilling Appalachian Corporation		Grenadier Energy Partners, LLC		OG 118A/108 & 136A/538
	Grenadier Energy Partners, LLC		Statoil USA Onshore Properties Inc.		OG 138A/1
	Drilling Appalachian Corporation		Statoil USA Onshore Properties Inc.		OG 138A/54
	Statoil USA Onshore Properties Inc.		EQT Production Company		OG 175A/707
1018074	<u>John R. Papik and Tamara Lea Papik, et al.</u>			"at least 1/8th per WV Code 22-6-8"	
	John R. Papik and Tamara Lea Papik, his wife	23.1063 ac	EQT Production Company		OG 184A/292
1018970	<u>Three Rivers Royalty, LLC, et al.</u>			"at least 1/8th per WV Code 22-6-8"	
	Three Rivers Royalty, LLC	75 ac	EQT Production Company		OG 179A/57
1044950	<u>Patrick Harold Hasenbuhler, et al.</u>			"at least 1/8th per WV Code 22-6-8"	
	Patrick Harold Hasenbuhler, a married man dealing in his sole and separate property	139.18 ac	EQT Production Company		OG 246A/888
300715	<u>Patrick Harold Hasenbuhler, et al.</u>			"at least 1/8th per WV Code 22-6-8"	
	E. E. Glover, Vernie Morris and N. G. Morris, her husband, Annie Halbert and Paul Halbert, her husband, and H. M. Ice and Emma Ice, his wife	100.00 ac	E. D. Ice		OG 1A/482
	E. D. Ice		Hope Natural Gas Company		OG 2A/300
	Hope Natural Gas Company		Consolidation Gas Supply Corporation		DB 233/387
	Consolidation Gas Supply Corporation		Consolidated Gas Transmission Corporation		OG 66A/69
	Consolidated Gas Transmission Corporation		CNG Transmission Corporation		Corp. Book 13/151
	CNG Transmission Corporation		Eastern States Oil & Gas, Inc.		OG 76A/232
	Eastern States Oil & Gas, Inc.		Blazer Energy Corp.		Corp. Book 12/253
	Blazer Energy Corp.		Eastern States Oil & Gas, Inc.		Corp. Book 12/259
	Eastern States Oil & Gas, Inc., Blazer Energy Corp., et al.		EQT Production Company		Corp. Book 13/14
1020377	<u>Patrick Harold Hasenbuhler, et al.</u>			"at least 1/8th per WV Code 22-6-8"	
	Lester L. Ice and Gertrude C. Ice, his wife	110 ac	Hope Natural Gas Company		OG 48A/299
	Hope Natural Gas Company		Consolidation Gas Supply Corporation		DB 233/387
	Consolidation Gas Supply Corporation		Consolidated Gas Transmission Corporation		OG 66A/69
	Consolidated Gas Transmission Corporation		CNG Transmission Corporation		Corp. Book 13/151
	CNG Transmission Corporation		Invitation Energy, Inc.		OG 74A/538
	Invitation Energy, Inc.		Joe O'Ferrell		OG 125A/982 & 136A/861
	Joe O'Ferrell		Standard Oil Company, Inc.		OG 125A/984 & 136A/863
	Standard Oil Company, Inc.		EQT Production Company		OG 186A/286 & 188A/31

870089	<u>Ervin Park, et al.</u> Ervin Park and Janet Park Drilling Appalachian Corporation Grenadier Energy Partners, LLC Drilling Appalachian Corporation Statoil USA Onshore Properties Inc.	97.7 ac	Drilling Appalachian Corporation Grenadier Energy Partners, LLC Statoil USA Onshore Properties Inc. Statoil USA Onshore Properties Inc. EQT Production Company	"at least 1/8th per WV Code 22-6-8"	OG 82A/509 OG 118A/108 & 136A/538 OG 138A/1 OG 138A/54 OG 175A/707
1047235	<u>Russell C. Blackburn, et al.</u> Russell C. Blackburn, a married man dealing in his sole and separate property	1.525 ac	EQT Production Company	"at least 1/8th per WV Code 22-6-8"	OG 253A/711
870124	<u>Ronald Keith Gump, II and Deloris Paula Gump, et al.</u> Ronald Keith Gump and Paula Gump, sign as Ronald K. Gump, II and Deloris P. Gump Drilling Appalachian Corporation Grenadier Energy Partners, LLC Drilling Appalachian Corporation Statoil USA Onshore Properties Inc.	94.5 ac	Drilling Appalachian Corporation Grenadier Energy Partners, LLC Statoil USA Onshore Properties Inc. Statoil USA Onshore Properties Inc. EQT Production Company	"at least 1/8th per WV Code 22-6-8"	OG 81A/383 OG 118A/108 & 136A/538 OG 138A/1 OG 138A/54 OG 175A/707



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

Expedited Modification Horizontal H6A Well Work Permit (API: 47-103-03412 & 47-103-03416)

1 message

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

Tue, Nov 16, 2021 at 11:14 AM

To: John <JZavatchan@eqt.com>, "Shrum, Becky" <bshrum@eqt.com>, Todd <tklaner@eqt.com>, Erin Spine <espine@eqt.com>, Olivia Pishioneri <opishioneri@eqt.com>, "Harris, Bryan O" <bryan.o.harris@wv.gov>, Scott Lemley <slemley@wvassessor.com>

have attached a copy of the newly issued well permit number "MICHAEL KUHN 4H & MICHAEL KUHN 14H" . This will serve as your copy.

If you have any questions, then please contact us here at the Office of Oil and Gas.

Thank you,

Thank you,

Wade A. Stansberry

Environmental Resource Specialist 3

West Virginia Department of Environmental Protection

Office of Oil & Gas

601 57th St. SE


Charleston, WV 25304


(304) 926-0499 ext. 41115

(304) 926-0452 fax

Wade.A.Stansberry@wv.gov

2 attachments

 **47-103-03412 - mod.pdf**
1463K

 **47-103-03416 - Copy.pdf**
1279K

11/19/2021