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west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Monday, February 12, 2024  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

EQT PRODUCTION COMPANY  
400 WOODCLIFF DR.

CANONSBURG, PA 15317

Re: Permit Modification Approval for Carnegie 17H  
47-049-02528-00-00

**Added lease to permit**

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: Carnegie 17H  
Farm Name: Jeanne A Musgrave Akers & Joseph Forte  
U.S. WELL NUMBER: 47-049-02528-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 2/12/2024

Promoting a healthy environment.

02/16/2024

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

1) Well Operator: EQT Production Company 306686 Marion Mannington Glover Gap  
Operator ID County District Quadrangle

2) Operator's Well Number: 17H Well Pad Name: Carnegie

3) Farm Name/Surface Owner: Jeanne Ann Musgrave Akers & Joseph Forte Public Road Access: CR 7/3

4) Elevation, current ground: 1,318' (built) Elevation, proposed post-construction: 1,318' (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, 7,712', 79', 2,593 psi

8) Proposed Total Vertical Depth: 7,712'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 10,207

11) Proposed Horizontal Leg Length: 858'

12) Approximate Fresh Water Strata Depths: 309', 335', 341', 371', 709'

13) Method to Determine Fresh Water Depths: Offset Wells - 049-30050, 049-00200, 049-30239

14) Approximate Saltwater Depths: 1,852'

15) Approximate Coal Seam Depths: 515'-517', 669'-671', 937'-941', 1,034'-1,041'

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 \_\_\_\_\_

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(a) If Yes, provide Mine Info: Name: Harrison County Mine  
Depth: 1,034'-1,041'  
Seam: Pittsburgh  
Owner: Harrison County Coal Resources

WV Department of  
Environmental Protection

*Ky Willott*  
1/17/24

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	K202 OR 3 1/2	85.6	40	40	45 ft <sup>3</sup> / CTS
Fresh Water	13 3/8	New	J-55	54.5	1091	1091	1040 ft <sup>3</sup> / CTS
Coal							
Intermediate	9 5/8	New	J-55	36	2673	2673	1050 ft <sup>3</sup> / CTS
Production	6	New	P-110	24	10207	10207	500' above intermediate casing
Tubing							
Liners							

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	26	30	0.312	1000	18	Class A/L	1.04 - 1.20
Fresh Water	13 3/8	17 1/2	0.380	2730	2184	Class A/L	1.04 - 1.20
Coal							
Intermediate	9 5/8	12 3/8	0.352	3520	2816	Class A/L	1.04 - 1.20
Production	6	8 1/2	0.400	14580	11664	Class A/H/L	1.04 - 2.10
Tubing							
Liners							

**PACKERS**

Kind:				<p>RECEIVED Office of Oil and Gas <b>JAN 26 2024</b> WV Department of Environmental Protection</p>
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): 60.28 acres (built)

22) Area to be disturbed for well pad only, less access road (acres): 8.96 acres (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 other joint from production casing shoe to landing point. One solid body centralizer spaced every joint from landing point to planned top of cement.

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.

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Page 3 of 3  
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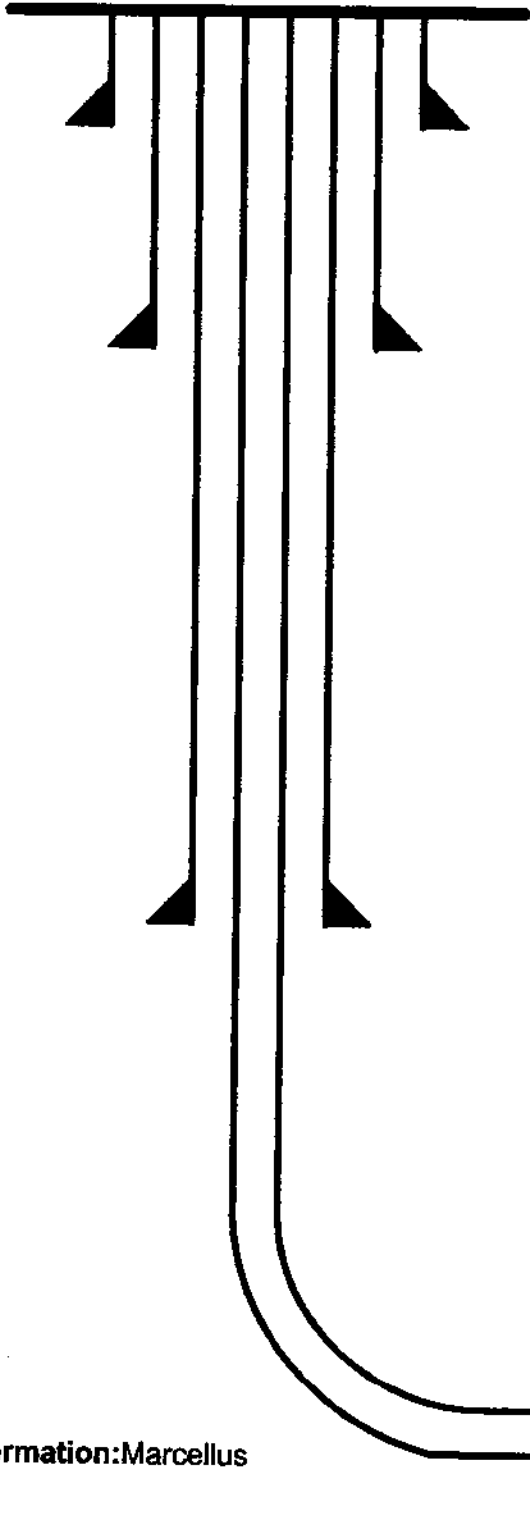
**EQT Production**

**Wellbore Diagram**

Well: Carnegie 17H  
Pad: Carnegie  
Elevation: 1318' GL 1331' KB

County: Marion  
State: West Virginia

**4704902528**



**Conductor @ 40'**

26", 85.6#, A252 GR3 Bare, cement to surface w/ Class A/L

**Surface @ 1,091'**

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

**Intermediate @ 2,673'**

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

**Production @ 10,207' MD / 7,712' TVD**

6", 24#, P-110, cement to 500' inside 9-5/8" w/ Class A/H/L

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Formation: Marcellus

*Ky Willett*  
1/17/24

NOT TO SCALE

02/16/2024



4704902528

**WEST VIRGINIA GEOLOGICAL PROGNOSIS**

Horizontal Well  
Carnegie  
S-000512

**Drilling Objectives:**

**County:** Marcellus  
**Quad:** Marion  
**Elevation:** Glover Gap  
**Recommended Azimuth:** 1331 KB  
TBD Degrees

1318 GL

Recommended LP to TD: TBD

**Proposed Logging Suite:**

@ Pilothole TD - Run OH logs for evaluation of uphole zones.  
Quad Combo Pilot Hole log planned

**ESTIMATED FORMATION TOPS**

Formation	Top (TVD)	Base (TVD)	Lithology	Comments	Top RR	Base RR
Fresh Water Zone	1	709		FW @ 371,335,309,341,709,		No red rock noted in offsets
Washington	515	517	Coal	No voids should be encountered, but located in a large barrier block in the active Harrison County Mine (PGH seam)		
Waynesburg	669	671	Coal			
Sewickley	937	941	Coal			
Pittsburgh	1034	1041	Coal			
<b>Keener Storage Zone</b>	2331	2358		<b>Inside Protective Boundary of Logansport Storage Field</b>		
Big Injun	2515	2623	Silty Sand	SW @ 1852, ... Base of Offset Well Perforations at 3259' TVD (plugged)		
Int. csg pt	2673					
Gantz	3110	3198	Silty Sand			
50F	3051	3267	Silty Sand			
Fifth Sand	3267	3333	Silty Sand			
Bayard	3333	5799	Silty Sand			
Alexander	5799	6209	Silty Sand			
Elks	6209	7163	Silty Sand			
Elks	7163	7163	Gray Shales and Silts			
Sonyea	7163	7347	Gray shale			
Middlesex	7347	7406	Shale			
Genesee	7406	7506	Gray shale interbedded			
Genesee	7506	7540	Black Shale			
Tully	7540	7569	Limestone			
Hamilton	7569	7672	Gray shale with some			
Marcellus	7672	7751	Black Shale			
Purcell	7715	7717	Limestone			
<b>-Lateral Zone</b>	<b>7712</b>			<b>Start Lateral at 7711.5'</b>		
Cherry Valley	7730	7732	Limestone			
Onondaga	7751		Limestone			
Pilot Hole TD						

Target Thickness	79 feet
------------------	---------

**Comments:**

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

**LATERAL DRILLING TOLERANCES**

**Mapview - Lateral:** Deviate as little as possible to the left or right of the planned wellbore.  
**Mapview - TD:** DO NOT EXTEND beyond recommended wellbore to avoid lease line.

**RECOMMENDED CASING POINTS**

Conductor	CSG OD	26"	CSG DEPTH	40'	or competent rock
Fresh Water/Coal	CSG OD	13 3/8	CSG DEPTH	1091	50' below Pittsburgh, cover freshwat
Intermediate 1:	CSG OD	9 5/8	CSG DEPTH	2673	Beneath the Big Injun formation
Production:	CSG OD	5 1/2	CSG DEPTH	@ TD	

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02/16/2024

4704902528

EQT Production  
Hydraulic Fracturing Monitoring Plan  
Pad ID: Carnegie  
County: Marion

January 22, 2024

**Purpose**

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to identify and notify conventional well operators near EQT hydraulic fracturing in Marion County, WV prior to hydraulic fracturing at the following EQT wells on the Carnegie pad: 1H, 3H, 5H, 7H, 9H, 11H, 13H, 15H, 17H and 19H.

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.

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EQT will recommend to these operators at a minimum to:

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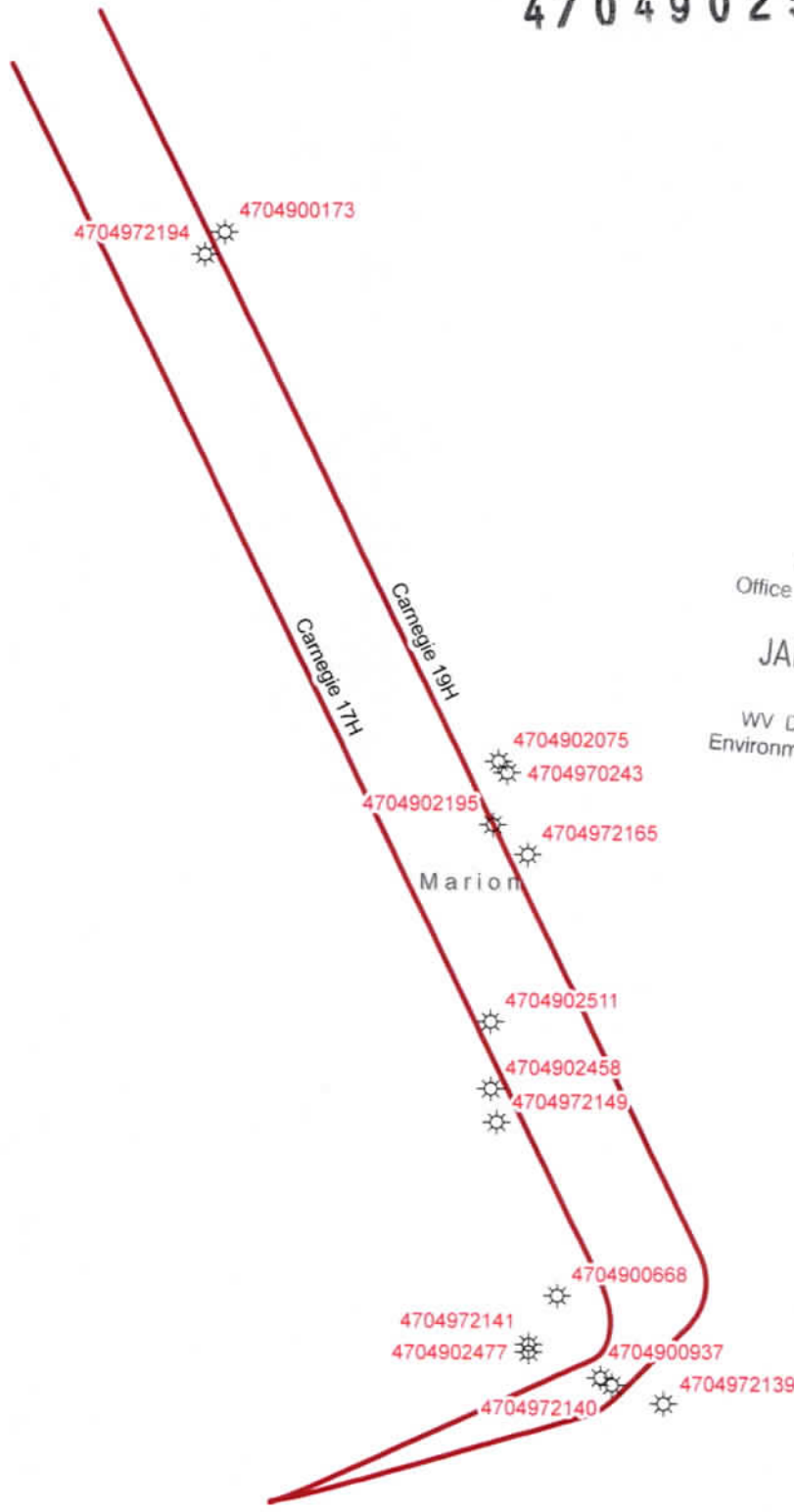
1. Inspect their surface equipment prior to fracturing to establish integrity and establish pre-frac well conditions
2. Observe wells closely during and after fracturing and monitor for abnormal increases in water, gas or pressure
3. Inspect or install master valves or other necessary equipment for wellhead 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.



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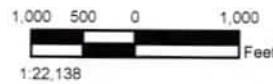
**EQT**  
EQT Corporation  
625 Liberty Avenue  
Pittsburgh, PA 15222

Carnegie 17H & 19H

Vertical Offsets and  
Foreign Laterals  
within 500 Feet

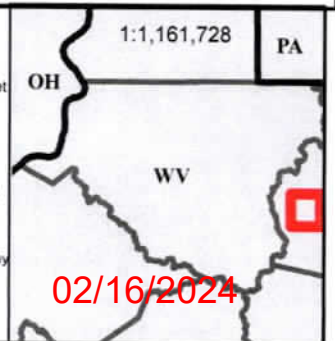
### Legend

- Well Lateral\_FM
- Formation
- Geneseo
- Marcellus
- Utica
- Carnegie\_Offset\_Wells



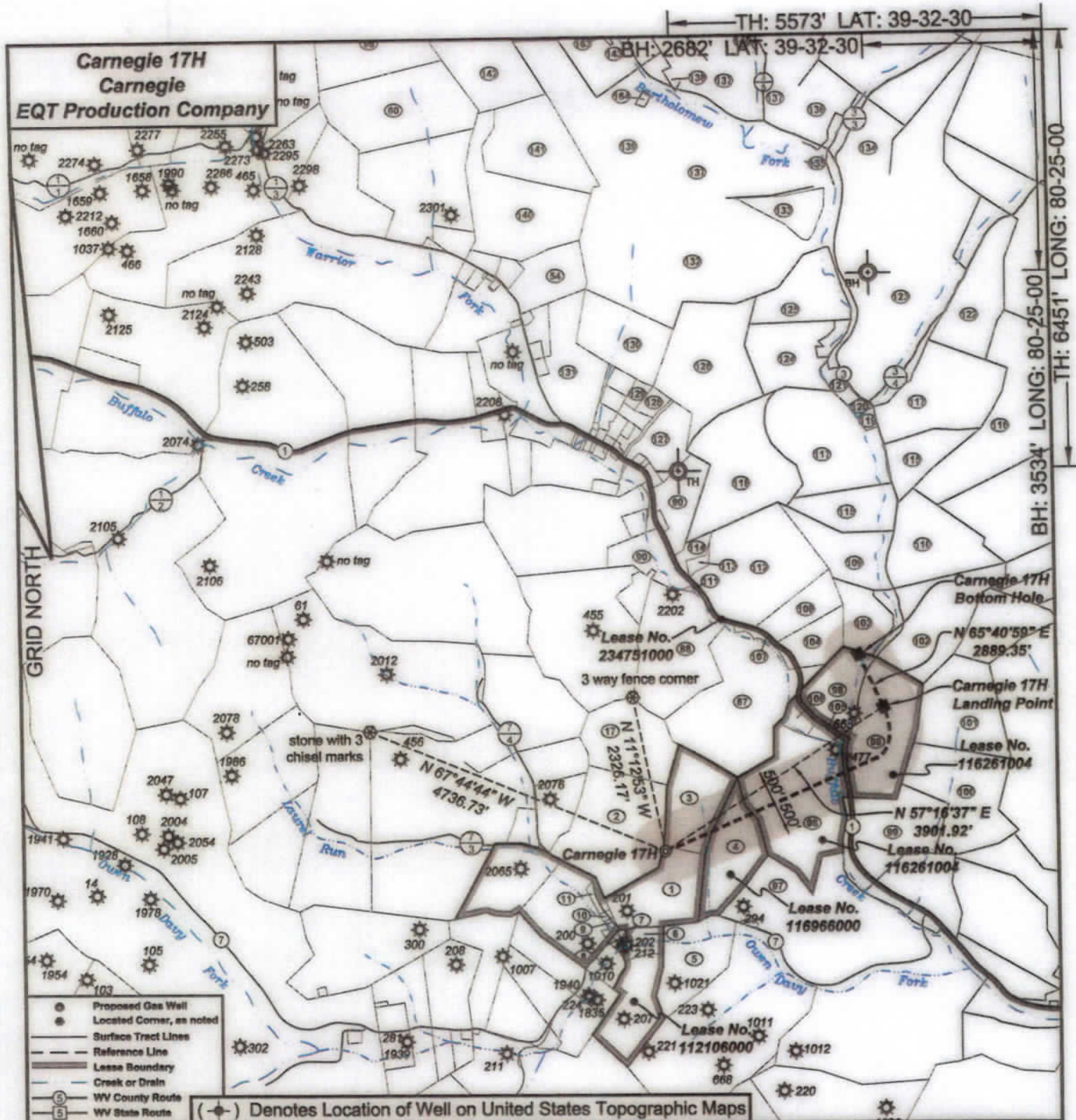
#### Disclaimer:

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.









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: 92-21  
DRAWING NO: Carnegie 17H  
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

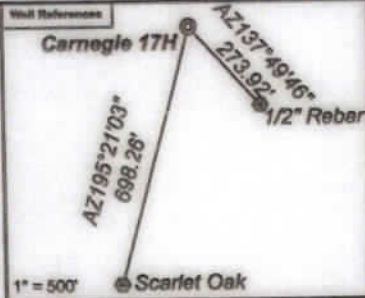
DATE: January 16 20 24  
OPERATOR'S WELL NO.: Carnegie 17H  
API WELL NO  
47 - 049 - 02528  
STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
(IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
LOCATION: ELEVATION: As-Built: 1318' WATERSHED: Laurel Run of Owen Davy Fork QUADRANGLE: Glover Gap  
DISTRICT: Mannington COUNTY: Marion  
SURFACE OWNER: Jeanne A. Musgrave Akers & Joseph Forte ACREAGE: 135  
ROYALTY OWNER: Bounty Minerals, LLC, et al. LEASE NO: 112106000 ACREAGE: 135  
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: 6489'  
WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Joseph C. Mallow  
ADDRESS: 400 Woodcliff Drive ADDRESS: 427 Midstate Drive  
Canonsburg, PA 15317 Clarksburg, WV 25301



**Carnegie 17H  
Carnegie  
EQT Production Company**

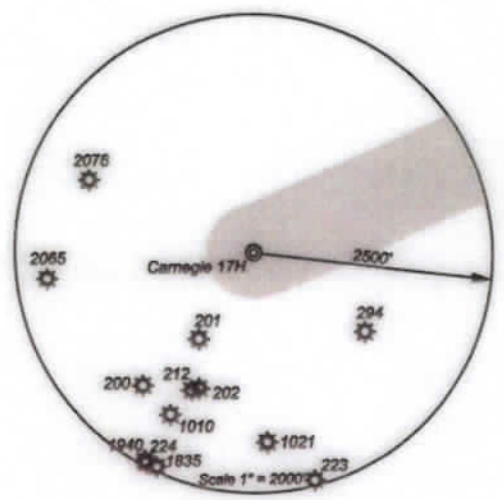
Tract ID	Tract Area	Plat No.	County	Owner	Acres
1	49	39	Marion	Marion Mannington	28.06
2	49	37	Marion	Marion Mannington	51.5
3	49	33.1	Marion	Marion Mannington	23.9
4	49	40	Marion	Marion Mannington	36
5	50	34	Marion	Marion Mannington	28
6	50	35	Marion	Marion Mannington	5.81
7	50	36	Marion	Marion Mannington	0.46
8	50	17	Marion	Marion Mannington	0.32
9	48	13	Marion	Marion Mannington	1.1
10	48	13.2	Marion	Marion Mannington	0.73
11	49	13.1	Marion	Marion Mannington	2.02
17	49	38	Marion	Marion Mannington	30
54	41	26	Marion	Marion Mannington	41.05
60	41	21	Marion	Marion Mannington	50
84	43	14	Marion	Marion Mannington	61
88	43	16	Marion	Marion Mannington	42
90	37	9	Marion	Marion Mannington	27.219
95	44	20	Marion	Marion Mannington	40
97	50	17	Marion	Marion Mannington	180.09
98	49	12	Marion	Marion Mannington	116.825
99	49	41	Marion	Marion Mannington	39
100	49	42	Marion	Marion Mannington	40.2
101	49	11	Marion	Marion Mannington	38.2
102	49	8	Marion	Marion Mannington	40.21
103	37	14	Marion	Marion Mannington	19.79
104	37	13	Marion	Marion Mannington	17.73
105	49	13	Marion	Marion Mannington	7.85
106	49	12.1	Marion	Marion Mannington	4.175
107	49	15	Marion	Marion Mannington	2.5
108	37	18.2	Marion	Marion Mannington	13.71
109	37	15	Marion	Marion Mannington	23.1
110	37	26	Marion	Marion Mannington	40.15
111	37	9.2	Marion	Marion Mannington	0.38
112	37	13.1	Marion	Marion Mannington	12.28
113	37	17	Marion	Marion Mannington	1.8
114	37	11	Marion	Marion Mannington	1.14
115	37	16	Marion	Marion Mannington	35
116	37	28	Marion	Marion Mannington	91
117	37	1.7	Marion	Marion Mannington	86.09
118	37	10	Marion	Marion Mannington	31
119	37	17.1	Marion	Marion Mannington	1.46
120	37	27.2	Marion	Marion Mannington	1.7
121	37	27.1	Marion	Marion Mannington	5.17
122	37	25	Marion	Marion Mannington	13.71
123	37	22	Marion	Marion Mannington	166.83
124	37	18	Marion	Marion Mannington	31.65
125	37	20	Marion	Marion Mannington	NA
126	37	3	Marion	Marion Mannington	49.25
127	37	5	Marion	Marion Mannington	14.6
128	37	2.7	Marion	Marion Mannington	1.07
129	37	2.5	Marion	Marion Mannington	1.07
130	37	2.1	Marion	Marion Mannington	2.83
131	44	27	Marion	Marion Mannington	23.226
132	37	21	Marion	Marion Mannington	1.05
133	37	23.1	Marion	Marion Mannington	13.171
134	37	13.1	Marion	Marion Mannington	16.56
135	37	13.2	Marion	Marion Mannington	1
136	37	13.3	Marion	Marion Mannington	13.87
137	44	1	Marion	Marion Mannington	107.3
138	44	7	Marion	Marion Mannington	1
139	44	4	Marion	Marion Mannington	54.33
140	44	24.1	Marion	Marion Mannington	43.76
141	41	21	Marion	Marion Mannington	16.27
142	41	6	Marion	Marion Mannington	30
143	44	5	Marion	Marion Mannington	24.51
144	41	9	Marion	Marion Mannington	62
145	38	10	Marion	Marion Mannington	176.15
146	38	10.1	Marion	Marion Mannington	1.15
147	38	11	Marion	Marion Mannington	115
148	38	8	Marion	Marion Mannington	64.76
149	38	8.1	Marion	Marion Mannington	7.09
150	41	6	Marion	Marion Mannington	15.5
151	41	7	Marion	Marion Mannington	15
152	41	9	Marion	Marion Mannington	13.73
153	44	10	Marion	Marion Mannington	0.49
154	44	4.1	Marion	Marion Mannington	0.67



**Notes:**  
 Carnegie 17H coordinates are  
 NAD 27 N: 374,323.02 E: 1,735,849.88  
 NAD 27 Lat: 39.523956 Long: -80.436421  
 NAD 83 UTM N: 4,375,084.28 E: 548,455.72  
 Carnegie 17H Landing Point coordinates are  
 NAD 27 N: 376,432.31 E: 1,739,132.54  
 NAD 27 Lat: 39.520841 Long: -80.424862  
 NAD 83 UTM N: 4,375,743.59 E: 549,445.13  
 Carnegie 17H Bottom Hole coordinates are  
 NAD 27 N: 377,209.64 E: 1,738,770.12  
 NAD 27 Lat: 39.531964 Long: -80.426175  
 NAD 83 UTM N: 4,375,978.57 E: 549,330.77  
 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.

Carnegie	Acres
Carnegie 18H	135
Carnegie 16H	36
Carnegie 14H	123
Carnegie 12H	45.88
Carnegie 10H	
Carnegie 8H	
Carnegie 6H	
Carnegie 4H	
Carnegie 2H	

Lease No.	Owner	Acres
112106000	Bounty Minerals, LLC, et al.	135
116966000	Judith Ann Myers, et al.	36
116261004	Sarahbeth Lamm, et al.	123
234751000	West Virginia Department of Transportation, Division of Highways	45.88



*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: 92-21  
 DRAWING NO: Carnegie 17H  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1:2500  
 PROVEN SOURCE OF ELEVATION: NGS CORS Station



DATE: January 16 20 24  
 OPERATOR'S WELL NO.: Carnegie 17H  
 API WELL NO: 47 - 049 - 02528  
 STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
 (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
 LOCATION: ELEVATION: As-Built: 1316' WATERSHED: Laurel Run of Owen Davy Fork QUADRANGLE: Glover Gap  
 DISTRICT: Mannington COUNTY: Marion  
 SURFACE OWNER: Jeanne A. Musgrave Akers & Joseph Forte ACRES: 135  
 ROYALTY OWNER: Bounty Minerals, LLC, et al. LEASE NO: 112106000  
 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: 6489'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Joseph C. Mallow  
 ADDRESS: 400 Woodcliff Drive ADDRESS: 427 Midstate Drive  
 Canonsburg, PA 15317 Clarksburg, WV 25301

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

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

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

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

See Attached

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WV Department of  
Environmental Protection

**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.		Grantee, Lessee, etc.	Royalty	Book/Page
<u>112106000</u>	<u>Bounty Minerals, LLC, et al.</u> Guy F. Musgrave, single, et al. Pittsburgh and West Virginia Gas Company Pittsburgh and West Virginia Gas Company Equitable Gas Company Equitrans, Inc. Equitable Gas Company, LLC Equitrans, L.P.	135 ac	Pittsburgh and West Virginia Gas Company Equitable Gas Company Equitable Gas Company Equitrans, Inc. Equitable Gas Company, LLC Equitrans, LP EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 465/312 DB 510/487 DB 511/539 AB 12/279 DB 1148/296 AB 46/660 DB 1114/130
					(Sublease)
<u>116966000</u>	<u>Judith Ann Myers, et al.</u> Marshall Cutright and Betty Cutright, husband and wife, and Dick Cartrighl, single Equitable Gas Company Equitrans, Inc. Equitable Gas Company, LLC Equitrans, L.P.	36 ac	Equitable Gas Company Equitrans, Inc. Equitable Gas Company, LLC Equitrans, LP EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 724/970 AB 12/279 DB 1148/296 AB 46/660 DB 1114/130
					(Sublease)
<u>116261004</u>	<u>Sarabeth Lamm, et al.</u> Sarabeth Lamm, single Republic Energy Ventures, LLC	123 ac	Republic Energy Ventures, LLC EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 1203/1160 AB 52/744
<u>234751000</u>	<u>West Virginia Department of Transportation, Division of Highways</u> West Virginia Department of Transportation, Division of Highways	46.86 ac	EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 1336/524

West Virginia Department of  
 Environmental Protection

JAN 26 2024

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 Office of Oil and Gas

4704902528





January 22, 2024

Via FedEx Overnight Delivery

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

CHK# 601684  
7500.00

RE: Well Work Permit Application Modification – EXPEDITED REVIEW REQUESTED  
Carnegie 17H  
Permit Number 47-049-02528  
Mannington District, Marion County, WV

WVDEP Recipient,

Attached please find the Well Work Permit Application for the well referenced above. You will find the following included with this submittal:

- Check in the amount \$2,500.00 for the permit fee and an additional \$5,000.00 for the expedited permit modification fee
- Completed WW-6B and supporting documents, approved by the O&G Inspector
- Well Location Plat
- Completed Form WW-6A1 and supporting documentation
- Hydraulic Fracturing Monitoring Plan
- Offset Well Map and Table
- Addition to the WMP – Added Source

EQT is proposing to extend the lateral from the previously permitted length which will allow drilling to achieve the lower curve target.

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](mailto:jzavatchan@eqt.com)  
724-746-9073

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Environmental Protection

02/16/2024