



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

Monday, February 28, 2022
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

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

Re: Permit Modification Approval for BIG245 104H
47-103-03441-00-00

Lateral Extension and WMP approval

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.



James A. Martin
Chief

Operator's Well Number: BIG245 104H
Farm Name: ET BLUE GRASS LLC
U.S. WELL NUMBER: 47-103-03441-00-00
Horizontal 6A New Drill
Date Modification Issued: 02/28/2022

Promoting a healthy environment.

03/04/2022

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: 104H Well Pad Name: BIG245

3) Farm Name/Surface Owner: ET Blue Grass LLC Public Road Access: CR 19/2

4) Elevation, current ground: 1430' Elevation, proposed post-construction: 1430'

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, 7549', 51', 2,620 psi

8) Proposed Total Vertical Depth: 7,549'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 15,429'

11) Proposed Horizontal Leg Length: 7,060'

12) Approximate Fresh Water Strata Depths: 243', 521', 676', 766', 1,025'

13) Method to Determine Fresh Water Depths: Offset Wells - 47-103-00376 & 47-103-00380

14) Approximate Saltwater Depths: None

15) Approximate Coal Seam Depths: 939'-940', 1,038'-1,047', 1,137'-1,143'

16) Approximate Depth to Possible Void (coal mine, karst, other): 300'

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: Harrison Co. Mine

Depth: 300'

Seam: Pittsburgh

Owner: ACNR Resources, Inc.

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18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	26	New	A-500	85.6	40	40	50 ft ³ / CTS
Fresh Water	13 3/8	New	J-55	54.5	1193	1193	1000 ft ³ / CTS
Coal							
Intermediate	9 5/8	New	J-55	36	2651	2651	1000 ft ³ / CTS
Production	5 1/2	New	P-110	20	15429	15429 ✓	500' above intermediate casing
Tubing							
Liners							

Bryan Harris 1/31/22

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	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:				

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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): 44.22

22) Area to be disturbed for well pad only, less access road (acres): 43.58

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

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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.

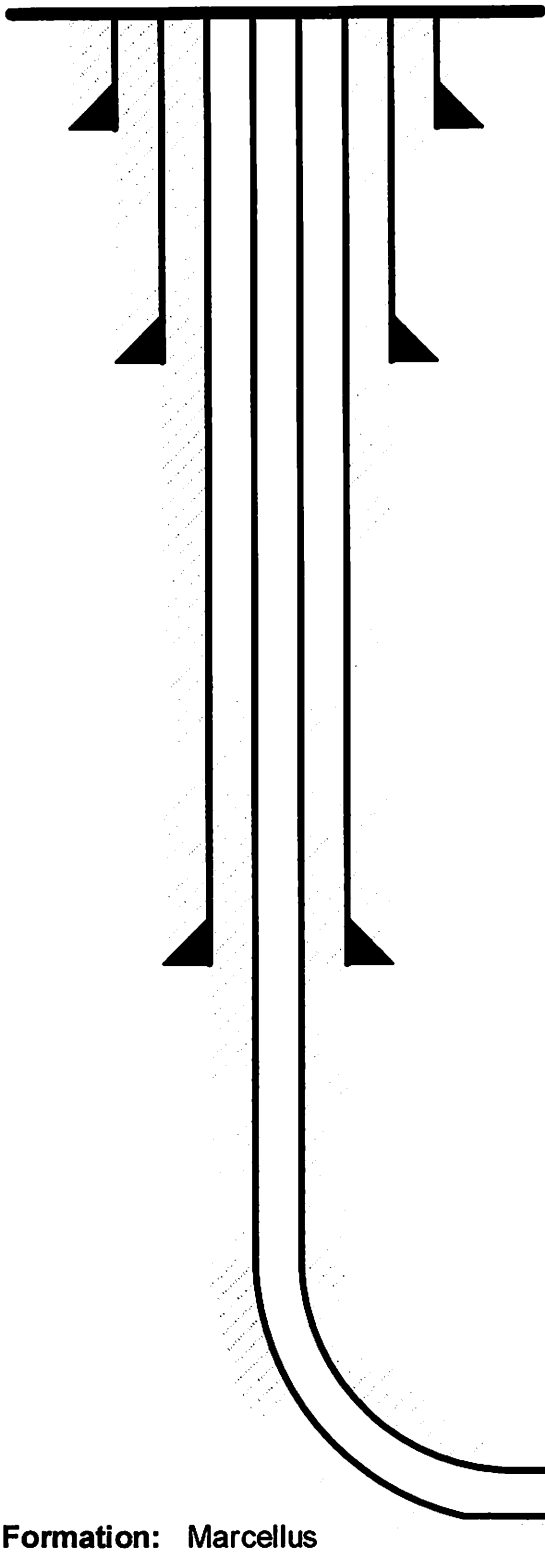
*Note: Attach additional sheets as needed.

EQT Production

Wellbore Diagram

Well: BIG 245 104H
Pad: BIG 245
Elevation: 1430' GL 1443' KB

County: Wetzel
State: West Virginia



Conductor @ 40'

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

Surface @ 1,193'

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

Intermediate @ 2,651'

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

Production @ 15,429' MD / 7,549' TVD

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

Formation: Marcellus

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03/04/2022 SALE

EQT Production
Hydraulic Fracturing Monitoring Plan
Pad ID: BIG245
County: Wetzel

February 15, 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 BIG245 well pad: 102H, 104H, 106H, 108H, 110H, 112H, 114H.

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**.

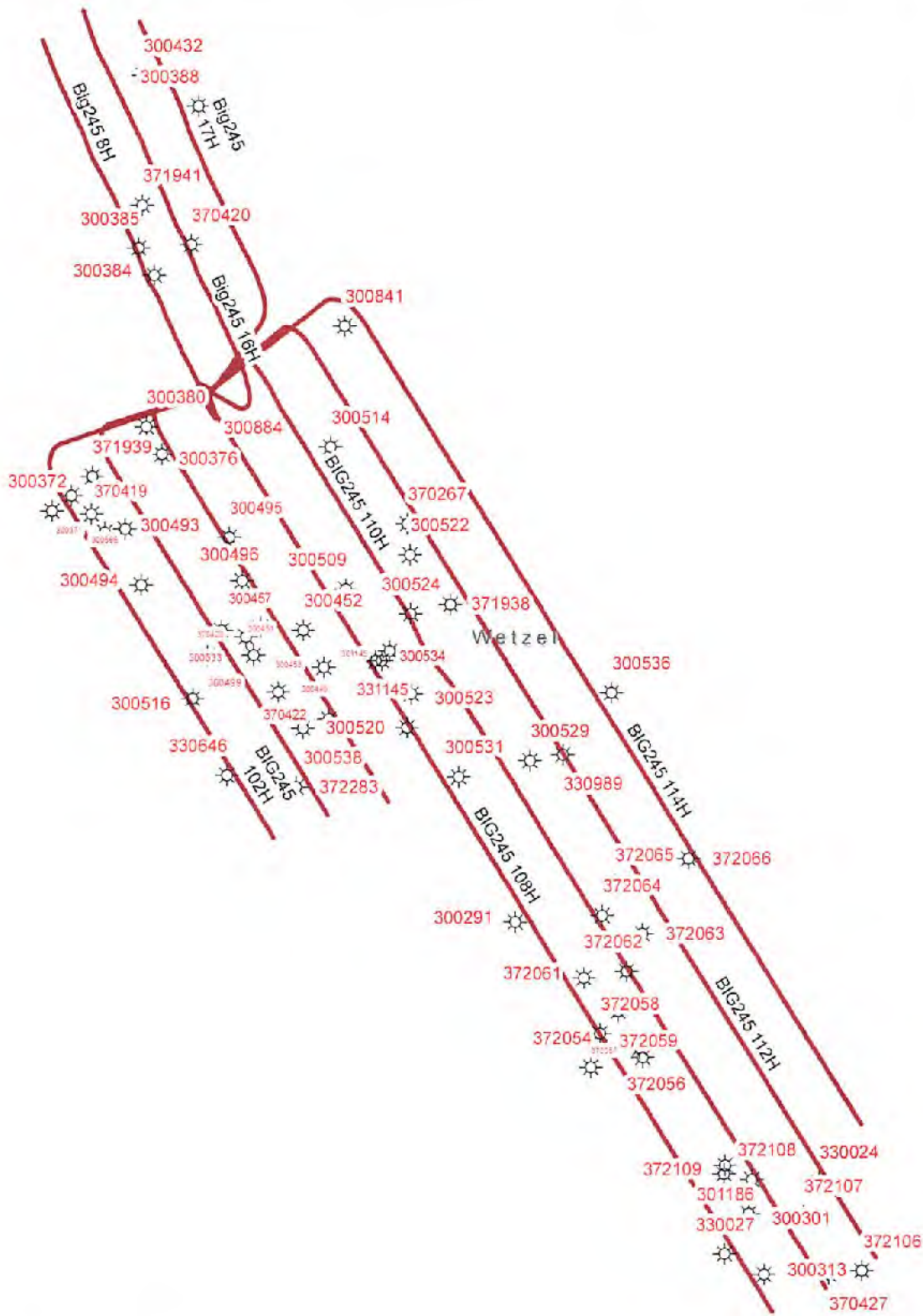
EQT will notify these operators of the hydraulic fracturing schedule for these wells, and coordinate with them throughout the fracturing process.

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

BIG245

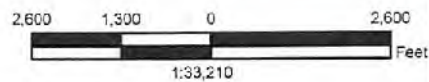
Vertical Offsets and
Foreign Laterals
within 500'

Legend

☀ Foreign Offset Wells

Well Lateral_FM
Formation

- Genesee
- Marcellus
- Utica



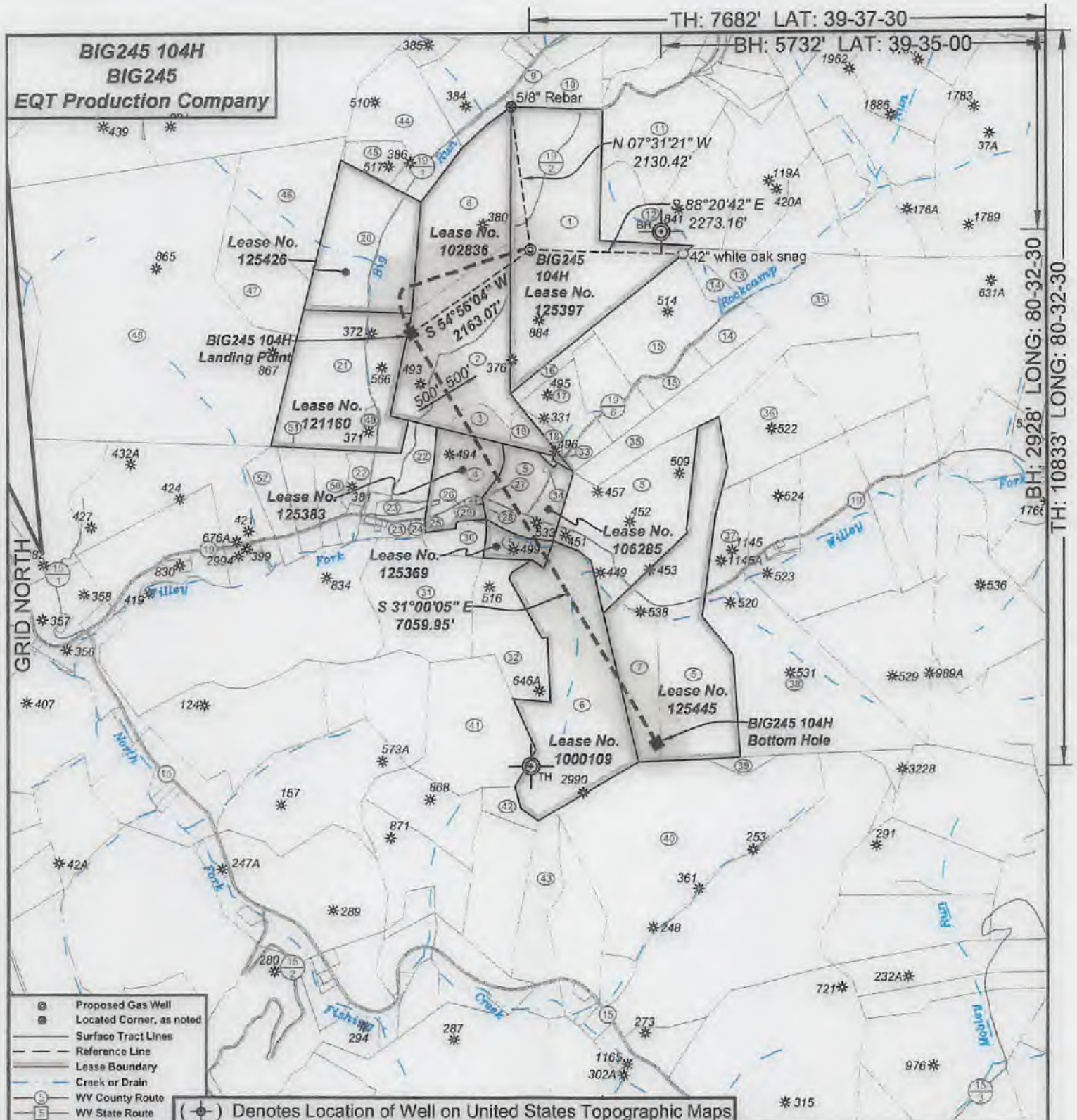
Disclaimer:

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.



UNI	ACT STATUS	CURS OPER	DUTM	FILE CLASS	INIT CLASS	LATITUDE	LONGITUDE	OPEN NAME	SPUD DATE	ELEVATION	TOT DEPTH	TVD
372883	Completed Wells	HOPE NATURAL GAS	MA027	UNCLASSIFIED	UNCLASSIFIED	39.579657100	39.579657100	HOPE NATURAL GAS	18010101	0.00	0.00	0.00
300558	Completed Wells	EQUITABLE GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.579629100	39.579629100	EQUITABLE GAS CO	18010101	866.00	1650.00	0.00
300934	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.579829100	39.579829100	PHILADELPHIA OIL	18010101	0.00	0.00	0.00
172005	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.572001200	39.572001200	UNKNOWN	18010101	0.00	0.00	0.00
300330	Completed Wells	J & M OIL & GAS	MA027	UNCLASSIFIED	UNCLASSIFIED	39.593662100	39.593662100	HOPE NATURAL GAS	4/17/1952	1267.00	1138.00	0.00
300334	Completed Wells	J & M OIL & GAS	MA027	UNCLASSIFIED	UNCLASSIFIED	39.601400000	39.601400000	EQUITABLE GAS CO	4/17/1952	1107.00	1107.00	0.00
372341	Completed Wells	PHILADELPHIA OIL	MA027	UNCLASSIFIED	UNCLASSIFIED	39.62213000	39.62213000	PHILADELPHIA OIL	18010101	0.00	0.00	0.00
300434	Completed Wells	EQUITABLE GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.65625000	39.65625000	PHILADELPHIA OIL	18010101	0.00	0.00	0.00
331115	Completed Wells	EQUITABLE GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58260000	39.58260000	EQUITABLE GAS CO	1096.00	2088.00	0.00	0.00
370912	Completed Wells	HOPE NATURAL GAS	MA027	UNCLASSIFIED	UNCLASSIFIED	39.579850000	39.579850000	HOPE NATURAL GAS	18010101	0.00	0.00	0.00
300935	Completed Wells	PITTSBURGH & VA GAS	MA027	TEMPORARILY ABANDONED WELL	TEMPORARILY ABANDONED WELL	39.58437100	39.58437100	PITTSBURGH & VA GAS	5/20/1946	1193.00	2285.00	0.00
300516	Completed Wells	J & M OIL & GAS	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58086000	39.58086000	EQUITABLE GAS CO	18010101	1034.00	2090.00	0.00
370423	Completed Wells	PHILADELPHIA OIL	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58378100	39.58378100	PHILADELPHIA OIL	18010101	0.00	0.00	0.00
372064	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.57056100	39.57056100	UNKNOWN	18010101	0.00	0.00	0.00
372106	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.55372500	39.55372500	UNKNOWN	18010101	0.00	0.00	0.00
372108	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.55807900	39.55807900	UNKNOWN	18010101	0.00	0.00	0.00
370339	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.55132800	39.55132800	UNKNOWN	18010101	0.00	0.00	0.00
300384	Completed Wells	HOPE NATURAL GAS	MA027	UNCLASSIFIED	UNCLASSIFIED	39.59219900	39.59219900	EQUITABLE GAS CO	18010101	1157.00	0.00	0.00
370419	Completed Wells	HOPE NATURAL GAS	MA027	UNCLASSIFIED	UNCLASSIFIED	39.59045700	39.59045700	HOPE NATURAL GAS	18010101	0.00	0.00	0.00
300529	Completed Wells	EQUITABLE GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.57781500	39.57781500	EQUITABLE GAS CO	4/17/1953	1200.00	3728.00	0.00
300557	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58123800	39.58123800	UNKNOWN	12/12/1952	1103.00	358.00	0.00
300412	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.60100800	39.60100800	UNKNOWN	5/12/1956	954.00	1965.00	0.00
300834	Completed Wells	EQUITABLE GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.59219900	39.59219900	EQUITABLE GAS CO	11/1/1989	1167.00	2211.00	0.00
372083	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.56160000	39.56160000	UNKNOWN	18010101	0.00	0.00	0.00
300536	Completed Wells	EQUITABLE GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58101100	39.58101100	EQUITABLE GAS CO	18010101	1207.00	2363.00	0.00
372088	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.56510600	39.56510600	UNKNOWN	18010101	0.00	0.00	0.00
372107	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.55631700	39.55631700	UNKNOWN	18010101	0.00	0.00	0.00
372289	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.56605000	39.56605000	UNKNOWN	18010101	0.00	0.00	0.00
372066	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.54630900	39.54630900	UNKNOWN	18010101	0.00	0.00	0.00
300153	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58217100	39.58217100	UNKNOWN	9/1/1957	973.00	726.00	0.00
372054	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.59344900	39.59344900	UNKNOWN	18010101	0.00	0.00	0.00
372054	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.59344900	39.59344900	UNKNOWN	18010101	0.00	0.00	0.00
372109	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.55838900	39.55838900	HOPE NATURAL GAS	18010101	0.00	0.00	0.00
371918	Completed Wells	HOPE NATURAL GAS	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58513200	39.58513200	HOPE NATURAL GAS	18010101	2095.00	0.00	0.00
300513	Completed Wells	EQUITABLE GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.57709000	39.57709000	EQUITABLE GAS CO	18010101	0.00	0.00	0.00
372097	Completed Wells	SOUTH PETROL OIL	MA027	UNCLASSIFIED	UNCLASSIFIED	39.56410000	39.56410000	SOUTH PETROL OIL	18010101	0.00	0.00	0.00
372063	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58195000	39.58195000	UNKNOWN	18010101	0.00	0.00	0.00
300523	Completed Wells	EQUITABLE GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58103500	39.58103500	EQUITABLE GAS CO	12/27/1962	816.00	0.00	0.00
300534	Completed Wells	EQUITABLE GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58208000	39.58208000	EQUITABLE GAS CO	18010101	1067.00	2886.00	0.00
300522	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58756000	39.58756000	UNKNOWN	18010101	1213.00	3354.00	0.00
370912	Completed Wells	SOUTH PETROL OIL	MA027	UNCLASSIFIED	UNCLASSIFIED	39.54518000	39.54518000	SOUTH PETROL OIL	18010101	0.00	0.00	0.00
300989	Completed Wells	EQUITABLE GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.57311000	39.57311000	UNKNOWN	18010101	923.00	2212.00	0.00
372064	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58180000	39.58180000	UNKNOWN	18010101	0.00	0.00	0.00
300524	Completed Wells	EQUITABLE GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58180000	39.58180000	EQUITABLE GAS CO	1/22/1919	972.00	2882.00	0.00
300384	Completed Wells	JCR PETROLEUM INC	MA027	UNCLASSIFIED	UNCLASSIFIED	39.60017800	39.60017800	MACKENZIE P C CO	4/1/1953	853.00	588.00	0.00
330089	Completed Wells	CANADIAN NATURAL GAS CORP	MA027	UNCLASSIFIED	UNCLASSIFIED	39.57810000	39.57810000	CANADIAN NATURAL GAS CORP	10/19/1916	1200.00	3721.00	0.00
300371	Completed Wells	JCR PETROLEUM INC	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58871500	39.58871500	MACKENZIE P C CO	1/27/1951	825.00	534.00	0.00
372063	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.56655800	39.56655800	UNKNOWN	18010101	0.00	0.00	0.00
300533	Completed Wells	PITTSBURGH & VA GAS	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58107100	39.58107100	PITTSBURGH & VA GAS	10/27/1952	829.00	1338.00	0.00
300533	Completed Wells	EQUITABLE GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58887100	39.58887100	EQUITABLE GAS CO	11/15/1915	1103.00	2234.00	0.00
300449	Completed Wells	NORTH FORK DEVELOPMENT	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58215600	39.58215600	NORTH FORK DEVELOPMENT	4/1/1917	827.00	537.00	0.00
330027	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.55459000	39.55459000	UNKNOWN	1/17/1911	807.00	4768.00	0.00
300509	Completed Wells	DUNN, MAR OIL & GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58683700	39.58683700	DUNN, MAR OIL & GAS CO	12/23/1914	1155.00	3243.00	0.00
300513	Completed Wells	HOPE NATURAL GAS	MA027	UNCLASSIFIED	UNCLASSIFIED	39.55838900	39.55838900	HOPE NATURAL GAS	6/24/1944	913.00	672.00	0.00
300453	Completed Wells	NORTH FORK DEVELOPMENT	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58914500	39.58914500	NORTH FORK DEVELOPMENT	1/30/1951	817.00	523.00	0.00
300172	Completed Wells	UNKNOWN	MA027	UNCLASSIFIED	UNCLASSIFIED	39.59914500	39.59914500	UNKNOWN	4/30/1951	842.00	523.00	0.00
300176	Completed Wells	JCR PETROLEUM INC	MA027	UNCLASSIFIED	UNCLASSIFIED	39.59230400	39.59230400	MACKENZIE P C CO	4/1/1953	1765.00	1009.00	0.00
300188	Completed Wells	JCR PETROLEUM INC	MA027	UNCLASSIFIED	UNCLASSIFIED	39.60285600	39.60285600	MACKENZIE P C CO	9/1/1953	916.00	666.00	0.00
330016	Completed Wells	DUNN, MAR OIL & GAS CO	MA027	UNCLASSIFIED	UNCLASSIFIED	39.57912700	39.57912700	DUNN, MAR OIL & GAS CO	1/25/1914	1197.00	3339.00	0.00
300156	Completed Wells	JCR PETROLEUM INC	MA027	UNCLASSIFIED	UNCLASSIFIED	39.59899800	39.59899800	MACKENZIE P C CO	12/27/1954	880.00	518.00	0.00
300191	Completed Wells	CANADIAN NATURAL GAS CORP	MA027	UNCLASSIFIED	UNCLASSIFIED	39.57201200	39.57201200	CANADIAN NATURAL GAS CORP	4/17/1949	1395.00	3334.00	0.00
300145	Completed Wells	MEADOWS ROGE DEVELOPMENT LLC	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58304300	39.58304300	QUAMER STATE OIL REFINING CO	18010101	0.00	0.00	0.00
300186	Completed Wells	UNDEVELOPED RESOURCES INC	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58878000	39.58878000	M & T OIL & GAS CO	18010101	1381.00	2500.00	0.00
370267	Completed Wells	HOPE NATURAL GAS	MA027	UNCLASSIFIED	UNCLASSIFIED	39.59389000	39.59389000	HOPE NATURAL GAS	18010101	0.00	0.00	0.00
300452	Completed Wells	NORTH FORK DEVELOPMENT	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58407100	39.58407100	NORTH FORK DEVELOPMENT	7/27/1957	886.00	614.00	0.00
330024	Completed Wells	HOPE NATURAL GAS	MA027	UNCLASSIFIED	UNCLASSIFIED	39.55799300	39.55799300	HOPE NATURAL GAS	18010101	1229.00	2336.00	0.00
300496	Completed Wells	PITTSBURGH & VA GAS	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58242000	39.58242000	PITTSBURGH & VA GAS	6/20/1902	844.00	2785.00	0.00
300385	Completed Wells	JCR PETROLEUM INC	MA027	UNCLASSIFIED	UNCLASSIFIED	39.58242000	39.58242000	MACKENZIE P C CO	7/27/1954	905.00	647.00	0.00

300495	Completed Wells	THE PHILADELPHIA CO	NAD27	DEVELOPMENT WELL-GAS	DEVELOPMENT WELL	39.58843700	-80.56793800	THE PHILADELPHIA CO	9/28/1903	1109.00	2100.00	0.00
300301	Completed Wells	ROSS & WHARTON GAS CO	NAD27	DEVELOPMENT WELL-GAS	DEVELOPMENT WELL	39.55648300	-80.53634400	HOPE NATURAL GAS	12/2/1943	933.00	651.00	0.00
300520	Completed Wells	HOPE NATURAL GAS	NAD27	DEVELOPMENT WELL-GAS	DEVELOPMENT WELL	39.57941500	-80.55713800	HOPE NATURAL GAS	7/3/1919	937.00	2025.00	0.00



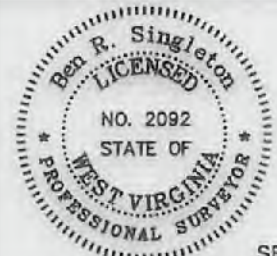
- Proposed Gas Well
- Located Corner, as noted
- Surface Tract Lines
- Reference Line
- Lease Boundary
- Creek or Drain
- WV County Route
- WV State Route

(⊙) 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. Sholtz
P.S. 2092



SEAL

FILE NO: 246-18
DRAWING NO: BIG245 104H
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: February 11 20 22
OPERATOR'S WELL NO.: BIG245 104H
API WELL NO MOD
47 - 103 - 03441
STATE COUNTY PERMIT

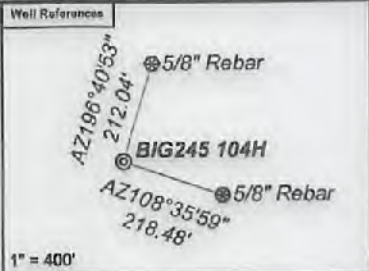
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
LOCATION: ELEVATION: 1430' WATERSHED Rockcamp Run of Willey Fork QUADRANGLE: Big Run
DISTRICT: Grant COUNTY: Wetzel
SURFACE OWNER: ET Blue Grass LLC ACREAGE: 130.93
ROYALTY OWNER: Shiben Estates, Inc., et al. LEASE NO: 125397 ACREAGE: 140
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: 7,549'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Joseph C. Mallow
ADDRESS: 400 Woodcliff Drive ADDRESS: 427 Midstate Drive
Canonsburg, PA 15317 Clarksburg, WV 26301

03/04/2022

BIG245 104H
BIG245
EQT Production Company

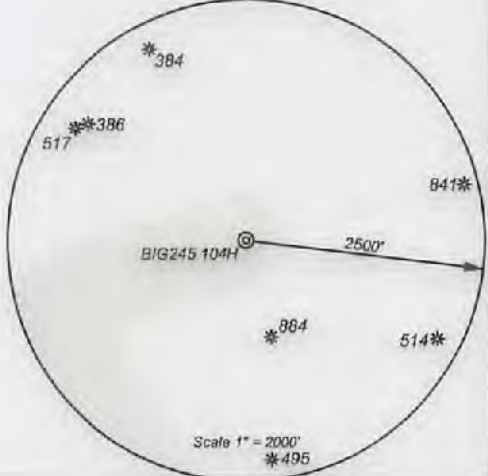
Tract I.D.	Tax Map No.	Parcel No.	County	District	Surface Tract Owner	Acres
1	8	22	Wetzel	Grant	ET Blue Grass LLC	138.93
2	8	21	Wetzel	Grant	Ray Joe Willey	78.27
3	8	24	Wetzel	Grant	H. Don Higginbotham	7.10
4	8	20	Wetzel	Grant	H. Don Higginbotham	23.02
5	8	53	Wetzel	Grant	H. Don Higginbotham	108.21
6	13	17	Wetzel	Grant	Mary Higginbotham	112.00
7	13	9	Wetzel	Grant	Mary Higginbotham	30.48
8	8	14	Wetzel	Grant	Utt Neal	51.08
9	8	13.1	Wetzel	Grant	Duane M. Goodrich	3.58
10	8	7	Wetzel	Grant	James E. & Martin A. Stonelung	19.12
11	8	8	Wetzel	Grant	Wanda L. Byard	50.16
12	8	15	Wetzel	Grant	John Michael Byard	71.00
13	8	22	Wetzel	Grant	James A. Yoho	17.80
14	8	20	Wetzel	Grant	Mary Jane Byard	15.06
15	8	25	Wetzel	Grant	James A. Yoho	61.00
16	8	25	Wetzel	Grant	James A. Yoho	8.25
17	8	26	Wetzel	Grant	James A. Yoho	23.25
18	8	31	Wetzel	Grant	James A. Yoho	3.00
19	8	30	Wetzel	Grant	James A. Yoho	7.80
20	8	11	Wetzel	Grant	Bonnie M. Herkane	80.50
21	8	20	Wetzel	Grant	Dale K. Dulaney, et al.	70.81
22	8	38	Wetzel	Grant	Cele K. & Sherry L. Dulaney	26.82
23	8	48	Wetzel	Grant	Donald J. Dulaney	8.85
24	8	48	Wetzel	Grant	Donald J. Dulaney	1.00
25	8	51.2	Wetzel	Grant	Gerald D. Wilke, et al.	2.82
26	8	51.1	Wetzel	Grant	Henry E. Willey	0.18
27	8	52	Wetzel	Grant	Henry E. Willey	0.26
28	8	59.1	Wetzel	Grant	Henry E. Willey	0.12
29	8	51	Wetzel	Grant	Henry E. Willey	2.31
30	8	55	Wetzel	Grant	Manuel L. McDiffie, et al.	9.25
31	13	7	Wetzel	Grant	Manuel L. McDiffie, et al.	51.80
32	13	8	Wetzel	Grant	Robert Dale	36.00
33	8	40	Wetzel	Grant	James A. Yoho	0.90
34	8	41	Wetzel	Grant	H. Don Higginbotham	6.45
35	8	32	Wetzel	Grant	Joe Pigg	82.80
36	8	28	Wetzel	Grant	Sharilyn Snider	55.52
37	8	54	Wetzel	Grant	Sharilyn Snider	20.00
38	14	7	Wetzel	Grant	Norman Derby	83.00
39	13	18	Wetzel	Grant	NA	6.00
40	13	27.1	Wetzel	Grant	Jeremy Collins	146.70
41	13	15	Wetzel	Grant	Robert Cow	27.75
42	13	26	Wetzel	Grant	Charles W. & Sierra R. Lemley	7.57
43	13	43	Wetzel	Grant	David Willey Life Estate	40.40
44	8	12	Wetzel	Grant	Shirley A. Tisus	41.90
45	8	12.1	Wetzel	Grant	Dale F. Sapp	10.10
46	8	10	Wetzel	Grant	Garland E. Minor	48.10
47	8	19	Wetzel	Grant	Philip Shreve	48.45
48	8	18	Wetzel	Grant	Coastal Forest Resources Company	137.80
49	8	23.1	Wetzel	Grant	James L. Dulaney	3.19
50	8	37	Wetzel	Grant	James L. & Karen Dulaney	14.10
51	8	38	Wetzel	Grant	James L. & Karen Dulaney	14.10
52	8	35	Wetzel	Grant	Deborah Fronczik	15.50



Notes:
BIG245 104H coordinates are
NAD 27 Lat: 400,708.95 E: 1,698,762.52
NAD 83 UTM N: 4,382,934.52 E: 537,028.76
BIG245 104H Landing Point coordinates are
NAD 27 N: 399,466.24 E: 1,697,012.06
NAD 27 Lat: 39.691780 Long: -80.575157
NAD 83 UTM N: 4,382,546.89 E: 536,495.66
BIG245 104H Bottom Hole coordinates are
NAD 27 N: 393,414.77 E: 1,700,648.33
NAD 27 Lat: 39.575295 Long: -80.562001
NAD 83 UTM N: 4,380,721.76 E: 537,534.21
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.

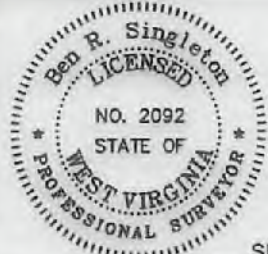
- BIG245**
- ⊙ BIG245 114H
 - ⊙ BIG245 112H
 - ⊙ BIG245 110H
 - ⊙ BIG245 109H
 - ⊙ BIG245 106H
 - ⊙ BIG245 104H
 - ⊙ BIG245 102H
 - ⊙ 47-103-03234
 - ⊙ 47-103-03235
 - ⊙ 47-103-03236

Lease No.	Owner	Acres
102836	Shiben Estates, Inc., et al.	192
125426	Three Rivers Royalty II LLC, et al.	64
121160	Acropolis, Inc., et al.	80
125383	H. Don Higginbotham and Jane Higginbotham, et al.	26
106285	Remnants, LLC, et al.	40
125369	Bounty Minerals, LLC	10
1000109	Reda M. Amos, a/k/a Rita Mae Amos, et al.	108
125445	PA Mineral Group II, LLC	121



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



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03/04/2022

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Joseph C. Mallow
ADDRESS: 400 Woodcliff Drive Canonsburg, PA 15317 ADDRESS: 427 Midstate Drive Clarksburg, WV 26301

**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
 Its: Project Specialist - Permitting

Lease No.	Grantor, Lessor, etc.	Acres	Grantee, Lessee, etc.	Royalty	Book/Page
✓ <u>125397</u>	<u>Shiben Estates, Inc., et al.</u>			"at least 1/8th per WV Code 22-6-8"	
	Joseph Shiben and Minnie Shiben, his wife, et al	140 ac	Equitable Gas Company		OG 44A/224
	Equitable Gas Company		Equitrans, Inc.		OG 71A/453
	Equitrans, Inc.		EQT Capital Corporation		Corp. 13/213
	EQT Capital Corporation		Equitable Resources, Inc.		Corp. 13/213
	Equitable Resources, Inc.		Equitable Gas Company, LLC		Corp. 13/230
	Equitable Gas Company, LLC and EQT Corporation		Equitrans, LP		Misc. 105/908
	Equitrans, LP		EQT Production Company		OG 131A/81
✓ <u>102836</u>	<u>Shiben Estates, Inc., et al.</u>			"at least 1/8th per WV Code 22-6-8"	
	S. I. Robinson	192 ac	Philadelphia Company		DB 47/469
	The Philadelphia Company of West Virginia		Pittsburgh & West Virginia Gas Company		OG 22A/352
	Pittsburgh & West Virginia Gas Company		Equitable Gas Company		DB 187/321
	Equitable Gas Company		Equitrans, Inc.		OG 71A/453
	Equitrans, Inc.		EQT Capital Corporation		Corp. 13/213
	EQT Capital Corporation		Equitable Resources, Inc.		Corp. 13/213
	Equitable Resources, Inc.		Equitable Gas Company, LLC		Corp. 13/230
	Equitable Gas Company, LLC and EQT Corporation		Equitrans, LP		Misc. 105/908
	Equitrans, LP		EQT Production Company		OG 131A/81

"at least 1/8th per
WV Code 22-6-8"

✓ 125426

Three Rivers Royalty II LLC, et al.

William Swisher and Mary E. Swisher, his wife
Hope Natural Gas Company
Equitable Gas Company
Equitrans, Inc.
EQT Capital Corporation
Equitable Resources, Inc.
Equitable Gas Company, LLC and EQT Corporation
Equitrans, LP

64 ac

Hope Natural Gas Company
Equitable Gas Company
Equitrans, Inc.
EQT Capital Corporation
Equitable Resources, Inc.
Equitable Gas Company, LLC
Equitrans, LP
EQT Production Company

OG 5A/128
OG 44A/380
OG 71A/453
Corp. 13/213
Corp. 13/213
Corp. 13/230
Misc. 105/908
OG 131A/81

"at least 1/8th per
WV Code 22-6-8"

✓ 121160

Acropolis, Inc., et al.

A. C. Higginbotham and Jessie Higginbotham, his wife, et al
Pittsburgh & West Virginia Gas Company
Equitable Gas Company
Equitrans, Inc.
EQT Capital Corporation
Equitable Resources, Inc.
Equitable Gas Company, LLC and EQT Corporation
Equitrans, LP

80 ac

Pittsburgh and West Virginia Gas Company
Equitable Gas Company
Equitrans, Inc.
EQT Capital Corporation
Equitable Resources, Inc.
Equitable Gas Company, LLC
Equitrans, LP
EQT Production Company

OG 39A/236
DB 187/321
OG 71A/453
Corp. 13/213
Corp. 13/213
Corp. 13/230
Misc. 105/908
OG 131A/81

"at least 1/8th per
WV Code 22-6-8"

✓ 125383

H. Dorn Higginbotham and Lavena Jane Higginbotham, et al.

Dora Kohn, widow, et al
Equitable Gas Company
Equitrans, Inc.
EQT Capital Corporation
Equitable Resources, Inc.
Equitable Gas Company, LLC and EQT Corporation
Equitrans, LP

26 ac

Equitable Gas Company
Equitrans, Inc.
EQT Capital Corporation
Equitable Resources, Inc.
Equitable Gas Company, LLC
Equitrans, LP
EQT Production Company

OG 44A/87
OG 71A/453
Corp. 13/213
Corp. 13/213
Corp. 13/230
Misc. 105/908
OG 131A/81

"at least 1/8th per
WV Code 22-6-8"

✓ 106285

Remnants, LLC, et al.

John E. Snider and Mahalia A. Snider, his wife
John Lavelle
Equitable Gas Company
Equitrans, Inc.
EQT Capital Corporation
Equitable Resources, Inc.
Equitable Gas Company, LLC and EQT Corporation
Equitrans, LP

40 ac

John Lavelle
Equitable Gas Company
Equitrans, Inc.
EQT Capital Corporation
Equitable Resources, Inc.
Equitable Gas Company, LLC
Equitrans, LP
EQT Production Company

DB 76/239
Unrecorded
OG 71A/453
Corp. 13/213
Corp. 13/213
Corp. 13/230
Misc. 105/908
OG 131A/81

"at least 1/8th per
WV Code 22-6-8"

✓ 125369

Bounty Minerals, LLC

Adda M. Sole, widow, et al
Equitable Gas Company
Equitrans, Inc.
EQT Capital Corporation
Equitable Resources, Inc.
Equitable Gas Company, LLC and EQT Corporation
Equitrans, LP

10 ac

Equitable Gas Company
Equitrans, Inc.
EQT Capital Corporation
Equitable Resources, Inc.
Equitable Gas Company, LLC
Equitrans, LP
EQT Production Company

OG 44A/26
OG 71A/453
Corp. 13/213
Corp. 13/213
Corp. 13/230
Misc. 105/908
OG 131A/81

"at least 1/8th per
WV Code 22-6-8"

✓ 1000109

Reda M. Amos, a/k/a Rita Mae Amos, et al.

Reda M. Amos, a/k/a Rita Mae Amos, widow

108 ac

EQT Production Company

OG 151A/744

<u>/125445</u>	<u>PA Mineral Group II, LLC</u>			"at least 1/8th per WV Code 22-6-8"
	Elva R. King and Charles H. King, her husband, et al	121 ac	Equitable Gas Company	OG 45A/25
	Equitable Gas Company		Equitrans, Inc.	OG 71A/453
	Equitrans, Inc.		EQT Capital Corporation	Corp. 13/213
	EQT Capital Corporation		Equitable Resources, Inc.	Corp. 13/213
	Equitable Resources, Inc.		Equitable Gas Company, LLC	Corp. 13/230
	Equitable Gas Company, LLC and EQT Corporation		Equitrans, LP	Misc. 105/908
	Equitrans, LP		EQT Production Company	OG 131A/81



February 15, 2022

Via FedEx Overnight

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

CHECK # 591351
1/19/22
\$2,500.00

RE: Well Work Permit Modification
BIG245 104H Well
Permit Number 47-103-03441
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
- 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
- Disk containing a modification to the Water Management Plan and site drawings to change the size of the AST associated with this site.

EQT is proposing to extend the lateral from the previously permitted length, add a water source to the Water Management Plan and modify the size of the approved AST. .

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

RECEIVED
Office of Oil and Gas

FEB 16 2022

WV Department of
Environmental Protection

03/04/2022



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

Modification Horizontal H6A Well Work Permit API: 47-103-03441, 03443, 03445, 03446)

1 message

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

Mon, Feb 28, 2022 at 12:45 PM

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

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





47-103-03441 - BIG 245 104H
47-103-03443 - BIG 245 108H
47-103-03445 - BIG 245 112H
47-103-03446 - BIG 245 114H

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

4 attachments

-  **47-103-03441 - mod.pdf**
1401K
-  **47-103-03446 - mod.pdf**
1668K
-  **47-103-03443 - mod.pdf**
1605K
-  **47-103-03445 - mod.pdf**
1426K

03/04/2022