



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

Friday, September 5, 2025
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

EQT PRODUCTION COMPANY
400 WOODCLIFF DR.
CANONSBURG PA 15317

Re: Permit Modification Approval for BIG 177 104H
47-103-03725-00-00

Extended 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.

James A. Martin
Chief

Operator's Well Number: BIG 177 104H
Farm Name: COASTAL FOREST RESOURCES COMPANY
U.S. WELL NUMBER: 47-103-03725-00-00
Horizontal 6A New Drill
Date Modification Issued: 9/5/2025

Promoting a healthy environment.

09/05/2025

WW-6B
(04/15)

API NO. 47- 103 - 03725
OPERATOR WELL NO. 104H
Well Pad Name: BIG177

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

1) Well Operator: <u>EQT Production Company</u>	306686	Wetzel	Grant	Big Run
	Operator ID	County	District	Quadrangle

2) Operator's Well Number: 104H Well Pad Name: BIG177

3) Farm Name/Surface Owner: Coastal Forest Resources Co. Public Road Access: Rt 19

4) Elevation, current ground: 811' Elevation, proposed post-construction: 811'

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, 6,849', 51', 2,620 PSI

8) Proposed Total Vertical Depth: 6,849'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 8,392'

11) Proposed Horizontal Leg Length: 851'

12) Approximate Fresh Water Strata Depths: 147', 173', 283', 483', 633'

13) Method to Determine Fresh Water Depths: Offset wells

14) Approximate Saltwater Depths: 1,338', 1,330', 1,401', 1,453'

15) Approximate Coal Seam Depths: 103', 156', 434', 498'

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

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: _____

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Stephen Mccoy
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09/05/2025

WW-6B
(04/15)

API NO. 47- 103 - 03725
OPERATOR WELL NO. 104H
Well Pad Name: BIG177

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	A252	85.6	93	93	95 ft^3 / CTS
Fresh Water	13 3/8	New	J-55	54.5	768	768	725 ft^3 / CTS
Coal							
Intermediate	9 5/8	New	J-55	36	2011	2011	750 ft^3 / CTS
Production	5 1/2	New	P-110	20	8392	8392	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 - 12 1/4	0.352	3520	2816	Class A/H/L	1.04 - 1.20
Production	5 1/2	8 3/4 - 8 1/2	0.361	14360	11488	Class A/H/L	1.04 - 2.10
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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09/05/2025

WW-6B
(10/14)

API NO. 47- 103 - 03725
OPERATOR WELL NO. 104H
Well Pad Name: BIG177

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): NA - site built

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

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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. If applicable: Gas Migration Control Additive, Cement Retarder
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.

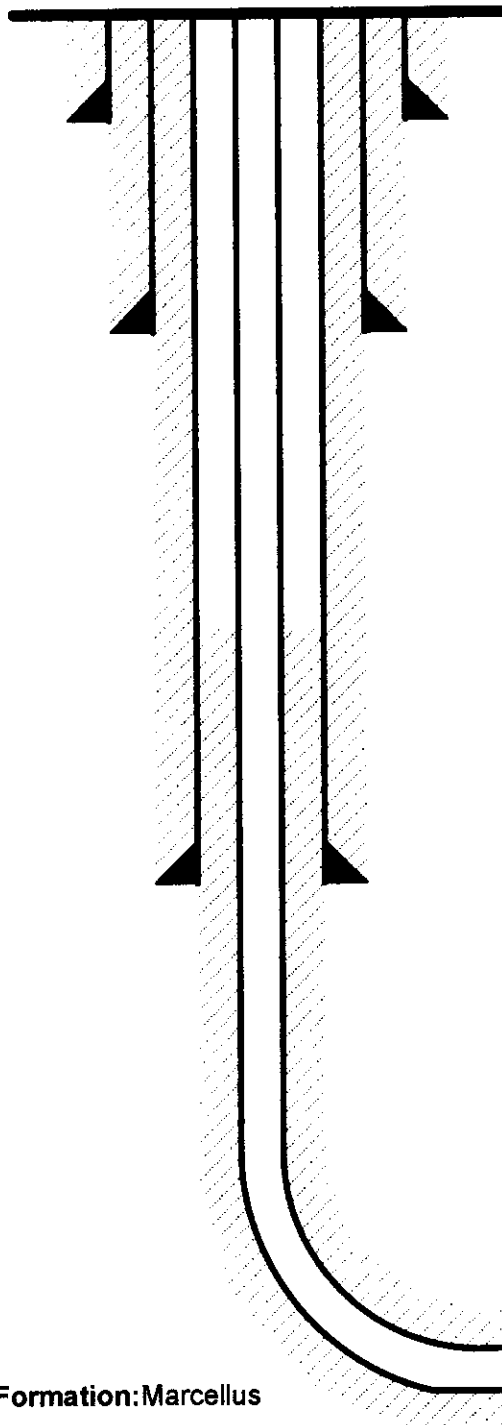
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09/05/2025

EQT Production**Wellbore Diagram**

Well: BIG177 104H
Pad: BIG177
Elevation: 811' GL 824' KB

County: Wetzel
State: West Virginia



Conductor @ 93'

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

Surface @ 768'

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

Intermediate @ 2,011'

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

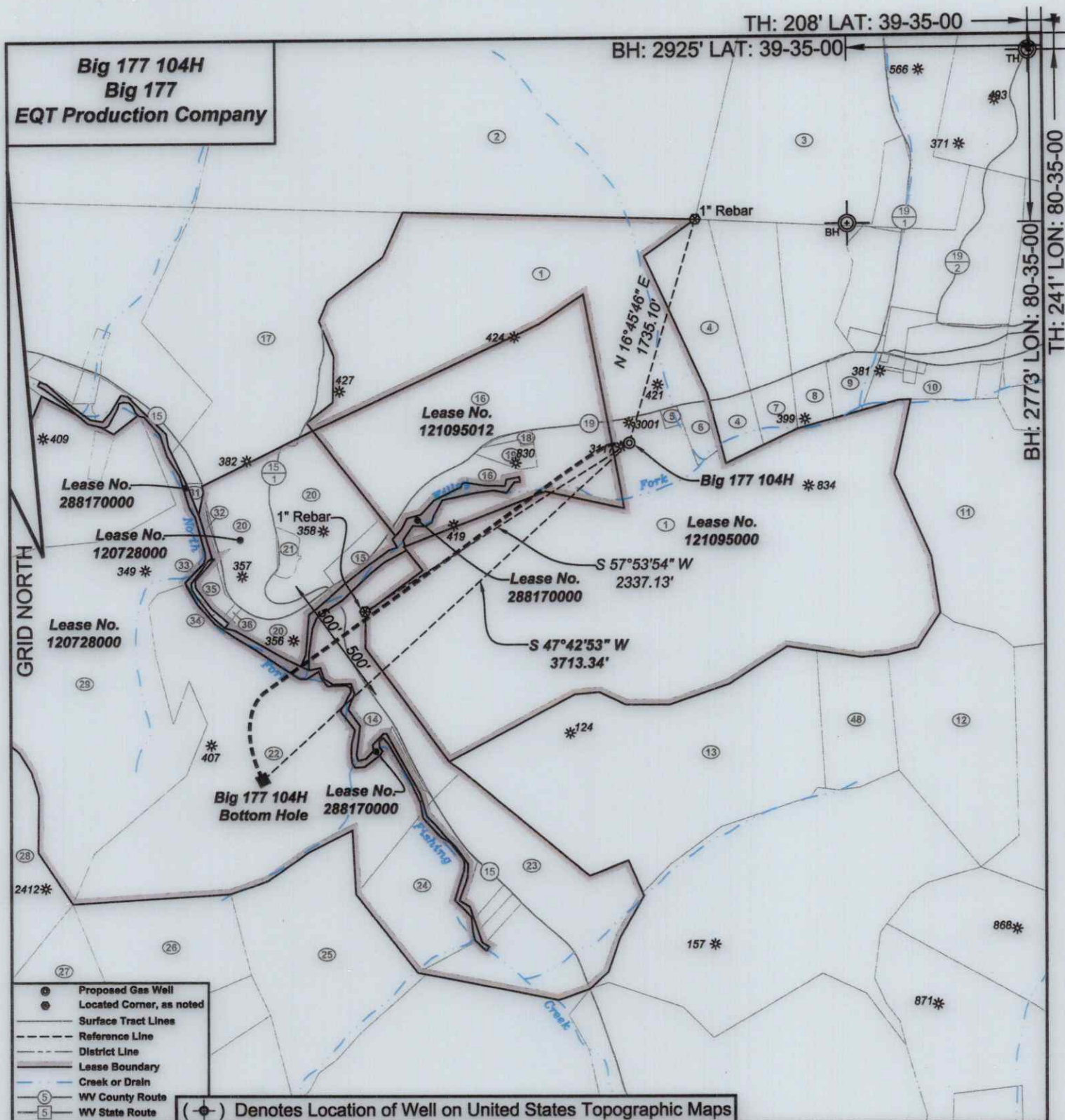
Production @ 8,392' MD / 6,849' TVD

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

Formation: Marcellus

NOT TO SCALE

09/05/2025



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: 352-23
DRAWING NO: Big 177 104H
SCALE: 1" = 1000'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station

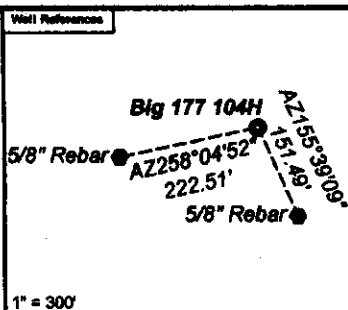
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: August 08 20 25
OPERATOR'S WELL NO.: Big 177 104H
API WELL NO
47 - 103 -
STATE COUNTY PERMIT

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL
(IF GAS) PRODUCTION: ☐ STORAGE ☐ DEEP ☒ SHALLOW
LOCATION: ELEVATION: 810.5' WATERSHED Willey Fork of North Fork Fishing Creek QUADRANGLE: Big 177 104H
DISTRICT: Grant COUNTY: Wetzel
SURFACE OWNER: Coastal Forest Resources Company ACREAGE: 217.19
ROYALTY OWNER: Coastal Forest Resources Company, et al. LEASE NO: 121095000 ACREAGE: 300
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: 6849'

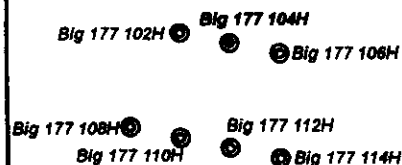
WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Joseph C. Mallow
ADDRESS: 400 Woodcliff Drive ADDRESS: 427 Midstate Drive
Canonsburg, PA 15317 Clarksburg, WV 26301

Tract I.D.	TractMap No.	Parcel No.	County	District
1	13	6	Wetzel	Grant
2	8	18	Wetzel	Grant
3	8	23.2	Wetzel	Grant
4	8	35	Wetzel	Grant
5	8	66	Wetzel	Grant
6	8	65	Wetzel	Grant
7	8	38	Wetzel	Grant
8	8	37	Wetzel	Grant
9	8	43	Wetzel	Grant
10	8	45	Wetzel	Grant
11	13	7	Wetzel	Grant
12	13	15	Wetzel	Grant
13	13	13	Wetzel	Grant
14	13	12	Wetzel	Grant
15	13	4.3	Wetzel	Grant
16	13	6.1	Wetzel	Grant
17	8	34	Wetzel	Grant
18	8	58	Wetzel	Grant
19	8	64	Wetzel	Grant
20	13	4	Wetzel	Grant
21	13	5	Wetzel	Grant
22	13	11	Wetzel	Grant
23	13	23	Wetzel	Grant
24	13	23.2	Wetzel	Grant
25	13	22	Wetzel	Grant
26	13	20	Wetzel	Grant
27	13	19	Wetzel	Grant
28	12	22	Wetzel	Grant
29	12	12	Wetzel	Grant
31	8	67	Wetzel	Grant
32	13	4.2	Wetzel	Grant
33	13	54	Wetzel	Grant
34	13	55	Wetzel	Grant
35	13	1	Wetzel	Grant
36	13	3	Wetzel	Grant
46	13	14	Wetzel	Grant

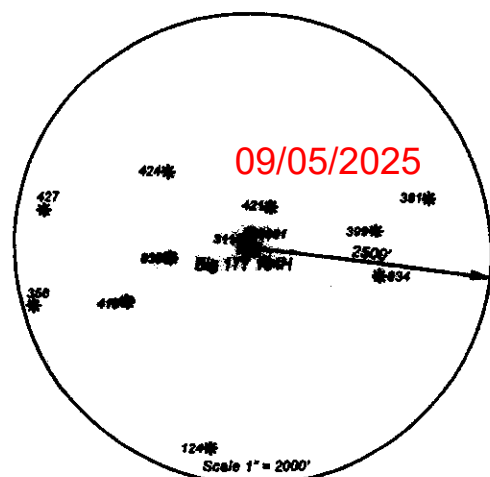


Notes:
Big 177 10-41 coordinates are
 NAD 27 N: 395,146.35 E: 1,994,406.76
 NAD 27 Lat: 39.582589 Long: -80.584259
 NAD 83 UTM N: 4,381,522.18 E: 535,718.76
Big 177 10-41 Bottom Hole coordinates are
 NAD 27 N: 393,648.02 E: 1,981,656.78
 NAD 27 Lat: 39.573639 Long: -80.593896
 NAD 83 UTM N: 4,380,747.04 E: 534,894.52
 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.

Big 177



<u>Lease No.</u>	<u>Owner</u>	<u>Acres</u>
121095000	Coastal Forest Resources Company, et al.	300
121095012	Coastal Forest Resources Company, et al.	57.5
288170000	State of West Virginia, Department of Commerce, Division of Natural Resources	4.7938 & 3.1172
120728000	EQT Production Company, et al.	450



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:

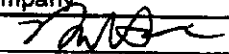
Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
See attached list				

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: Branden Weimer 
Its: Regional Manager - Permitting

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Lease No.	Grantor, Lessor, etc.	Acres	Grantee, Lessee, etc.	Royalty	Book/Page
	<u>Coastal Forest Resources Company, et al.</u>			"at least 1/8th per WV Code 22-6-8"	
<u>121095000</u>	James V. Higgins	300 ac	The Philadelphia Company of West Virginia		DB 60/414
	The Philadelphia Company of West Virginia		Pittsburgh and West Virginia Gas Company		OG 22A/352
	Pittsburgh and West Virginia Gas Company		Equitable Gas Company		DB 187/321
	Equitable Gas Company		Equitrans, Inc.		OG 71A/453
	Equitrans, Inc.		Equitable Gas Company LLC		Corp. Book 13/213
	Equitable Gas Company, LLC, et al.		Equitrans, L.P.		Misc 105/908
	Equitrans, L.P.		EQT Production Company		OG 131A/81
	<u>Coastal Forest Resources Company, et al.</u>			"at least 1/8th per WV Code 22-6-8"	
<u>121095012</u>	Coastal Forest Resources Company, d/b/a Coastal Timberlands Company	57.5 ac	EQT Production Company		OG 147A/664
	<u>State of West Virginia, Department of Commerce, Division of Natural Resources</u>			"at least 1/8th per WV Code 22-6-8"	
<u>288170000</u>	State of West Virginia, Department of Commerce, Division of Natural Resources	4.7938 ac & 3.1172 ac	EQT Production Company		OG 424A/138
	<u>EQT Production Company, et al.</u>			"at least 1/8th per WV Code 22-6-8"	
<u>120728000</u>	Mikel Barr, et al.	450 ac	The Philadelphia Company		DB 47/558
	The Philadelphia Company		The Philadelphia Company of West Virginia		DB 47/561
	The Philadelphia Company of West Virginia		Pittsburgh and West Virginia Gas Company		OG 22A/352
	Pittsburgh and West Virginia Gas Company		Equitable Gas Company		DB 187/321
	Equitable Gas Company		Equitrans, Inc.		OG 71A/453
	Equitrans, Inc.		Equitable Gas Company LLC		Corp. Book 13/213
	Equitable Gas Company, LLC, et al.		Equitrans, L.P.		Misc 105/908
	Equitrans, L.P.		EQT Production Company		OG 131A/81

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