



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

Thursday January 27, 2022
PERMIT MODIFICATION APPROVAL
New Drill / Modification/Lateral Extension

EQT PRODUCTION COMPANY
625 LIBERTY AVE. SUITE 1700
PITTSBURGH, PA 15222

Re: Permit Modification Approval for BIG464 9H
47-103-03435

Extending Lateral

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, written in a cursive style.

James A. Martin
Chief

Operator's Well Number: BIG464 9H
Farm Name: EQT PRODUCTION COMPANY
U.S. WELL NUMBER: 47-103-03435
New Drill Modification/Lateral Extension
Date Modification Issued: 01/27/2022

Promoting a healthy environment.

02/11/2022

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 Grant Big Run
Operator ID County District Quadrangle

2) Operator's Well Number: 9H Well Pad Name: BIG464

3) Farm Name/Surface Owner: EQT Production Company Public Road Access: CR1

4) Elevation, current ground: 1246.8' (built) Elevation, proposed post-construction: 1246.8' (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, 7,394', 51', 2,620 PSI

8) Proposed Total Vertical Depth: 7394'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 23884'

11) Proposed Horizontal Leg Length: 16086'

12) Approximate Fresh Water Strata Depths: 109', 184', 432'

13) Method to Determine Fresh Water Depths: Offset Wells - 47-103-30593, 47-103-30910

14) Approximate Saltwater Depths: 1724', 1848'

15) Approximate Coal Seam Depths: 556'-559', 795'-797', 897'-899', 912'-919'

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	1019	1019 ✓	1000 ft ³ / CTS
Coal							
Intermediate	9 5/8	New	J-55	36	2441	2441 ✓	1000 ft ³ / CTS
Production	5 1/2	New	P-110	20	23884	23884 ✓	500' above intermediate casing
Tubing							
Liners							

Bryan Harris 12/28/21

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 a new horizontal well in the Marcellus Formation. Drill the vertical, kick off and drill curve. Drill the lateral in the Marcellus. 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): N/A - Site Built

22) Area to be disturbed for well pad only, less access road (acres): N/A - Site Built

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.

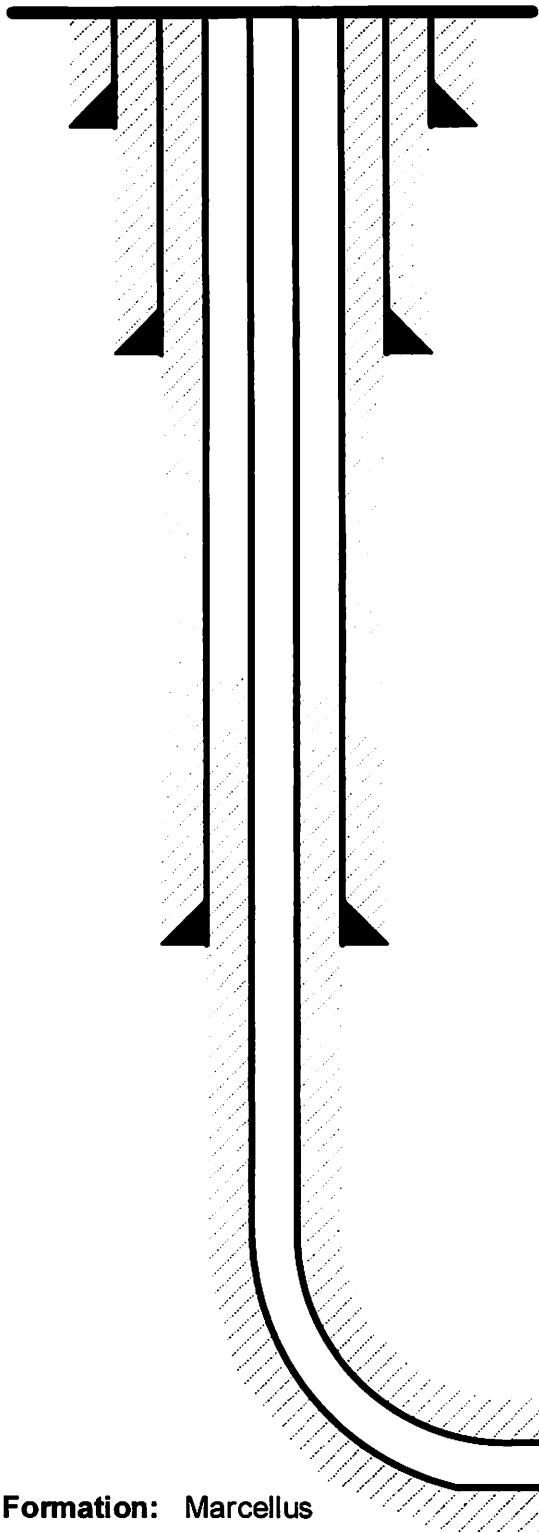
*Note: Attach additional sheets as needed.

EQT Production

Wellbore Diagram

Well: BIG 464 9H
Pad: BIG 464
Elevation: 1246' GL 1259' KB

County: Wetzel
State: West Virginia



Conductor @ 40'

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

Surface @ 1,019'

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

Intermediate @ 2,441'

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

Production @ 23,884' MD / 7,394' TVD

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

Formation: Marcellus

NOT TO SCALE
02/11/2022

WEST VIRGINIA GEOLOGICAL PROGNOSIS

Finalized for Top Hole

Horizontal Well
BIG464
S-000124

Drilling Objectives:

County: Marcellus
Quad: Wetzel
Elevation: Big Run 1259 KB 1246 GL

Recommended Azimuth: TBD

TBD Degrees

Recommended LP to TD: TBD

Proposed Logging Suite:

Pilot Logging Not needed

ESTIMATED FORMATION TOPS

From pilots on BIG57 and BIG182

Formation	Top (TVD)	Base (TVD)	Lithology	Comments	Top RR	Base RR
Fresh Water Zone	1	432		FW @ 169,181,252,278,332,	69	73
Waynesburg Coal	556	559 Coal		No known past/present/and or future mining within the area	76	80
Coal	795	797 Coal			96	114
Sewickley Coal	897	899 Coal			125	132 Base of Red
Pittsburgh Coal	912	919 Coal				
Maxton	1792	1971 Sandstone		SW @ 1724,1848, ..		
Big Lime	2234	2310 Limestone				
Big Injun	2322	2391 Sandstone				
Int. csg pt	2441					
Weir	2520	2670 Sandstone				
Top Devonian	2735					
Ganiz	2735	2771 Silty Sand		Storage is NOT of concern		
Fifty foot	2876	2932 Silty Sand				
Thirty foot	2971	2998 Silty Sand				
Gordon	3027	3072 Silty Sand				
Forth Sand	3097	3110 Silty Sand		Base of Offset Well Perforations at 3129' TVD		
Fifth Sand	3169	3188 Silty Sand				
Bayard	3222	3240 Silty Sand				
Warren	3645	3669 Silty Sand				
Speechley	3765	3813 Silty Sand				
Balltown A	4123	4138 Silty Sand				
Riley	4608	4650 Silty Sand				
Benson	5237	5286 Silty Sand				
Alexander	5651	5718 Silty Sand				
Elks	5718	6917 Gray Shales and Silts				
Sonyea	6917	7080 Gray shale				
Middlesex	7080	7136 Shale				
Genesee	7136	7223 Gray shale interbedded				
Genesee	7223	7255 Black Shale				
Tully	7255	7280 Limestone				
Hamilton	7280	7378 Gray shale with some				
Marcellus	7378	7429 Black Shale				
Purcell	7393	7396 Limestone				
-Lateral Zone	7394					
Cherry Valley	7409	7413 Limestone				
Onondaga	7429	Limestone				

Target Thickness 51 feet

Comments:

Intermediate casing point is recommended beneath the Big Injun to shut off any water production from the Upper Devonian sands. Intermediate casing should be cemented into the surface string, per WV regulations.

RECOMMENDED CASING POINTS

Fresh Water/Coal	CSG OD	13 3/8	CSG DEPTH	1019	Beneath Pittsburgh Coal
Intermediate 1:	CSG OD	9 5/8	CSG DEPTH	2441	Beneath the Big Injun formation
Production:	CSG OD	5 1/2	CSG DEPTH	@ TD	

02/11/2022

EQT Production
Hydraulic Fracturing Monitoring Plan
Pad ID: BIG464
County: Wetzel

January 21, 2022

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 BIG464 well pad: 1H, 3H, 5H, 7H, 9H, 11H & 113H.

Due to the requirements under 3SCSR8 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**.

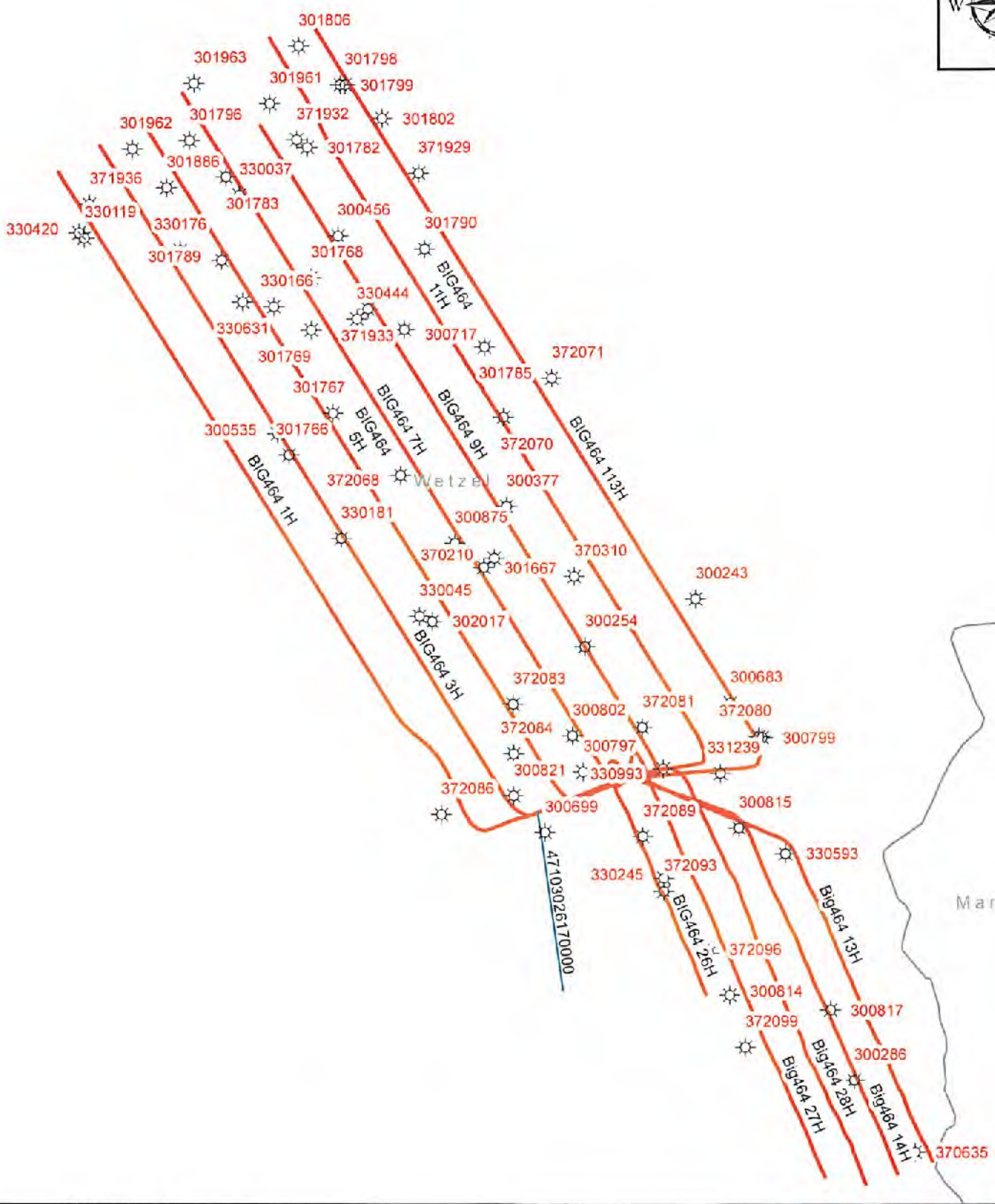
EQT will notify these operators of the hydraulic fracturing schedule for these wells, and coordinate with them throughout the fracturing process.

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

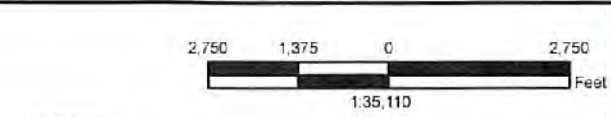
BIG464

Vertical Offsets and Foreign Laterals within 500'

Created By: Keiken Walman Printed By: McClayD on 12/22/2021

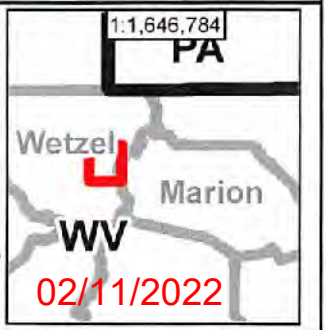
Legend

- Foreign Offset Well
- Foreign Offset Laterals
- Well Lateral_FM Formation**
- Genesee
- Marcellus
- Utica



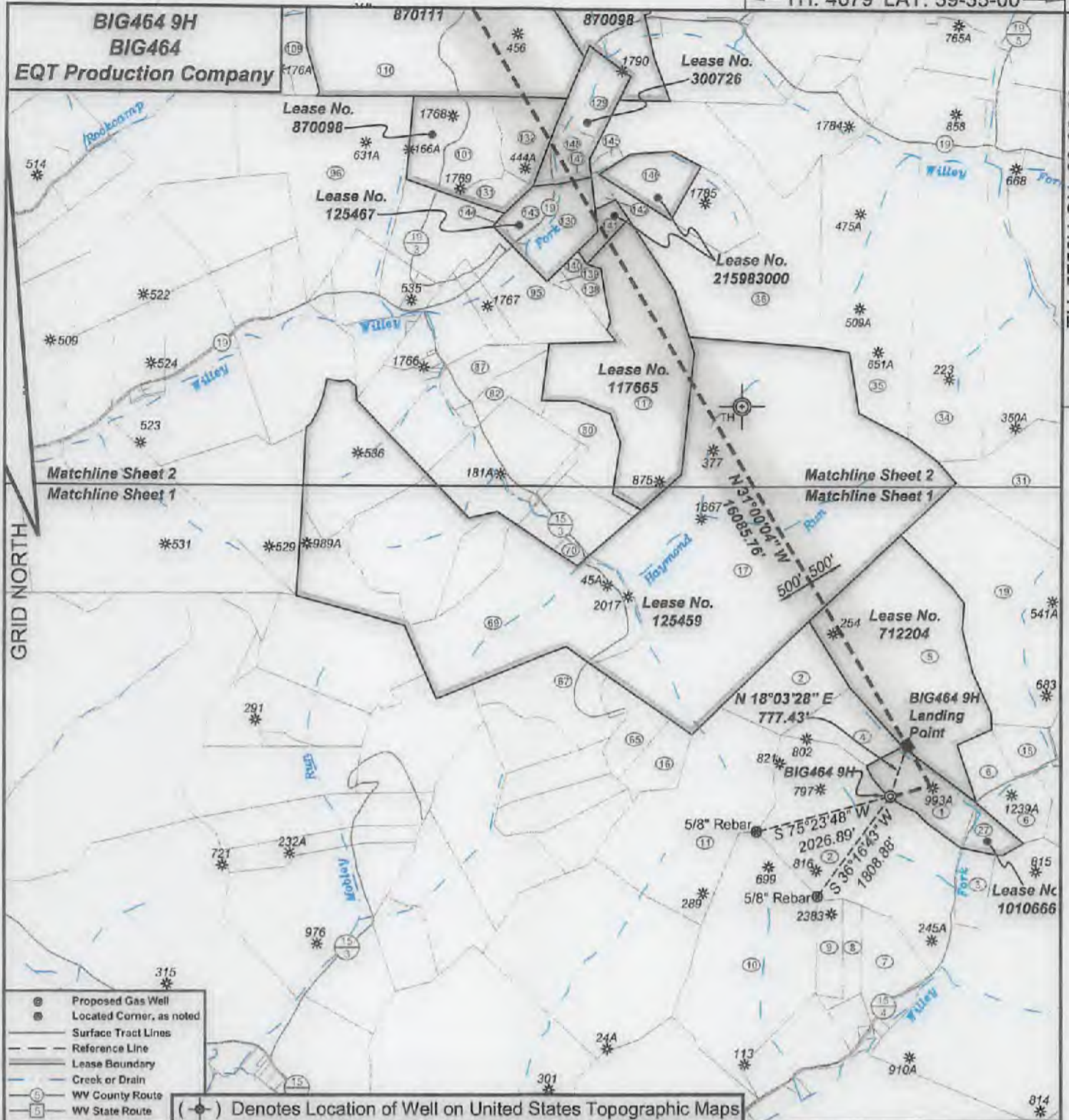
Disclaimer:

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.



TH: 4679' LAT: 39-35-00

TH: 5752' LON: 80-30-00



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



SEAL

FILE NO: 125-16
DRAWING NO: BIG464 9H
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station

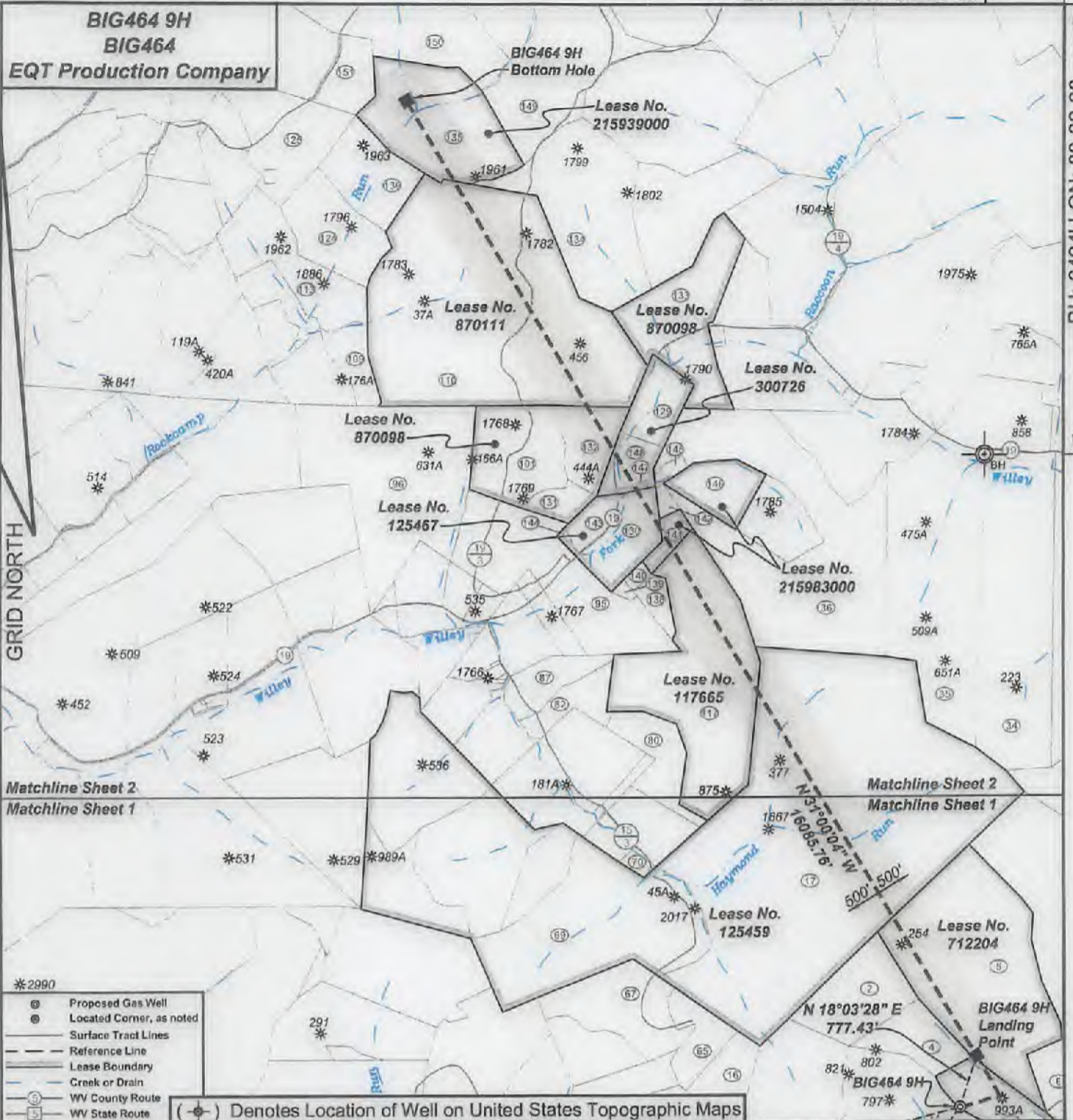
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: January 19 20 22
OPERATOR'S WELL NO.: BIG464 9H
API WELL NO **MND**
47 - 103 - 03435
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
LOCATION: ELEVATION: 1246.8' WATERSHED Wiley Fork QUADRANGLE: Big Run
DISTRICT: Grant COUNTY: Wetzel
SURFACE OWNER: EQT Production Company ACREAGE: 29.29
ROYALTY OWNER: Ridgetop Royalties, LLC, et al. LEASE NO: 1010666 ACREAGE: 32
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: 7,394'

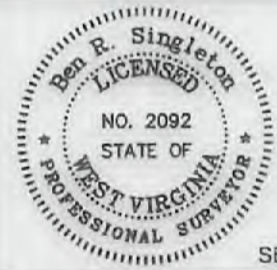
02/11/2022

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



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Ben R. Singleton
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DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: January 19 20 22
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API WELL NO. 47 - 103 - 03435
STATE COUNTY PERMIT

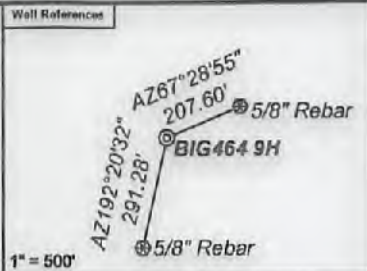
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
LOCATION: ELEVATION: 1246.8' WATERSHED Willey Fork QUADRANGLE: Big Run
DISTRICT: Grant COUNTY: Wetzel
SURFACE OWNER: EQT Production Company ACREAGE: 25.25
ROYALTY OWNER: Ridgetop Royalties, LLC, et al. LEASE NO: 1010666 ACREAGE: 32
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: 7,394'

02/11/2022

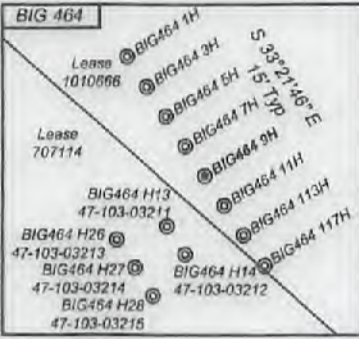
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Canonsburg, PA 15317 Bridgeport, WV 26330

BIG464 9H
BIG464
EQT Production Company

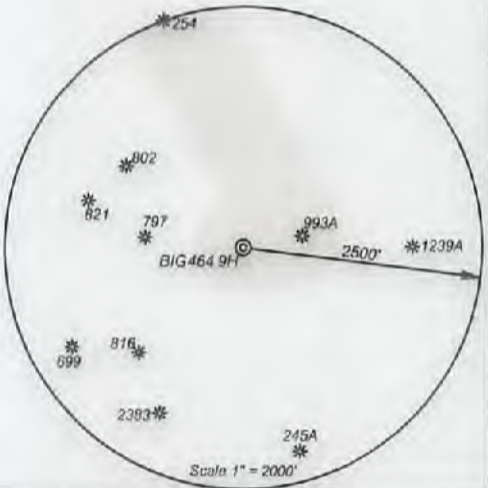
Tract I.D.	Tax Map No.	Parcel No.	County	District	Surface Tract Owner	Acres
1	14	34	Wetzel	Grant	EQT Production Company	25.25
2	20	1	Wetzel	Grant	Coastal Forest Resources Company	520.00
3	15	27	Wetzel	Grant	Beverly Lynn Barr Life Estate	19.00
4	14	27	Wetzel	Grant	EQT Production Company	22.00
5	14	20	Wetzel	Grant	EQT Production Company	128.90
6	15	16	Wetzel	Grant	Donald J. D'Usky	25.00
7	14	45	Wetzel	Grant	Coastal Forest Resources Company	11.00
8	14	44	Wetzel	Grant	Mabel F. Barr	11.00
9	14	43	Wetzel	Grant	Mabel F. Barr	11.01
10	14	42	Wetzel	Grant	Donald J. D'Usky	111.00
11	14	33	Wetzel	Grant	Allee H. & Hilda B. Conway	108.00
15	14	32	Wetzel	Grant	Mary Jane Byard	12.30
17	14	6	Wetzel	Grant	Coastal Forest Resources Company	332.90
18	15	18	Wetzel	Grant	Donald J. D'Usky	39.50
19	15	12	Wetzel	Grant	William Bowers & Donald J. D'Usky	147.50
27			Wetzel	Grant	No Tax Map & Parcel Information	
31	15	5	Wetzel	Grant	William Bowers, et al.	43.20
34	10	38	Wetzel	Grant	Coastal Forest Resources Company	107.00
35	9	39	Wetzel	Grant	Coastal Forest Resources Company	128.00
36	9	38	Wetzel	Grant	Terry L. & Carolyn M. Fry	155.08
65	14	38	Wetzel	Grant	Mary Jane Byard	14.50
67	14	25	Wetzel	Grant	ET Blue Grass, LLC	35.68
69	14	19	Wetzel	Grant	Coastal Forest Resources Company	138.68
70	14	13	Wetzel	Grant	Coastal Forest Resources Company	2.60
80	14	5	Wetzel	Grant	Dale R. & Sherry Dulaney	21.50
82	9	60	Wetzel	Grant	Jeffery Wiley Life Estate	16.50
87	9	99.1	Wetzel	Grant	Cyril R. & Connie L. Fontyos	18.20
95	9	30	Wetzel	Grant	John D. Parks, et al.	73.65
96	9	23	Wetzel	Grant	Stephen B. & Carolyn M. Gantz	119.00
101	9	24	Wetzel	Grant	John D. Parks, et al.	40.00
100	9	16	Wetzel	Grant	W. K. Wiley Estate	13.40
110	9	10	Wetzel	Grant	William B. & Pamela Franck	233.37
113	9	8	Wetzel	Grant	James A. Yoho	45.00
117	9	01	Wetzel	Grant	Jeboba Quiet Mountain Retreat	114.10
124	9	7	Wetzel	Grant	James D. & Collette J. Streets	34.00
125	4	7	Wetzel	Grant	Carl Stoneking	45.50
129	9	62	Wetzel	Grant	William B. & Pamela S. Franck	30.50
130	9	32	Wetzel	Grant	Terry L. & Carolyn M. Fry	23.85
131	9	25	Wetzel	Grant	Deborah Fronczek & John Parks	6.98
132	9	25.1	Wetzel	Grant	William B. & Pamela S. Franck	23.20
133	9	11	Wetzel	Grant	Elizabeth Amundson, et al.	53.37
134	9	2	Wetzel	Grant	Liberty Holding Company	74.50
135	4	5	Wetzel	Grant	James A. Yoho	63.00
136	7	15	Wetzel	Grant	James A. Yoho	30.00
138	9	51	Wetzel	Grant	H. J. Zimmerman	6.10
139	9	50	Wetzel	Grant	Terry L. & Carolyn M. Fry	1.30
140	9	51.1	Wetzel	Grant	H. J. Zimmerman	2.00
141	9	35	Wetzel	Grant	Terry L. & Carolyn M. Fry	6.25
142	9	34	Wetzel	Grant	Terry L. & Carolyn M. Fry	3.25
143	9	32.2	Wetzel	Grant	John D. Parks & Deborah Fronczek	8.95
144	9	31	Wetzel	Grant	John D. Parks, et al.	1.20
145	9	32.1	Wetzel	Grant	Terry L. & Carolyn M. Fry	3.40
146	9	30	Wetzel	Grant	Terry L. & Carolyn M. Fry	15.00
147	9	33	Wetzel	Grant	Terry L. & Carolyn M. Fry	0.95
148	9	20	Wetzel	Grant	Elizabeth L. Taylor, et al.	10.00
149	20	38	Wetzel	Center	William B. Franck, Sr. & Pamela Spinosa	66.58
150	4	5	Wetzel	Grant	James Daniel Kennedy	100.00
151	4	4	Wetzel	Grant	Ralph D. Thamer & Maude L. Canine, Jr.	53.50



Notes:
BIG464 9H coordinates are
NAD 27 N: 390,443.43 E: 1,713,414.48
NAD 27 Lat: 39.567543 Long: -80.516596
NAD 83 UTM N: 4,379,881.53 E: 541,538.70
BIG464 9H Landing Point coordinates are
NAD 27 N: 391,182.56 E: 1,713,655.46
NAD 27 Lat: 39.569580 Long: -80.515770
NAD 83 UTM N: 4,380,107.94 E: 541,608.37
BIG464 9H Bottom Hole coordinates are
NAD 27 N: 404,970.60 E: 1,705,370.43
NAD 27 Lat: 39.607172 Long: -80.545727
NAD 83 UTM N: 4,384,266.45 E: 539,014.25
West Virginia Coordinate system of 1927 (North Zone)
based upon Differential GPS Measurements.
Plat orientation, corner and well ties are based upon
the grid north meridian.
Well location references are based upon the grid north
meridian.
UTM coordinates are NAD83, Zone 17, Meters.

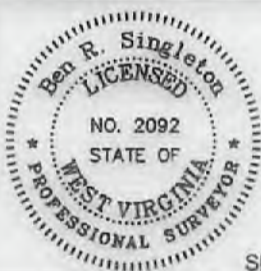


Lease No.	Owner	Acres
712204	Janice E. Nolan, et al.	120
125459	Randel J. Hartman, et al.	693
117665	AMP Fund III, L.P., et al.	150
21593000	The Mineral Comapny LLC	21.25
125467	Roger K. Hinerman, et al.	34
300726	Emma Joyce Dahlin Anderson, et al.	43
870098	Emma Joyce Dahlin Anderson, et al.	196.5
870111	Three Rivers Royalty II, LLC, et al.	234
215939000	James Arthur Yoho, et al.	62.75



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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

02/11/2022

**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 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



January 21, 2022

Mr. Taylor Brewer
West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304

Re: BIG464 9H 6A1 Addendum

Dear Mr. Brewer,

This letter and supporting documentation serve as EQT Production Company's addendum to the WW-6A1 form associated with this well. The lease included on this addendum is a lease in which EQT "claims the right to extract, produce or market the oil or gas", but does not propose to encounter the lease with the proposed wellbore. EQT would like to report this lease as part of our Well Work Permit Application, as it is located within 50' of our proposed permitted wellbore.

If EQT does encounter this lease, an application for a permit modification will be filed with the West Virginia DEP, Office of Oil and Gas.

If you have any questions, please do not hesitate to contact me at 724-746-9073.

Sincerely,

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

John Zavatchan
Project Specialist - Permitting

Enc.

02/11/2022

Lease No.	Grantor, Lessor, etc.		Grantee, Lessee, etc.	Royalty	Book/Page
<u>1010666</u>	<u>Ridgetop Royalties, LLC, et al.</u> Ridgetop Royalties, LLC	32 ac	EQT Production Company	"at least 1/8th per WV Code 22-6-8"	OG 166A/638
<u>712204</u>	<u>Janice E. Nolan, et al.</u> T. J. Glover, single, and Daniel Glover, single Carnegie Natural Gas Company Carnegie Production Company	120 ac	Carnegie Natural Gas Company Carnegie Production Company EQT Production Company	"at least 1/8th per WV Code 22-6-8"	OG 19A/380 OG 78A/513 WV SOS
<u>125459</u>	<u>Randel J. Hartman, et al.</u> Virginia Myers and William S. Myers, her husband, et al Equitable Gas Company Columbia Gas Transmission Corporation Columbia Natural Resources, Inc. Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. Statoilhydro USA Onshore Properties Inc. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties, Inc. SWN Exchange Titleholder, LLC SWN Production Company, LLC Statoil USA Onshore Properties, Inc. Antero Exchange Properties LLC Antero Resources Corporation	693 ac	Equitable Gas Company Columbia Gas Transmission Corporation Columbia Natural Resources, Inc. Columbia Natural Resources, LLC Chesapeake Appalachia, L.L.C. Statoilhydro USA Onshore Properties Inc. Statoil USA Onshore Properties, Inc. SWN Production Company, LLC SWN Exchange Titleholder, LLC SWN Production Company, LLC Antero Exchange Properties LLC Antero Exchange Properties LLC Antero Resources Corporation EQT Production Company	"at least 1/8th per WV Code 22-6-8"	OG 47A/16 OG 64A/442 OG 72A/368 Corp. 12/622 DB 402/446 OG 97A/578 WV SOS OG 157A/540 OG 158A/801 Corp. 13/296 OG 177A/533 OG 177A/738 Corp. 13/311 OG 227A/932
<u>117665</u>	<u>AMP Fund III, L.P., et al.</u> Sarah J. Kiger and E. C. Kiger, her husband Pittsburgh & West Virginia Gas Company Equitable Gas Company Columbia Gas Transmission Corporation Columbia Natural Resources, Inc.	150 ac	Pittsburgh & West Virginia Gas Company Equitable Gas Company Columbia Gas Transmission Corporation Columbia Natural Resources, Inc. Columbia Natural Resources, LLC	"at least 1/8th per WV Code 22-6-8"	OG 13A/285 DB 187/321 OG 64A/442 OG 72A/368 Corp. 12/622

	Columbia Natural Resources, LLC		Chesapeake Appalachia, L.L.C.	DB 402/446
	Chesapeake Appalachia, L.L.C.		Statoilhydro USA Onshore Properties Inc.	OG 97A/578
	Statoilhydro USA Onshore Properties Inc.		Statoil USA Onshore Properties, Inc.	WV SOS
	Chesapeake Appalachia, L.L.C.		SWN Production Company, LLC	OG 157A/540
	Statoil USA Onshore Properties, Inc.		SWN Exchange Titleholder, LLC	OG 158A/801
	SWN Exchange Titleholder, LLC		SWN Production Company, LLC	Corp. 13/296
	SWN Production Company, LLC		Antero Exchange Properties LLC	OG 177A/533
	Statoil USA Onshore Properties, Inc.		Antero Exchange Properties LLC	OG 177A/738
	Antero Exchange Properties LLC		Antero Resources Corporation	Corp. 13/311
	Antero Resources Corporation		EQT Production Company	OG 227A/932
				"at least 1/8th per WV Code 22-6-8"
<u>215983000</u>	<u>The Mineral Company LLC</u>	21.25 ac	EQT Production Company	OG 274A/540
				"at least 1/8th per WV Code 22-6-8"
<u>125467</u>	<u>Roger K. Hinerman, et al.</u>	34 ac	Equitable Gas Company	OG 52A/473
	Flossie Poe Lamb, widow, et al		Columbia Gas Transmission Corporation	OG 64A/442
	Equitable Gas Company		Columbia Natural Resources, Inc.	OG 72A/368
	Columbia Gas Transmission Corporation		Columbia Natural Resources, LLC	Corp. 12/622
	Columbia Natural Resources, Inc.		Chesapeake Appalachia, L.L.C.	DB 402/446
	Columbia Natural Resources, LLC		Statoilhydro USA Onshore Properties Inc.	OG 97A/578
	Chesapeake Appalachia, L.L.C.		Statoil USA Onshore Properties, Inc.	WV SOS
	Statoilhydro USA Onshore Properties Inc.		SWN Production Company, LLC	OG 157A/540
	Chesapeake Appalachia, L.L.C.		SWN Exchange Titleholder, LLC	OG 158A/801
	Statoil USA Onshore Properties, Inc.		SWN Production Company, LLC	Corp. 13/296
	SWN Exchange Titleholder, LLC		Antero Exchange Properties LLC	OG 177A/533
	SWN Production Company, LLC		Antero Exchange Properties LLC	OG 177A/738
	Statoil USA Onshore Properties, Inc.		Antero Resources Corporation	Corp. 13/311
	Antero Exchange Properties LLC		EQT Production Company	OG 227A/932
	Antero Resources Corporation			"at least 1/8th per WV Code 22-6-8"
<u>300726</u>	<u>Emma Joyce Dahlin Anderson, et al.</u>	43 ac	Hope Natural Gas Company	OG 5A/248
	Leroy Taylor and Malinda Taylor, his wife		Consolidated Gas Supply Corporation	DB 233/387
	Hope Natural Gas Company		Consolidated Gas Transmission Corporation	OG 66A/69
	Consolidated Gas Supply Corporation		CNG Transmission Corporation	WV SOS
	Consolidated Gas Transmission Corporation		Eastern States Oil and Gas, Inc.	OG 76A/232
	CNG Transmission Corporation			

	Eastern States Oil and Gas, Inc. Blazer Energy Corp. Eastern States Oil & Gas, Inc. Eastern States, Inc. Equitable Production-Eastern States, Inc. Equitable Production Company		Blazer Energy Corp. Eastern States Oil and Gas, Inc. Eastern States, Inc. Equitable Production-Eastern States, Inc. Equitable Production Company EQT Production Company	Corp. 12/253 Corp. 12/259 WV SOS WV SOS WV SOS Corp. Book 13/14
<u>870098</u>	<u>Emma Joyce Dahlin Anderson, et al.</u> Pershing R. Taylor, a widower, et al Drilling Appalachian Corporation Grenadier Energy Partners, LLC Drilling Appalachian Corporation Statoil USA Onshore Properties, Inc., et al	196.5 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 77A/86 OG 118A/108 & 136A/538 OG 138A/1 OG 138A/54 OG 175A/707
<u>870111</u>	<u>Three Rivers Royalty II, LLC, et al.</u> Harry W. Taylor and Myrtle Taylor, his wife M. P. Wells W. D. Brookover, Jr., (lawful successor-in-interest to W. D. Brookover) Drilling Appalachian Corporation Grenadier Energy Partners, LLC Drilling Appalachian Corporation Statoil USA Onshore Properties, Inc., et al	234 ac	M. P. Wells W. D. Brookover 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 42A/213 OG 42A/216 OG 77A/638 OG 118A/108 & 136A/538 OG 138A/1 OG 138A/54 OG 175A/707
<u>215939000</u>	<u>James Arthur Yoho, et al.</u> James Arthur Yoho, a widower	62.75 ac	EQT Production Company	"at least 1/8th per WV Code 22-6-8" OG 274A/543

WW-6A1 addendum attachment

Operator's Well No.

BIG464 9H

Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>707114</u>	<u>Ridgetop Royalties, LLC, et al.</u> W. S. Furbee and Mary Furbee, his wife Carnegie Natural Gas Company Carnegie Production Company	78 ac Carnegie Natural Gas Company Carnegie Production Company EQT Production Company	"at least 1/8th per WV Code 22-6-8"	OG 2A/182 OG 78A/513 WV SOS

BIG464 9H
EQT Production Company
"Detail of 9H Top Hole"



Lease No.
1010666

Lease No.
707114



Scale: 1 Inch = 50 Feet

13.08'

BIG464 9H

Proposed Well Bore



Birch River Office
 Phone: (304) 649-8606
 Fax: (304) 649-8608

237 Birch River Road
 Birch River, WV 26610
 www.allegheynysurveys.com

PARTY CHIEF: NA

DRAWING NO: 9H Detail.dwg

RESEARCH: NA

PROJECT NO: 125-34-G-16

SURVEYED: NA

PREPARED: January 26, 2022

FIELD CREW: NA

Sheet 1 of 1

DRAWN BY: Tim Rutledge



January 21, 2022

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
BIG464 9H Well
Permit Number 47-103-03435
Grant 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 \$2,500 for the permit fee
- Check in the amount of \$2,500 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

EQT is proposing to extend the lateral from the previously permitted length.

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,

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

CHK#
0000590927
\$2500
CHK#
0000591362
\$2500

02/11/2022



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

Modification Horizontal H6A Well Work Permit (API: 47-103-03431, 03432, 03433, 03434, 03435, 03436, 03437)

1 message

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

Thu, Feb 3, 2022 at 12:00 PM

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

I have attached a copy of the newly issued well [permit](#) number. This will serve as your copy.








- 47-103-03431 - BIG 464 1H
- 47-103-03432 - BIG 464 3H
- 47-103-03433 - BIG 464 5H
- 47-103-03434 - BIG 464 7H
- 47-103-03435 - BIG 464 9H
- 47-103-03436 - BIG 464 11H
- 47-103-03437 - BIG 464 113H

If you have any questions, then [please](#) contact us here at the Office of Oil and Gas.

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

7 attachments

-  **47-103-03434 - mod.pdf**
1369K
-  **47-103-03433 - mod.pdf**
1512K
-  **47-103-03435 - mod.pdf**
1538K
-  **47-103-03431 - mod.pdf**
1655K
-  **47-103-03436 - mod.pdf**
1664K
-  **47-103-03437 - Copy.pdf**
1556K
-  **47-103-03432 - mod.pdf**
1664K

02/11/2022