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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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Wednesday, August 1, 2018  
WELL WORK PERMIT  
Horizontal 6A / New Drill

EQT PRODUCTION COMPANY  
625 LIBERTY AVE., SUITE 1700

PITTSBURGH, PA 15222

Re: Permit approval for BIG245H16  
47-103-03235-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless 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: BIG245H16  
Farm Name: ET BLUE GRASS, LLC  
U.S. WELL NUMBER: 47-103-03235-00-00  
Horizontal 6A New Drill  
Date Issued: 8/1/2018

# PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

## CONDITIONS

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1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
8. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
9. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
10. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

# PERMIT CONDITIONS

11. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to [DEPOOGNotify@wv.gov](mailto:DEPOOGNotify@wv.gov).

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: BIG245H16 Well Pad Name: BIG245

3) Farm Name/Surface Owner: E.T. Bluegrass Public Road Access: Rt. 19/2

4) Elevation, current ground: 1480 Elevation, proposed post-construction: 1430

5) Well Type (a) Gas  Oil \_\_\_\_\_ Underground Storage \_\_\_\_\_

Other \_\_\_\_\_

(b) If Gas Shallow  Deep \_\_\_\_\_

Horizontal  \_\_\_\_\_

*DMH  
5-18-18*

6) Existing Pad: Yes or No NO

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus, 7532, 53, 2620 PSI

8) Proposed Total Vertical Depth: 7532

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 19040

11) Proposed Horizontal Leg Length: 9873

12) Approximate Fresh Water Strata Depths: 229, 507, 662, 752, 1011

13) Method to Determine Fresh Water Depths: From offset wells

14) Approximate Saltwater Depths: none

15) Approximate Coal Seam Depths: 925, 1024, 1132

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

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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**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	20	New	A-500	78.6	40	40	60 ft <sup>3</sup> / CTS
Fresh Water	13 3/8	New	J-55	54.5	1179	1179	1026 ft <sup>3</sup> / CTS
Coal							
Intermediate	9 5/8	New	A-500	40	2925	2925	1136 ft <sup>3</sup> / CTS
Production	5 1/2	New	P-110	20	19040	19040	500' above top producing zone
Tubing	2 3/8		J-55	4.7		May not be run, if run set 40' above top perf or 80° inclination	
Liners							

*DmH  
5-18-18*

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	20	26	.375	1378	17	Class A	1.18
Fresh Water	13 3/8	17 1/2	.38	2700	2160	See Variance	1.19
Coal							
Intermediate	9 5/8	12 3/8	.395	3950	3160	Class H	1.07
Production	5 1/2	8 1/2	.361	12640	10112	Class H	1.123/2.098
Tubing	2 3/8	NA	.19	7700			
Liners							

**PACKERS**

Kind:				
Sizes:				
Depths Set:				

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08/03/2018

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 to an approximate depth of 2995'. Kick off and drill curve. Drill the lateral in the Marcellus. Cement casing.

DMH  
5-18-18

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 0.3%) of chemicals (including 15% Hydrochloric acid, gelling agent, gel breaker, 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 10000 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 350,000 barrels of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 400,000 pounds of sand per stage.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): \_\_\_\_\_

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

23) Describe centralizer placement for each casing string:

- Surface: Bow spring centralizers – One at the shoe and one spaced every 500'.
- Intermediate: Bow spring centralizers– One cent at the shoe and one spaced every 500'.
- Production: One solid body cent 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 (Type 1 Cement): 0-3% Calcium Chloride Used to speed the setting of cement slurries. .25% Flake Loss Circulation Material (LCM)  
Intermediate (Class H Cement): 0-3% Calcium Chloride Used to speed the setting of cement slurries. 0.25% Flake Loss Circulation Material (LCM) .6% Super FL-300 (fluid loss/lengthens thickening time)  
Production:  
Lead (Class H Cement): 0.2% CD-20 (dispersant makes cement easier to mix). .15% SuperFL-300 (fluid loss/lengthens thickening time) .15% SEC-10 (fluid loss) 50-50 POZ (extender)  
Tail (Class H Cement): 0.2% Super CR-1 (Retarder). Lengthens thickening time. .3% Super FL-200 (fluid loss) .2% SEC-10 (Fluid loss) 2% SuperFL-350 (fluid loss) Reduces amount of water lost to formation. 60 % Calcium Carbonate Add solubility

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: Pump marker sweep with nut plug to determine actual hole washout. Calculate a gauge holes bottoms up volume. Perform a cleanup cycle by pumping 3-5 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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**Well (BIG245H16)**

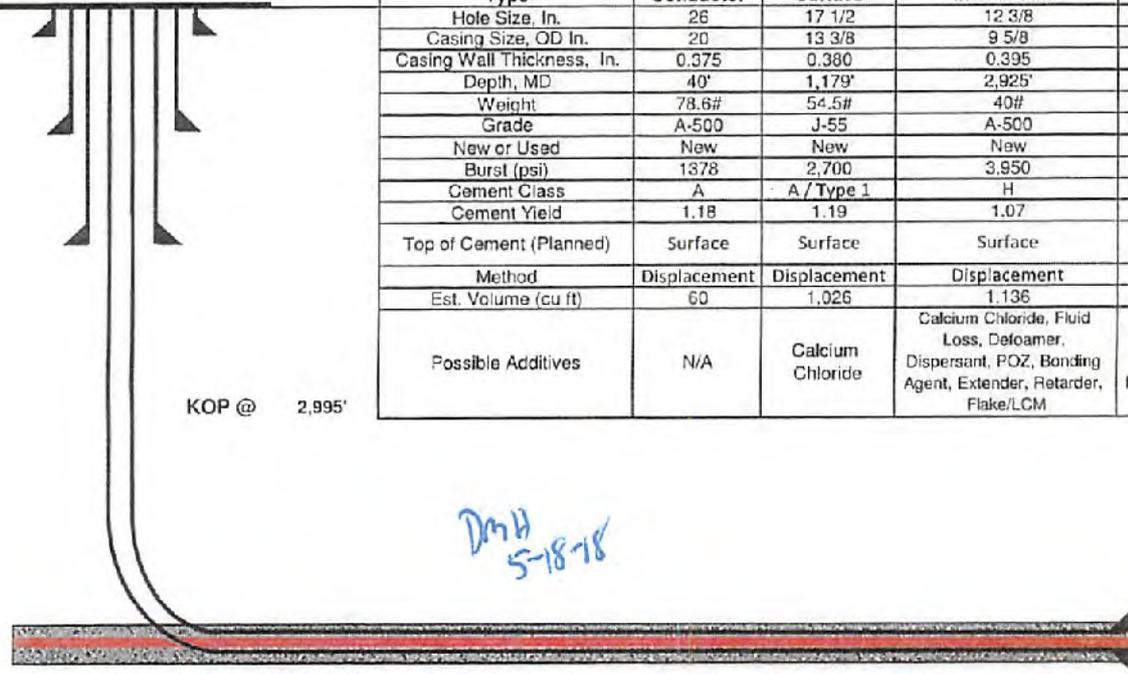
EQT Production  
Big Run Quad  
Wetzel County, WV

Azimuth 335  
Vertical Section 9129

Note: Diagram is not to scale

Formations	Top TVD	Base TVD
Conductor	40	
Base Red Rock	967	
Base Fresh Water	1011	
Surface Casing	1179	
Maxton	2332 - 2426	
Big Lime	2463 - 2659	
Weir	2783 - 2875	
Intermediate Casing	2925	
Gantz	2982 - 3055	
Fifty foot	3108 - 3161	
Thirty foot	3195 - 3234	
Gordon	3249 - 3297	
Forth Sand	3307 - 3320	
Bayard	3124 - 3486	
Warren	3884 - 3931	
Speechley	4034 - 4067	
Riley	4897 - 4939	
Benson	5529 - 5586	
Alexander	5882 - 5941	
Sonyea	7087 - 7241	
Middlesex	7241 - 7287	
Genesee	7287 - 7370	
Genesee	7370 - 7403	
Tully	7403 - 7421	
Hamilton	7421 - 7511	
Marcellus	7511 - 7564	
Production Casing	19040	MD
Onondaga	7564	

Casing and Cementing				Deepest Fresh Water: 1,011'
Type	Conductor	Surface	Intermediate	Production
Hole Size, In.	26	17 1/2	12 3/8	8 1/2
Casing Size, OD In.	20	13 3/8	9 5/8	5 1/2
Casing Wall Thickness, In.	0.375	0.380	0.395	0.361
Depth, MD	40'	1,179'	2,925'	19,040'
Weight	78.6#	54.5#	40#	20#
Grade	A-500	J-55	A-500	P-110
New or Used	New	New	New	New
Burst (psi)	1378	2,700	3,950	12,640
Cement Class	A	A / Type 1	H	H
Cement Yield	1.18	1.19	1.07	1.123/2.098
Top of Cement (Planned)	Surface	Surface	Surface	500' above top Producing Zone
Method	Displacement	Displacement	Displacement	Displacement
Est. Volume (cu ft)	60	1,026	1,136	2,895
Possible Additives	N/A	Calcium Chloride	Calcium Chloride, Fluid Loss, Defoamer, Dispersant, POZ, Bonding Agent, Extender, Retarder, Flake/LCM	Calcium Carbonate, Fluid Loss, Extender, Dispersant, Viscosifier, Defoamer, POZ, Bonding Agent, Retarder, Anti-Settling/Suspension Agent



Land curve @ 7,532' TVD  
9,167' MD

Est. TD @

7,532' TVD  
19,040' MD

9,873' Lateral

**Proposed Well Work:**

Drill and complete a new horizontal well in the Marcellus formation.

Drill the vertical to an approximate depth of 2995'.

Kick off and drill curve. Drill lateral in the Marcellus. Cement casing.



47 1 0 3 0 3 2 3 5

May 9, 2018

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

Re: Casing plan on Wells (BIG245)

Dear Mr. Smith,

EQT is requesting the 13-3/8" surface casing be set at 1179' KB, 50' below the deepest mineable Pittsburgh Coal. We will set the 9-5/8" intermediate string at 2925' KB, 50' below the base of the Weir formation.

If you have any questions, please do not hesitate to contact me at (304) 848-0076.

Sincerely,

A handwritten signature in blue ink that reads "Rebecca Wanstreet".

Rebecca Wanstreet  
Landman I

Enc.

4710303235



west virginia department of environmental protection

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

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
dep.wv.gov

March 18, 2014

Nabors Completion & Production Services Company  
1380 Route 286 Hwy E #121  
Indiana PA 15701

Re: Cement Variance Request

Dear Sir or Madam,

This agency is approving a variance request for the cement blend listed below to be used on surface and coal protection strings for the drilling of oil and gas wells in the state of West Virginia. The variance cannot be used without requesting its use on a permit application and approval by this agency:

- Type 1 (2% Calcium Chloride-Accelerator, 0.25% Super Flake-Lost Circulation, 5.2% Water, 94% Type "1" Cement)

If you have any questions regarding this matter feel free to contact me at 304-926-0499, ext. 1653.

Sincerely,

James Peterson  
Environmental Resources Specialist / Permitting

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Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
dep.wv.gov

**BEFORE THE OFFICE OF OIL AND GAS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
STATE OF WEST VIRGINIA**

**IN THE MATTER OF A VARIANCE FROM ) ORDER NO. 2014 - 17**  
**REGULATION 35 CSR § 4-11.4/11.5/14.1 )**  
**AND 35 CSR § 8-9.2.h. 4/5/6/8 OF THE )**  
**THE OPERATIONAL )**  
**REGULATIONS OF CEMENTING OIL )**  
**AND GAS WELLS )**

**REPORT OF THE OFFICE**

Nabors Completion & Production Services Co. requests approval of a different cement blend for use in cementing surface and coal protection casing of oil and gas wells.

**FINDINGS OF FACT**

- 1.) Nabors Completion & Production Services Co. proposes the following cement blend:
  - 2% Calcium Chloride (Accelerator)
  - 0.25 % Super Flake (Lost Circulation)
  - 94% Type "1" Cement
  - 5.20 % Water
- 2.) Laboratory testing results indicate that the blend listed in Fact No.1 will achieve a 500 psi compressive strength within 6 hours and a 2,435 psi compressive strength within 24 hours.

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**CONCLUSIONS OF LAW**

Pursuant to Articles 6 and 6A, Chapter 22 of the Code of West Virginia, the Office of Oil and Gas has jurisdiction over the subject matter embraced in said notice, and the persons interested therein, and jurisdiction to promulgate the hereinafter prescribed Order.

Pursuant to 35 CSR § 4-11.5 and 35 CSR § 8-9.2.h.8 the Chief of the Office of Oil and Gas may approve different cement blends upon the well operator providing satisfactory proof that different cement types are adequate.

**ORDER**

It is ordered that Nabors Completion & Production Services Co. may use the cement blend listed in Findings of Fact No.1 for the cementing of surface and coal protection casing of oil and gas wells in the State as may be requested by oil and gas operators. The waiting time on the cement blend shall be 8 hours. The cement blend shall be mixed in strict accordance with the specifications for each blend and weight measurements made on-site to assure the cement slurries meet the minimum weight specifications. A sample shall be collected and, if after 8 hours the cement is not set up, additional time will be required. Nabors Completion & Production Services Co. shall keep a record of cement blend jobs in which the cement blend approved under this order is to be used and made available to the Office of Oil and Gas upon request.

Dated this, the 18th day of March, 2014.

IN THE NAME OF THE STATE OF WEST VIRGINIA

OFFICE OF OIL AND GAS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OF THE STATE OF WEST VIRGINIA



James Martin, Chief  
Office of Oil and Gas

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4710303235

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

4/01/18

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## 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 **BIG245 pad: BIG245H8, BIG245H16, BIG245H17.**

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.

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API Number	Abandoned Date	Completion Date	Current Operator	Elevation	Elevation Reference	Final Status	Lat	Long	Well Name	Permit Date	SPUD Date	TD Formation	Total Depth	Permit
4710300331		11/17/1903	PGH & WV GAS	1109	GR	GAS	39.5883	-80.568					2285	00331
47103000640000	5/21/1934	3/1/1932	PITTSBURGH & W VA GAS	1505	GR	ABD-GW	39.6022	-80.5863	5403 J P ASHCRAFT	1/16/1932	1/31/1932	FOURTH SAND	3634	00064
47103002830001		7/13/1944	STANDARD OIL COMPANY INCORPORATED	1515	GR	GAS	39.6093	-80.5833	1374 H L & I UTT E	5/29/1944	6/13/1944	GORDON	3289	00283
47103003710000		2/1/1951	J C R PETROLEUM INCORPORATED	825	GR	GAS-CB	39.5887	-80.5756	1 S B HIGGINBOTHAM ET AL	12/18/1950	1/2/1951	CONEMAUGH /SERIES/	530	00371
47103003720000	8/7/1963	3/1/1951	UNKNOWN	842	GR	ABD-CB	39.5897	-80.5788		1/15/1951	1/30/1951	PITTSBURGH COAL	523	00372
47103003760000		4/1/1952	J C R PETROLEUM INCORPORATED	1265	GR	GAS-CB	39.5924	-80.5721	2 S J ROBINSON ET AL	2/16/1952	3/2/1952	CONEMAUGH /SERIES/	1008	00376
47103003800000	7/6/1952	5/1/1952	UNKNOWN	1267	GR	D&A-OG	39.5937	-80.5730		3/17/1952	4/1/1952	CONEMAUGH /SERIES/	1185	00380
47103003810000		6/24/1952	J C R PETROLEUM INCORPORATED	818	GR	GAS-CB	39.5841	-80.5776	1 S B HIGGINBOTHAM	5/10/1952	5/25/1952	PITTSBURGH COAL	515	00381
47103003830000		4/10/1953	J C R PETROLEUM INCORPORATED	960	GR	GAS-CB	39.6045	-80.5773	1 J C ASHCRAFT	10/6/1952	10/21/1952	CONEMAUGH /SERIES/	686	00383
47103003840000		5/1/1953	J C R PETROLEUM INCORPORATED	855	GR	GAS-CB	39.6008	-80.5724	2 J P ASHCRAFT	3/17/1953	4/1/1953	CONEMAUGH /SERIES/	585	00384
47103003850000		8/1/1953	J C R PETROLEUM INCORPORATED	905	GR	GAS-CB	39.6021	-80.5734	3 J P ASHCRAFT	6/17/1953	7/2/1953	CONEMAUGH /SERIES/	647	00385
47103003860000		6/1/1953	EQT PRODUCTION COMPANY	847	GR	GAS-CB	39.5986	-80.5752	1 H L SMITH	4/17/1953	5/2/1953	CONEMAUGH /SERIES/	570	00386
47103004320000	7/18/1956	6/1/1956	UNKNOWN	994	GR	D&A	39.6102	-80.5730		4/17/1956	5/2/1956	TIONESTA /SD/	1495	00432
47103004330000		8/1/1956	J C R PETROLEUM INCORPORATED	1509	GR	GAS-CB	39.6066	-80.5830	7 J P ASHCRAFT	6/17/1956	7/2/1956	CONEMAUGH /SERIES/	1235	00433
47103004490000		6/15/1957	NORTH FORK DEVELOPMENT	827	GR	GAS-CB	39.5812	-80.5650		5/18/1957	6/2/1957	PENNSYLVANIAN	537	00449
47103004510000	1/1/1965	7/1/1957	NORTH FORK DEVELOPMENT	817	GR	ABD-CB	39.5829	-80.5665	2 J HERBERT HIGGINBOTHAM	5/17/1957	6/1/1957	PENNSYLVANIAN	529	00451
47103004520000		8/1/1957	NORTH FORK DEVELOPMENT	886	GR	GAS-CB	39.5841	-80.5635	3 J HERBERT HIGGINBOTHAM	6/17/1957	7/2/1957	PITTSBURGH COAL	614	00452
47103004530000	11/16/1957	10/1/1957	UNKNOWN	979	GR	D&A	39.5823	-80.5622		8/17/1957	9/1/1957	PENNSYLVANIAN	725	00453
47103004570000	2/14/1958	1/1/1958	UNKNOWN	1108	GR	D&A-G	39.5842	-80.5661		11/17/1957	12/2/1957	AMES /LM/	859	00457
47103004930000	10/4/1953	12/30/1915	EQUITABLE GAS COMPANY	1163	GR	ABD-GW	39.5889	-80.5743	5131 S I ROBINSON 2	10/31/1915	11/15/1915	BIG INJUN /SD/	2234	00493
47103004940000			EQUITABLE GAS COMPANY	1086	GR	GSTG	39.5863	-80.5734	5431 D KOHN	1/1/1801	1/1/1801	CHEMUNG	2088	00494
47103004950001	11/19/1952	6/19/1946	PITTSBURGH & W VA GAS	1109	GR	D&A-G	39.5884	-80.5679	1768 J M SNIDER 1	5/5/1946	5/20/1946	BIG INJUN /SD/	2285	00495
47103004960000	1/1/1935	8/4/1902	PITTSBURGH & W VA GAS	844	GR	ABD-GW	39.5864	-80.5672	1737 S I ROBINSON	6/5/1902	6/20/1902	HAMPSHIRE	2785	00496
47103004990000			EQUITABLE GAS COMPANY	923	GR	GSTG	39.5829	-80.5693	5434 SOLE	1/1/1801	1/1/1801	CHEMUNG	2712	00499
47103005090000	6/19/1948	8/4/1919	DUNN-MAR OIL & GAS COMPANY	1155	GR	ABD-GW	39.5860	-80.5608	5398 ISAAC HIGGINBOTHAM 1	12/8/1918	12/23/1918	CHEMUNG	3243	00509
47103005100000		8/1/1961	PEMCO GAS INCORPORATED	934	GR	GAS-CB	39.6009	-80.5784	2 H L SMITH	6/17/1961	7/2/1961	CONEMAUGH /SERIES/	662	00510
47103005140000		5/1/1962	J A & M OIL & GAS	1107	GR	GSTG	39.5926	-80.5617	5447 C A LONG	3/17/1962	4/1/1962	BIG INJUN /SD/		00514
47103005160000			J A & M OIL & GAS	1034	GR	UNKWN	39.5809	-80.5703	5448 L B SMITH 1	1/1/1801	1/1/1801	BIG INJUN /SD/	2090	00516
47103005170000		6/1/1962	EQUITABLE GAS COMPANY	869	GR	GSTG	39.5977	-80.5753	5449 M D SMITH	4/17/1962	5/2/1962	BIG INJUN /SD/		00517
47103005200000	1/1/1964	8/2/1919	HOPE NATURAL GAS	937	GR	ABD-GW	39.5794	-80.5571	5532 J M BROWN	6/18/1919	7/3/1919	BIG INJUN /SD/	2025	00520
47103005220000			UNKNOWN	1214	GR	UNKWN	39.5876	-80.5569	5441 FRANCES SHREVES	1/1/1801	1/1/1801	CHEMUNG	3154	00522
47103005230000		1/1/1963	EQUITABLE GAS COMPANY	846	GR	GSTG	39.5810	-80.5569	5451 F SHREVE	11/17/1962	12/2/1962	BIG INJUN /SD/		00523
47103005240000		4/5/1919	EQUITABLE GAS COMPANY	972	GR	GAS	39.5848	-80.5569	5296 SILAS SHREVES 1	1/7/1919	1/22/1919	CHEMUNG	2882	00524
47103005310000	1/1/1962		EQUITABLE GAS COMPANY	1098	GR	PSEUDO	39.5771	-80.5540	5440 C E BROWN ETAL 1					00531
47103005330000	1/1/1962	12/11/1902	PITTSBURGH & W VA GAS	829	GR	ABD-GW	39.5841	-80.5685	1751 JOHN E SNYDER	10/12/1902	10/27/1902	POCONO	1928	00533
47103005340000			EQUITABLE GAS COMPANY	1067	GR	GSTG	39.5826	-80.5590	5443 SOLE	1/1/1801	1/1/1801	CHEMUNG	2880	00534
47103005380000			EQUITABLE GAS COMPANY	836	GR	UNKWN	39.5794	-80.5635	5454 ELVA R KING	1/1/1801	1/1/1801	BIG INJUN /SD/	1850	00538
47103005660000		1/1/1965	J C R PETROLEUM INCORPORATED	880	GR	GAS-CB	39.5896	-80.5764	3 S B HIGGINBOTHAM HRS	11/17/1964	12/2/1964	CONEMAUGH /SERIES/	548	00566
47103008450000	11/7/1990	9/22/1905	PITTSBURGH & W VA GAS	1290	GR	ABD-GW	39.6099	-80.5860	1847 J P ASHCRAFT	7/5/1905	7/20/1905		3112	00845
47103008610000	6/29/1990		EQUITABLE GAS COMPANY	1000	GR	UNKWN	39.6000	-80.5882	5198 ASHCRAFT	1/1/1801	1/1/1801	UNKNOWN	3500	00861
47103008840001		11/7/1989	EQUITRANS INCORPORATED	1167	GR	D&A	39.5922	-80.5683	5426 D/R LUMBER CO	10/17/1989	11/1/1989	GREENBRIER /LM/	2211	00884

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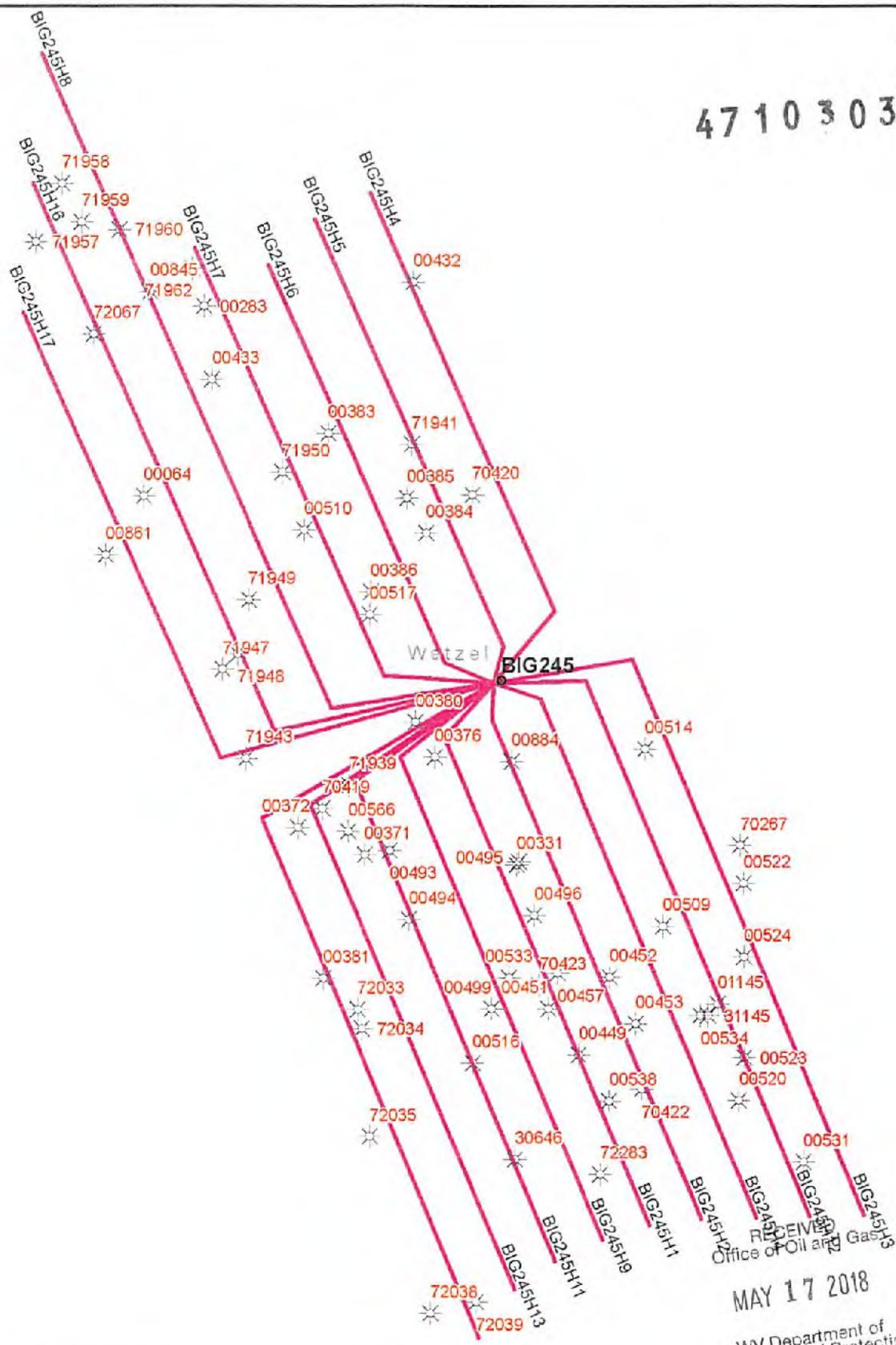
47103011450000		MEADOW RIDGE DEVELOPMENT LLC	GR	PSEUDO	39.5830	-80.5582	122 MILLS			01145
47103306460000	1/1/1948	DUNN-MAR OIL & GAS COMPANY	1197 GR	ABD-GW	39.5772	-80.5682	3725 F L HIGGINBOTHAM	1/10/1915	1/25/1915 HAMPSHIRE	3339 30646
47103311450000	1/1/1962	EQUITABLE GAS COMPANY	0 GR	PSEUDO	39.5826	-80.5586	5443 ADDA M SOLE 1			31145
47103702670000		HOPE NATURAL GAS	GR	PSEUDO	39.5890	-80.5570	4983 SILAS SHREVE			70267
47103704190000		HOPE NATURAL GAS	GR	PSEUDO	39.5905	-80.5776	1 S B HIGGINBOTHAM			70419
47103704200000		PHILADELPHIA OIL	GR	PSEUDO	39.6022	-80.5701	1 J P ASHCRAFT ET AL			70420
47103704220000		HOPE NATURAL GAS	GR	PSEUDO	39.5799	-80.5619	1 L HIGGINBOTHAM			70422
47103704230000		PHILADELPHIA OIL	GR	PSEUDO	39.5838	-80.5670	1 ISRAEL SNYDER			70423
47103719390000		UNKNOWN	GR	UNKWN	39.5913	-80.5763	1 S B HIGGINBOTHAM			71939
47103719410000		PHILADELPHIA OIL	GR	UNKWN	39.6041	-80.5731	385 J F UTT			71941
47103719430000		UNKNOWN	GR	UNKWN	39.5923	-80.5814	2 J B HICKS			71943
47103719470000		UNKNOWN	GR	UNKWN	39.5957	-80.5825	1 JAMES SHIRLEY			71947
47103719480000		UNKNOWN	GR	UNKWN	39.5963	-80.5818	1 JAMES SHIRLEY			71948
47103719490000		UNKNOWN	GR	UNKWN	39.5983	-80.5812	5933 JOLLY MINOR			71949
47103719500000		PEMCO GAS INCORPORATED	GR	UNKWN	39.6031	-80.5795	5247 M & J SHIVEN HEIRS 10			71950
47103719570000		UNKNOWN	GR	UNKWN	39.6118	-80.5916	1787 OLLIE SIX 1			71957
47103719580000		UNKNOWN	GR	UNKWN	39.6140	-80.5903	5304 OLLIE SIX			71958
47103719590000		UNKNOWN	GR	UNKWN	39.6125	-80.5893	1 OLLIE SIX			71959
47103719600000		UNKNOWN	GR	UNKWN	39.6122	-80.5875	1 OLLIE SIX			71960
47103719620000		UNKNOWN	GR	UNKWN	39.6108	-80.5839	1736 THOMAS UTT			71962
47103720330000		UNKNOWN	GR	UNKWN	39.5829	-80.5759	1 C BROOKOVER			72033
47103720340000		CARNEGIE NATURAL GAS CORPORATION	GR	UNKWN	39.5822	-80.5758	747 C BROOKOVER 1			72034
47103720350000		UNKNOWN	GR	UNKWN	39.5781	-80.5754	5307 JAMES JOHNSON 1			72035
47103720380000		PHILADELPHIA OIL	GR	UNKWN	39.5714	-80.5724	5287 CHARLES BREWER			72038
47103720390000		UNKNOWN	GR	UNKWN	39.5719	-80.5701	1 R BARR			72039
47103720670000		EQUITRANS INCORPORATED	GR	UNKWN	39.6083	-80.5888	1770 M & J SHIBEN HEIRS			72067
47103722830000		HOPE NATURAL GAS	GR	UNKWN	39.5767	-80.5640	852 F L HIGGINBOTHAM			72283

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 MAY 17 2018

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

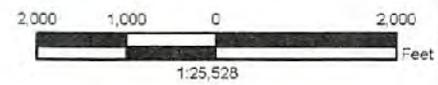
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BIG245

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**Vertical Offsets and Foreign Laterals within 500'**

- ✱ Vertical Offsets
- BIG245 Pad
- Planned Laterals
- Target Fm
- Marcellus



**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.



08/03/2018

WW-9  
(4/16)

API Number 47 - 103 - 03235  
Operator's Well No. BIG245H16

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

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FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name EQT Production Company OP Code 306686 WV Department of Environmental Protection

Watershed (HUC 10) Rockcamp Run of Wiley Fork Quadrangle Big Run

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No

Will a pit be used? Yes  No

If so, please describe anticipated pit waste: N/A

Will a synthetic liner be used in the pit? Yes  No  If so, what ml? \_\_\_\_\_

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number 0014, 8462, 4037 )
- Reuse (at API Number Various )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain \_\_\_\_\_)

*DMH  
5-18-18*

Will closed loop system be used? If so, describe: Yes. The closed loop system will remove drill cuttings from the drilling fluid. The drill cuttings are then prepared for transportation to an off-site disposal facility.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. See Attached

-If oil based, what type? Synthetic, petroleum, etc. Synthetic Mud

Additives to be used in drilling medium? See Attached

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) N/A

-Landfill or offsite name/permit number? See Attached List

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *[Signature]*

Company Official (Typed Name) Erin Spine

Company Official Title Regional Land Supervisor

Subscribed and sworn before me this 15 day of May, 2018

*Rebecca L. Wanstreet*

Notary Public

My commission expires 4-7-2020



08/03/2018

## WW-9 Attachment

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc.

- Air is used to drill the top-hole sections of the wellbore (surface, intermediate, and pilot). Water based mud may be necessary depending on hole conditions to stabilize and drill the intermediate section. The pilot hole, curve, and lateral sections will be drilled with either air, water based mud, or oil based mud.

Additives to be used in drilling medium?

- Air - biodegradable oil lubricant, detergent, defoaming, water. Water based mud – Barite, viscosifer, alkalinity control, lime, filtration control, deflocculates, biodegradable oil lubricant, defoaming, walnut shell, salt, x-cide, carbonates. Oil based mud – synthetic base oil, emulsifier, salt, lime, viscosifer, alkalinity control, filtration control, deflocculates, biodegradable oil lubricant, defoaming, carbonates.

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08/03/2018

EQT Production Company

Proposed Revegetation Treatment: Acres Disturbed no additional Prevegetation pH \_\_\_\_\_

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type Granular 10-20-20

Fertilizer amount 1/3 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
KY-31	40	Orchard Grass	15
Alsike Clover	5	Alsike Clover	5
Annual Rye	15		

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, include dimensions (L x W x D) of the pit, and dimensions (L x W), and area in acreage, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: \_\_\_\_\_

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WV Department of  
Environmental Protection

Title: Oil + Gas Inspector Date: 5-18-18

Field Reviewed? (  ) Yes (  ) No

# EQT Production Water plan

471 0303235

## Offsite disposals for Marcellus wells

### **CWS TRUCKING INC.**

P.O. Box 391  
Williamstown, WV 26187  
740-516-3586  
Noble County/Noble Township  
Permit # 3390

### **BROAD STREET ENERGY LLC**

37 West Broad Street  
Suite 1100  
Columbus, Ohio 43215  
740-516-5381  
Washington County/Belpre Twp.  
Permit # 8462

### **LAD LIQUID ASSETS DISPOSAL INC.**

226 Rankin Road  
Washington, PA 15301  
724-350-2760  
724-222-6080  
724-229-7034 fax  
Ohio County/Wheeling  
Permit # USEPA WV 0014

### **TRIAD ENERGY**

P.O. Box 430  
Reno, OH 45773  
740-516-6021 Well  
740-374-2940 Reno Office Jennifer  
Nobel County/Jackson Township  
Permit # 4037

### **TRI COUNTY WASTE WATER MANAGEMENT, INC.**

1487 Toms Run Road  
Holbrook, PA 15341  
724-627-7178 Plant  
724-499-5647 Office  
Greene County/Waynesburg  
Permit # TC-1009

### **KING EXCAVATING CO.**

Advanced Waste Services  
101 River Park Drive  
New Castle, Pa. 16101  
Facility Permit# PAR000029132

### **Waste Management - Meadowfill Landfill**

Rt. 2, Box 68 Dawson Drive  
Bridgeport, WV 26330  
304-326-6027  
Permit #SWF-1032-98  
Approval #100785WV

### **Waste Management - Northwestern Landfill**

512 E. Dry Road  
Parkersburg, WV 26104  
304-428-0602  
Permit #SWF-1025 WV-0109400  
Approval #100833WV

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# Site Specific Safety and Environmental Plan

EQT  
BIG245 Pad  
Burton  
Wetzel County, WV

For Wells:

BIG245H10

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Date Prepared: February 23, 2018

EQT Production

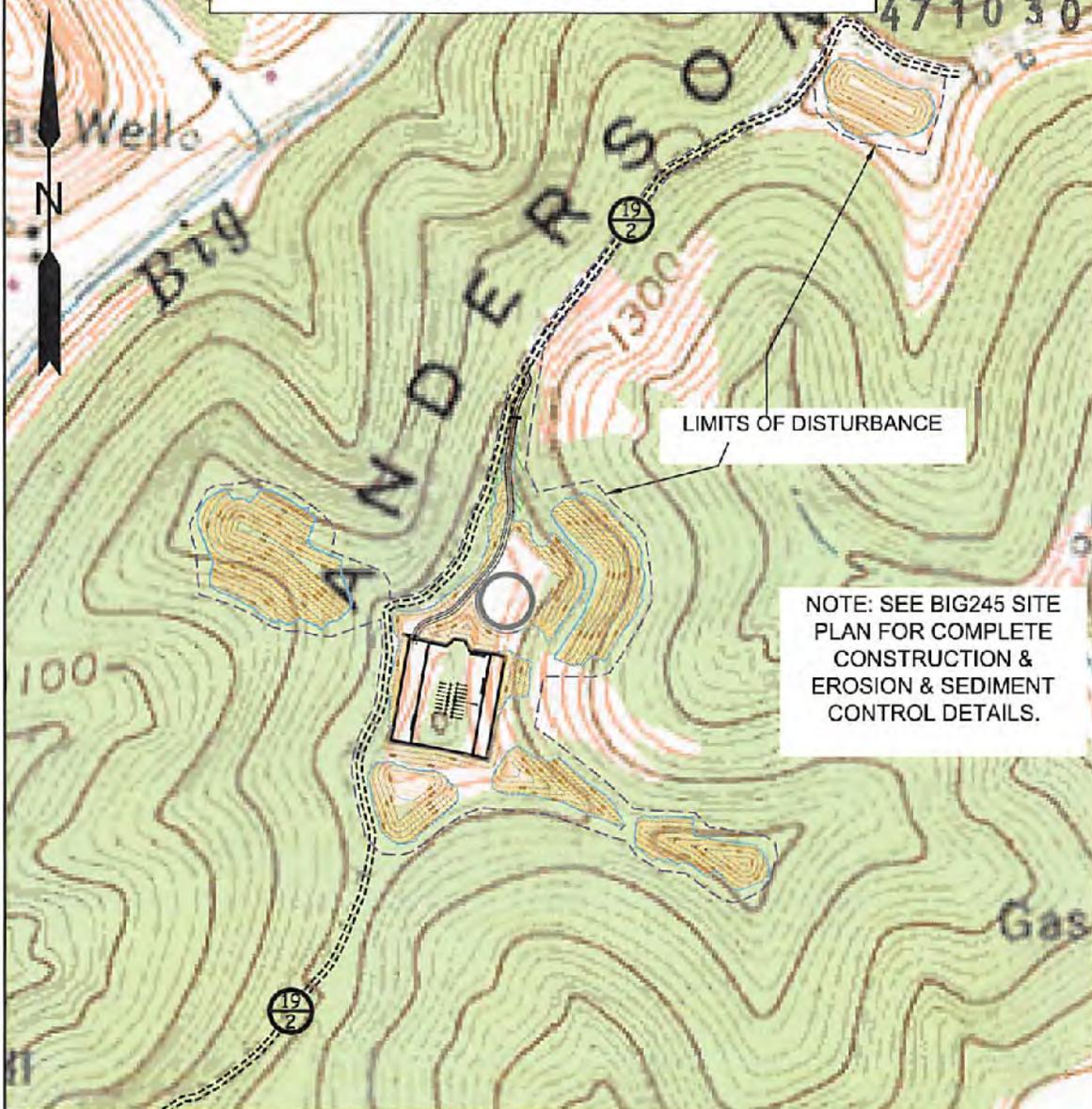
Regional Land Supervisor  
Title

5/10/18  
Date

[Signature]  
WV Oil and Gas Inspector

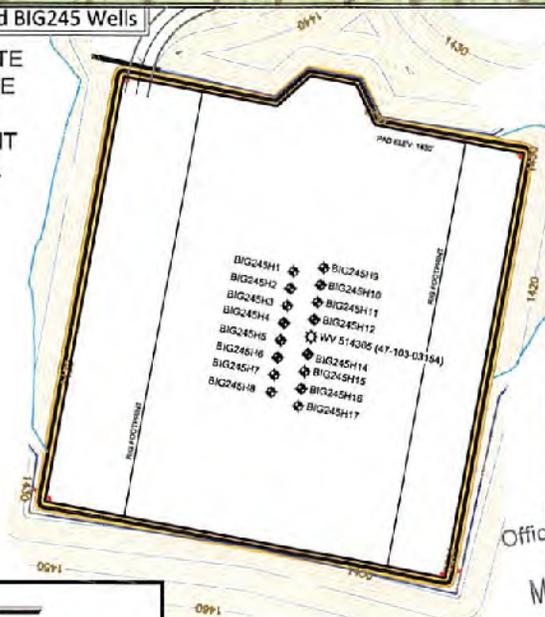
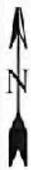
Oil + Gas Inspector  
Title

5-18-18  
Date



Detail Sketch for Proposed BIG245 Wells

NOTE: SEE BIG245 SITE PLAN FOR COMPLETE CONSTRUCTION & EROSION & SEDIMENT CONTROL DETAILS.



Not To Scale

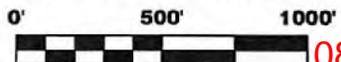
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DRAWN BY	FILE NO.	DATE	CADD FILE:
MGF	7812	02-01-18	7812BIG245WELL PAD-02.dwg

TOPO SECTION OF BIG RUN 7.5' USGS TOPO QUADRANGLE

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WV Department of Environmental Protection

SCALE: 1"=500'



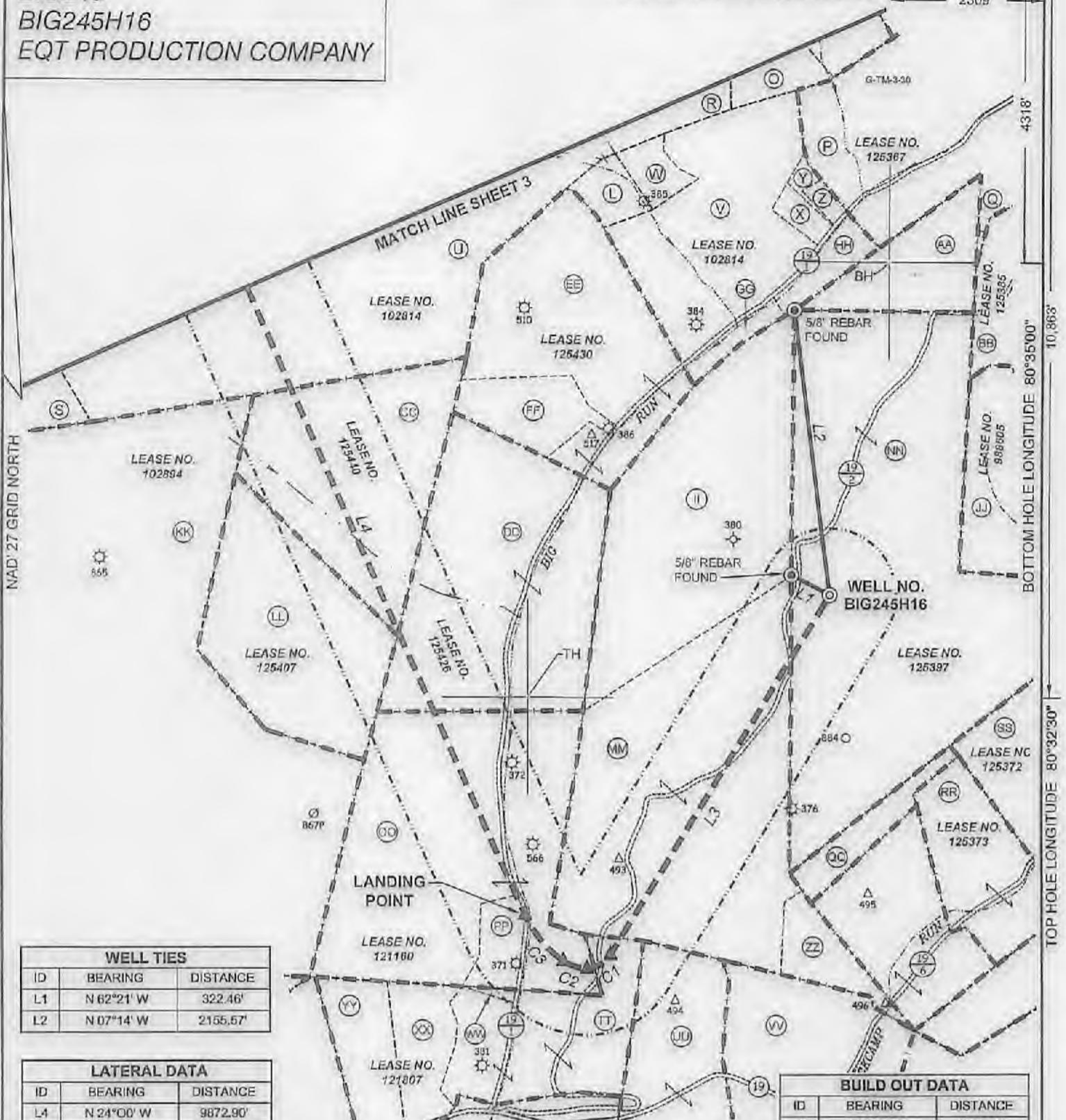
08/03/2018



**BIG245**  
**BIG245H16**  
**EQT PRODUCTION COMPANY**

NAD'27 GRID NORTH

BOTTOM HOLE LONGITUDE 80°35'00"  
 TOP HOLE LONGITUDE 80°32'30"



WELL TIES		
ID	BEARING	DISTANCE
L1	N 62°21' W	322.46'
L2	N 07°14' W	2155.57'

LATERAL DATA		
ID	BEARING	DISTANCE
L4	N 24°00' W	9872.90'

BUILD OUT DATA			
ID	BEARING	DISTANCE	
L3	S 31°13' W	3154.69'	

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	211.81'	208.84'	S 58°30'41" W	202.66'
C2	190.14'	326.63'	N 72°45'56" W	187.47'
C3	455.29'	807.87'	N 38°55'11" W	449.29'

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(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

**LEGEND**

- LEASE LINE: - - - - -
- SURFACE LINE: - - - - -
- WELL LATERAL: - - - - -
- OFFSET LINE: - - - - -
- TIE LINE: - - - - -
- CREEK: - - - - -
- ROAD: - - - - -
- COUNTY ROUTE: - - - - -
- PROPOSED WELL: (+)
- EXISTING WELL: \*
- PERMITTED WELL: ○
- DRILL PATH BEND POINT: ▲
- GRANT DISTRICT TAX MAP-PARCEL: G-TM-00-00

08/03/2018

SCALE 1" = 1000' FILE NO. 7812PBIG245H16.dwg  
 DATE MAY 1, 2018  
 OPERATORS WELL NO. BIG245H16  
 API WELL NO. 47  
 NO. STATE COUNTY PERMIT

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



WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT JASON RANSON  
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280  
 BRIDGEPORT, WV 26330 BRIDGEPORT, WV 26330

COUNTY NAME PERMIT

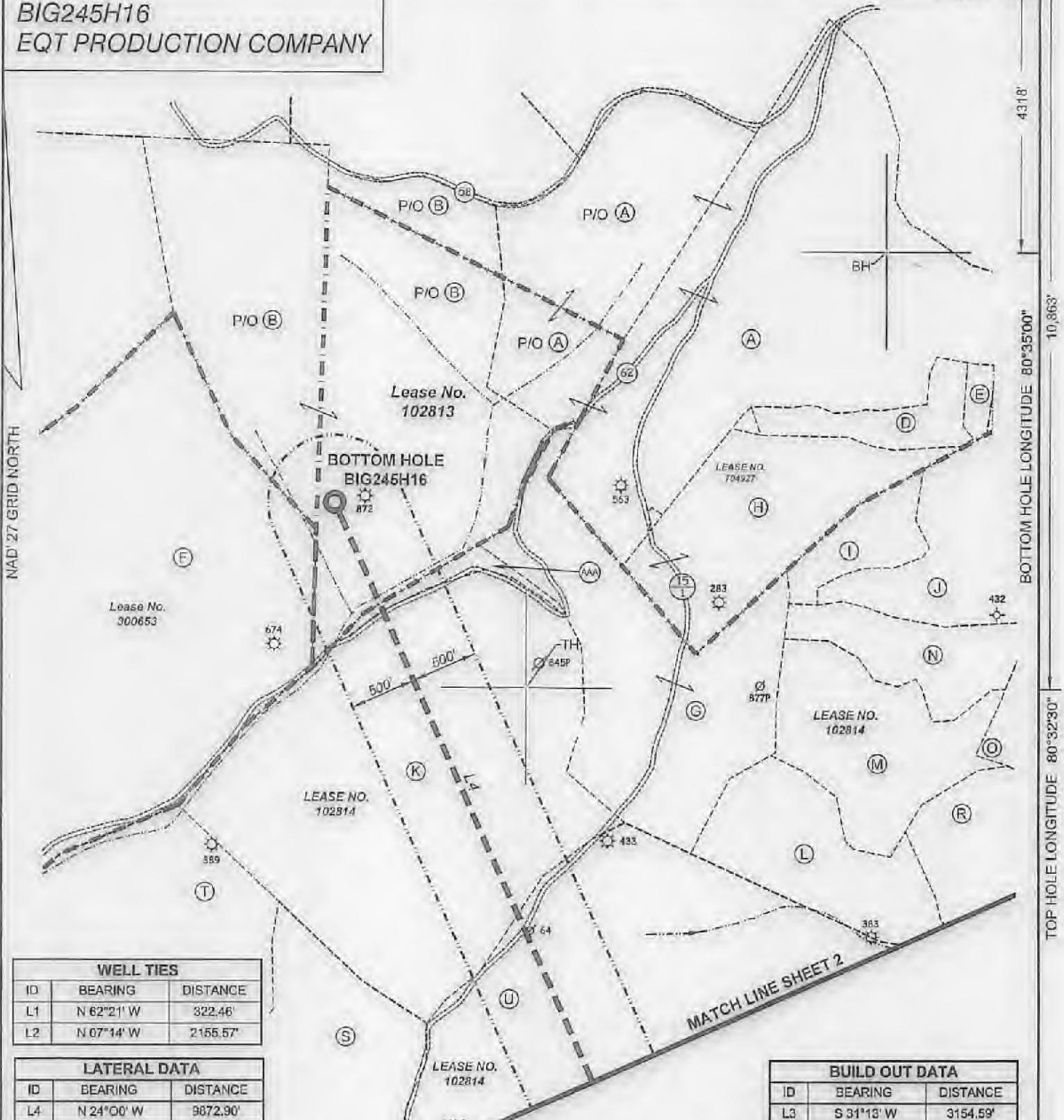
**BIG245**  
**BIG245H16**  
**EQT PRODUCTION COMPANY**

NAD'27 GRID NORTH

BOTTOM HOLE LONGITUDE 80°35'00"

10,863'

TOP HOLE LONGITUDE 80°32'30"



WELL TIES		
ID	BEARING	DISTANCE
L1	N 62°21' W	322.46'
L2	N 07°14' W	2155.57'

LATERAL DATA		
ID	BEARING	DISTANCE
L4	N 24°00' W	9672.90'

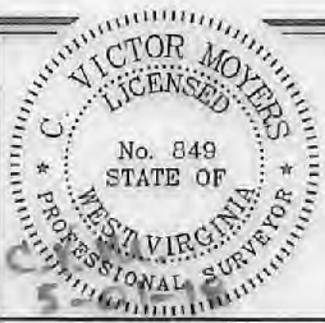
BUILD OUT DATA		
ID	BEARING	DISTANCE
L3	S 31°13' W	3154.59'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	211.81'	206.64'	S 58°30'41" W	202.66'
C2	190.14'	326.63'	N 72°45'56" W	187.47'
C3	455.29'	807.67'	N 38°55'11" W	449.29'

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(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT)	N. 400,679.42	E. 1,699,777.05
NAD'27 GEO.	LAT-(N) 39.595178	LONG-(W) 80.568346
NAD'83 UTM (M)	N. 4,082,925.493	E. 537,027.237
<u>LANDING POINT</u>		
NAD'27 S.P.C.(FT)	N. 398,280.73	E. 1,093,508.14
NAD'27 GEO.	LAT-(N) 39.588519	LONG-(W) 80.576895
NAD'83 UTM (M)	N. 4,082,189.144	E. 536,343.147
<u>BOTTOM HOLE</u>		
NAD'27 S.P.C.(FT)	N. 407,900.07	E. 1,692,492.47
NAD'27 GEO.	LAT-(N) 39.613146	LONG-(W) 80.591531
NAD'83 UTM (M)	N. 4,364,910.596	E. 535,078.948



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

LEGEND	
LEASE LINE	-----
SURFACE LINE	-----
WELL LATERAL	-----
OFFSET LINE	-----
TIE LINE	-----
CREEK	-----
ROAD	-----
COUNTY ROUTE	-----
PROPOSED WELL	⊙
EXISTING WELL	⊙
PERMITTED WELL	⊙
DRILL PATH BEND POINT	▲
GRANT DISTRICT TAX MAP-PARCEL	G-TM-00-00

SCALE 1" = 1000' FILE NO. 7812P/BIG245H16.dwg  
 DATE MAY 1, 20 18  
 REVISED \_\_\_\_\_  
 OPERATORS WELL NO. BIG245H16  
 API WELL NO. 47  
 NO. STATE COUNTY PERMIT

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

DESIGNATED AGENT JASON RANSON  
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

WELL OPERATOR EQT PRODUCTION COMPANY  
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

COUNTY NAME PERMIT

08/03/2018

**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				

**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

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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: Erin Spine   
 Its: Regional Land Supervisor

WW-6A1 attachment

Operator's Well No.

BIG245H16

Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
	<b><u>Shiben Estates, Inc., et al. (current royalty owner)</u></b>		**	
<b><u>125397</u></b>	Joseph Shiben, et al. (Original Lease)	Equitable Gas Company		DB 44A/224
	Equitable Gas Company	Equitrans, Inc.		O&G 71A/453
	Equitrans, Inc.	Equitrans, LP		DB 105/908
	Equitrans, LP	EQT Production Company		O&G 131A/81
<b><u>TMP 04-8-21</u></b>	Ikey Joe Willey	EQT Production Company	n/a	DB 123/99 Subsurface
	<b><u>Stone Hill Mineral Holdings, LLC, et al. (current royalty owner)</u></b>			
<b><u>121807</u></b>	A.C. Higginbotham, et ux, et al. (Original Lease)	Pittsburgh & West Virginia Gas Company		LB 39A/233
	Pittsburgh & West Virginia Gas Company	Equitable Gas Company		DB187/321
	Equitable Gas Company	Equitrans, Inc.		DB 71A/453
	Equitrans, Inc.	Equitrans, LP		DB 105/908
	Equitrans, LP	EQT Production Company		O&G 131A/81
	<b><u>Acropolis, Inc., et al. (Current Royalty Owner)</u></b>		**	
<b><u>121160</u></b>	A. C. Higginbotham, et al. (Original Lease)	Pittsburgh & West Virginia Gas Company		LB 39A/236
	Pittsburgh & West Virginia Gas Company	Equitable Gas Company		LB 187/374
	Equitable Gas Company	Equitrans, Inc.		O&G 71A/453
	Equitrans, Inc.	Equitrans, LP		DB 105/908
	Equitrans, LP	EQT Production Company		O&G 131A/81
	<b><u>Bonnie M. Henthorne (Current Royalty Owner)</u></b>		**	
<b><u>125426</u></b>	William Swisher, et ux.	Hope Natural Gas Company		LB 5A/128
	Hope Natural Gas Company	Equitable Gas Company		LB 44A/380
	Equitable Gas Company	Equitrans, Inc.		O&G 71A/453
	Equitrans, Inc.	Equitrans, LP		DB 105/908
	Equitrans, LP	EQT Production Company		O&G 131A/81
	<b><u>Garland E. Minor, et al. (Current Royalty Owner)</u></b>		**	
<b><u>125440</u></b>	Flossie D. Murphy, et al. (Original Lease)	Equitable Gas Company		LB 52A/287
	Equitable Gas Company	Equitrans, Inc.		LB 71A/453
	Equitrans, Inc.	Equitrans, LP		DB 105/908
	Equitrans, LP	EQT Production Company		O&G 131A/81
<b><u>102814</u></b>	Joseph Shiben and Minnie Shiben Estate, et al.	EQT Production Company	**	DB 182A/84
	<b><u>Shiben Estates, Inc., et al. (Current Royalty Owner)</u></b>		**	
<b><u>102813</u></b>	J.P. Ashcraft (Original Lease)	Oxford Oil Company		DB 39/483
	Oxford Oil Company	The Philadelphia Company		DB 47/553
	The Philadelphia Company	The Philadelphia Company of West Virginia		DB 47/561
	The Philadelphia Company of West Virginia	Pittsburgh & West Virginia Gas Company		LB22A/352
	Pittsburgh & West Virginia Gas Company	Equitable Gas Company		DB187/321
	Equitable Gas Company	Equitrans, Inc.		LB 71A/453
	Equitrans, Inc.	Equitrans, LP		DB 105/908
	Equitrans, LP	Equitable Production-Eastern States, Inc.		AB 342/24 Tyler Co.
	Equitable Production-Eastern States, Inc.	Equitable Production Company		See Attached
	Equitable Production Company	EQT Production Company		CB 13/14

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\*\* Per West Virginia Code Section 22-6-8.



EQT Production Company  
2400 Ansys Drive.  
Suite 200  
Canonsburg, PA 15317  
www.eqt.com

47 10 303235  
Todd Klaner  
Regional Land Manager, Permitting  
tklaner@eqt.com

*Via E-Mail*

May 9, 2018

**WV DEP Reviewer**

**RE: EQT Production Company  
PAD ID – BIG245  
Well# - BIG245H8, BIG245H16,  
BIG245H17  
Wetzel County**

Dear Reviewer,

This well indicated by this permit application contains a Subsurface Easement Agreement for non-productive portions of the well bore. Attached is a Memorandum of Subsurface Use Agreement which gives EQT the right to drill below the surface of the tract 8/21 shown on the well plat.

EQT Production understands that the WVDEP will issue the permit in the normal process subject to the completeness of the requirements of the Office of Oil and Gas and does not take a position with regards to the property rights under this agreement.

EQT Production agrees that the WVDEP's issuance of the permit is in no way an affirmation or validation of EQT Production's claimed rights.

Regards,

Todd Klaner  
Regional Land Manager, Permitting  
EQT Production Company

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08/03/2018

**MEMORANDUM OF  
SUBSURFACE RIGHT-OF-WAY AND EASEMENT AGREEMENT**

County Clerk please also index under the following: [LIST MINERAL OWNERS]

4-8-21 Appalachian Royalty, Mensore Trust, McCall Trust

**1. NAME AND ADDRESS OF GRANTOR:**

Ikey Joe Willey  
12359 Willey Fork Road  
Pine Grove, WV 26419-9735

**2. NAME AND ADDRESS OF GRANTEE:**

EQT Production Company  
625 Liberty Avenue  
Suite 1700  
Pittsburgh, PA 15222

**3. SUBSURFACE RIGHT-OF-WAY AND EASEMENT AGREEMENT**

**REFERENCE:** A SUBSURFACE RIGHT-OF-WAY AND EASEMENT AGREEMENT ("Agreement") dated the 15th day of June, 2017, was entered into for good and valuable consideration by and between Ikey Joe Willey ("Grantor", whether one or more) and EQT Production Company ("Grantee"). Upon completion of any wellbore within the subsurface area underlying the Property (as defined in Section 4), this subsurface easement in the area of the wellbore and the one hundred (100') feet on each side of the wellbore that parallels it shall become an exclusive right of way and easement in that area. The final wellbore locations are as described in a final, as-built map(s) filed with the West Virginia Department of Environmental Protection (the "DEP") for well(s) located on EQT's PAD ID BIG 245. If an as-built map is not available for a wellbore within the subsurface area underlying the Property, any third-party with the right to operate within such area may contact Grantee's land department for a copy of such as-built map. Grantee shall provide notice of additional wellbores located within the subsurface area underlying the Property by filing an amendment, affidavit or other appropriate document.

- 4. DESCRIPTION OF PREMISES:** That certain tract or parcel of land containing 76.27 acres, more or less, located in Grant District in Wetzel County, West Virginia, being the same lands conveyed to Grantor by Will dated the 29th day of October, 1971, of record in the Office of the Clerk of the County Commission of Wetzel County, West Virginia in Will Book 29, at Page 40 ("the Property").

**Tax Map and Parcel(s) 8-21**

- 5. TERM:** The Agreement shall run with the land and shall remain in full force and effect until released and relinquished by the Grantee back to the Grantor, in writing.

(REMAINDER OF PAGE LEFT BLANK INTENTIONALLY)

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IN WITNESS WHEREOF, the parties have signed their names hereto as of the date of the Agreement referenced in Section 3 above.

**GRANTOR:**

**GRANTEE:**

**EQT Production Company**

Ikey Joe Willey  
Ikey Joe Willey

Jason M. Ranson  
By: Jason M. Ranson  
Its Attorney-in-Fact

**STATE OF WEST VIRGINIA;  
COUNTY OF WETZEL:**

I, BRYSON KARP, a commissioner, in and for said State and County, do hereby certify that Ikey Joe Willey, personally known to be the same person(s) that signed above, appeared before me this day in person in the State and County aforesaid, and acknowledged and delivered the said instrument as a free act and deed for uses and purposes therein set forth.

Given under my hand this 15<sup>th</sup> day of JUNE, 2017.  
My Commission expires: JAN. 1, 2021.

OFFICIAL SEAL  
COMMISSIONER FOR WEST VIRGINIA  
Bryson J. Karp  
Weston, WV  
My Commission Expires January 1, 2021

BJK  
Commissioner for West Virginia

**STATE/COMMONWEALTH OF WEST VIRGINIA;  
COUNTY OF Harrison:**

I, Katelyn L. Preston, a Notary Public, in and for said State and County, do hereby certify that Jason M. Ranson, personally known to be the same person whose name is subscribed to the foregoing instrument and the Attorney in fact of EQT Production Company, appeared before me this day in person in the State and County aforesaid, and acknowledged and delivered the said instrument to be his free act and deed for uses and purposes therein set forth on behalf of said company.

Given under my hand this 20<sup>th</sup> day of June, 2017.  
My Commission expires: May 16, 2024.

OFFICIAL SEAL  
NOTARY PUBLIC  
STATE OF WEST VIRGINIA  
KATELYN L. PRESTON  
EQT PRODUCTION COMPANY  
118 PROFESSIONAL PLACE  
BRIDGEPORT, WV 26330  
My Commission Expires May 16, 2024

Katelyn L. Preston  
Notary Public

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PENNSYLVANIA DEPARTMENT OF STATE  
CORPORATION BUREAU  
ROOM 308 NORTH OFFICE BUILDING  
P.O. BOX 8722  
HARRISBURG, PA 17105-8722

315

EQUITABLE PRODUCTION COMPANY

172

THE CORPORATION BUREAU IS HAPPY TO SEND YOU YOUR FILED DOCUMENT.  
PLEASE NOTE THE FILE DATE AND THE SIGNATURE OF THE SECRETARY OF THE  
COMMONWEALTH. THE CORPORATION BUREAU IS HERE TO SERVE YOU AND WANTS  
TO THANK YOU FOR DOING BUSINESS IN PENNSYLVANIA. IF YOU HAVE ANY  
QUESTIONS PERTAINING TO THE CORPORATION BUREAU, CALL (717) 787-1057.

ENTITY NUMBER: 2980374

MICROFILM NUMBER: 2001032

1297-1300

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C T CORP SYSTEM  
COUNTER

08/03/2018

200132-1297

APR 30 2001

Microfilm Number \_\_\_\_\_

Filed with the Department of State on \_\_\_\_\_

Entity Number 2980374

*Kim Pappajohn*  
Secretary of the Commonwealth

ARTICLES OF MERGER-DOMESTIC BUSINESS CORPORATION  
DSCR:15-1926 (Rev 90)

JD

In compliance with the requirements of 15 Pa.C.S. § 1926 (relating to articles of merger or consolidation), the undersigned business corporations, desiring to effect a merger, hereby state that:

1. The name of the corporation surviving the merger is: Equitable Production Company

2. (Check and complete one of the following):

The surviving corporation is a domestic business corporation and the (a) address of its current registered office in this Commonwealth or (b) name of its commercial registered office provider and the county of venue is (the Department is hereby authorized to correct the following information to conform to the records of the Department):

(a) \_\_\_\_\_  
Number and Street City State Zip County

(b) c/o: CT Corporation System \_\_\_\_\_  
Name of Commercial Registered Office Provider Allegheny County

For a corporation represented by a commercial registered office provider, the county in (b) shall be deemed the county in which the corporation is located for venue and official publication purposes.

\_\_\_\_\_ The surviving corporation is a qualified foreign business corporation incorporated under the laws of \_\_\_\_\_ and the (a) address of its current registered office in this Commonwealth or (b) name of its commercial registered office provider and the county of venue is (the Department is hereby authorized to correct the following information to conform to the records of the Department):

(a) \_\_\_\_\_  
Number and Street City State Zip County

(b) c/o: \_\_\_\_\_  
Name of Commercial Registered Office Provider County

For a corporation represented by a commercial registered office provider, the county in (b) shall be deemed the county in which the corporation is located for venue and official publication purposes.

\_\_\_\_\_ The surviving corporation is a nonqualified foreign business corporation incorporated under the laws of \_\_\_\_\_ and the address of its principal office under the laws of such domiciliary jurisdiction is:

\_\_\_\_\_  
Number and Street City State Zip

3. The name and the address of the registered office in this Commonwealth or name of its commercial registered office provider and the county of venue of each other domestic business corporation and qualified foreign business corporation which is a party to the plan of merger are as follows:

Name of Corporation	Address of Registered Office or Name of Commercial Registered Office Provider	County
<u>Equitable Production Company</u>	<u>CT Corporation System</u>	<u>Allegheny</u>
<u>Equitable Production-Eastern States, Inc.</u>	<u>CT Corporation System</u>	<u>Allegheny</u>

200132-1298

DSCB:15-1926 (Rev 90)-2

4. (Check, and if appropriate complete, one of the following):

\_\_\_ The plan of merger shall be effective upon filing these Articles of Merger in the Department of State.

X The plan of merger shall be effective on: April 30, 2001 at \_\_\_\_\_ of \_\_\_\_\_ Hour

5. The manner in which the plan of merger was adopted by each domestic corporation is as follows:

Name of Corporation	Manner of Adoption
<u>Equitable Production Company</u>	<u>Adopted by Board of Directors pursuant to Sec. 1924 of the PA BCL</u>
_____	_____
_____	_____

6. (Strike out this paragraph if no foreign corporation is a party to the merger). The plan was authorized, adopted or approved, as the case may be, by the foreign business corporation (or each of the foreign business corporations) party to the plan in accordance with the laws of the jurisdiction in which it is incorporated.

7. (Check, and if appropriate complete, one of the following):

X The plan of merger is set forth in full in Exhibit A attached hereto and made a part hereof.

\_\_\_ Pursuant to 15 Pa.C.S. § 1901 (relating to omission of certain provisions from filed plans) the provisions, if any, of the plan of merger that amend or constitute the operative Articles of Incorporation of the surviving corporation as in effect subsequent to the effective date of the plan are set forth in full in Exhibit A attached hereto and made a part hereof. The full text of the plan of merger is on file at the principal place of business of the surviving corporation, the address of which is:

Number and Street	City	State	Zip	County
_____	_____	_____	_____	_____

IN TESTIMONY WHEREOF, the undersigned corporation or each undersigned corporation has caused these Articles of Merger to be signed by a duly authorized officer thereof this 26th day of April, 2001.

Equitable Production Company  
 (Name of Corporation)  
 BY: Henry E. Reich  
 Henry E. Reich, J (Signature)  
 TITLE: Vice President

Equitable Production - Eastern States, Inc.  
 (Name of Corporation)  
 BY: Johanna G. O'Loughlin  
 Johanna G. O'Loughlin (Signature)  
 TITLE: Corporate Secretary

200132-1299

**AGREEMENT AND PLAN OF MERGER**  
**BETWEEN**  
**EQUITABLE PRODUCTION – EASTERN STATES, INC.**  
**AND**  
**EQUITABLE PRODUCTION COMPANY**

AGREEMENT AND PLAN OF MERGER, dated this 30<sup>th</sup> day of April 2001, pursuant to Section 251 of the General Corporation Law of the State of Delaware between Equitable Production – Eastern States, Inc., a Delaware corporation, and Equitable Production Company, a Pennsylvania corporation.

WHEREAS, the constituent corporations desire to merge into a single corporation.

NOW, THEREFORE, the corporations, parties to this Agreement, in consideration of the mutual covenants, agreements and provisions hereinafter contained, do hereby prescribe the terms and conditions of said merger and mode of carrying the same into effect as follows:

FIRST: Effective on April 30, 2001, Equitable Production Company hereby merges into itself Equitable Production – Eastern States, Inc., and Equitable Production Company shall be the surviving corporation.

SECOND: The Articles of Incorporation of Equitable Production Company as heretofore amended and as in effect on the date of the merger provided in this Agreement, shall continue in full force and effect as the Articles of Incorporation of the corporation surviving this merger.

THIRD: The outstanding shares of the capital stock of Equitable Production – Eastern States, Inc. shall be cancelled as of the effective date of the merger pursuant to this Agreement and no new shares issued therefor.

FOURTH: The terms and conditions of the merger are as follows:

- (a) The by-laws of the surviving corporation as they shall exist on the effective date of this Agreement shall be and remain the by-laws of the surviving corporation until the same shall be altered, amended and repealed as therein provided.
- (b) The directors and officers of the surviving corporation shall continue in office until the next annual meeting of the shareholders

and until their successors shall have been elected and qualified.

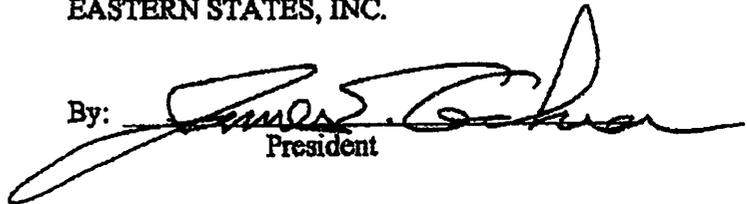
- (c) Upon the merger becoming effective, all the property, rights, privileges, franchises, patents, trademarks, licenses, registrations and other assets of every kind and description of the merged corporation shall be transferred to, vested in and devolved upon the surviving corporation without further act or deed and all property, rights, and every other interest of the surviving corporation and the merged corporation shall be effectively the property of the surviving corporation as they were of the surviving and the merged corporations, respectively. The merged corporation hereby agrees from time to time, as and when requested by the surviving corporation or by its successors or assigns, to execute and deliver or cause to be executed and delivered all such deeds and instruments and to take or cause to be taken such further or other action as the surviving corporation may deem to be necessary or desirable in order to vest in and confirm to the surviving corporation title to and possession of any property of the merged corporation acquired or to be acquired by reason of or as a result of the merger herein provided for and otherwise to carry out the intent and purposes hereof and the proper officers and directors of the merged corporation and the proper officers and directors of the surviving corporation are fully authorized in the name of the merged corporation or otherwise to take any and all such action.

IN WITNESS WHEREOF, the parties to this agreement, pursuant to the approval and authority duly given by resolutions adopted by their Board of Directors have caused these presents to be executed by the President of each party hereto as the respective act, deed and agreement of said corporations on this 30<sup>th</sup> day of April 2001.

ATTEST:

EQUITABLE PRODUCTION --  
EASTERN STATES, INC.

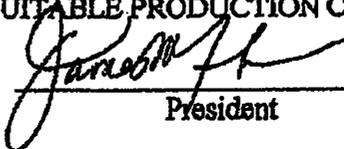
  
Corporate Secretary

By:   
President

ATTEST:

EQUITABLE PRODUCTION COMPANY

  
Corporate Secretary

By:   
President

4710303235

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF STATE

APRIL 30, 2001

TO ALL WHOM THESE PRESENTS SHALL COME, GREETING:

EQUITABLE PRODUCTION COMPANY

I, Kim Pizzingrilli, Secretary of the Commonwealth of Pennsylvania do hereby certify that the foregoing and annexed is a true and correct photocopy of Articles of Merger

which appear of record in this department



IN TESTIMONY WHEREOF, I have hereunto set my hand and caused the Seal of the Secretary's Office to be affixed, the day and year above written.

A handwritten signature in cursive script, appearing to read "Kim Pizzingrilli".

Secretary of the Commonwealth

DPOS

08/03/2018



4710303235

May 8, 2018

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

Re: BIG245H8, BIG245H16, BIG245H17  
Grant District, Wetzel County

Dear Mr. Martin,

EQT Production Company is submitting an application for a new well work permit for the above well number. Upon information and belief, Operator's lease and/ or other real property rights permit it to conduct drilling operations for the subject well in the location shown on the plat, including under any public roads that the well lateral crosses.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Todd Klaner'.

Todd Klaner  
Regional Land Manager

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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE CERTIFICATION

4710303235

Date of Notice Certification: 05/09/2018

API No. 47- 103 -  
Operator's Well No. BIG245H16  
Well Pad Name: BIG245

**Notice has been given:**

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State: <u>WV</u>	UTM NAD 83	Easting: <u>537027.24</u>
County: <u>Wetzel</u>		Northing: <u>4382925.49</u>
District: <u>Grant</u>	Public Road Access: <u>Rt. 19/2</u>	
Quadrangle: <u>Big Run</u>	Generally used farm name: <u>E.T. Bluegrass LLC</u>	
Watershed: <u>Rockcamp Run of Wiley Fork</u>		

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 40px;"><input checked="" type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p><b>OOG OFFICE USE ONLY</b></p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input checked="" type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED</p>
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**Required Attachments:**

The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

08/03/2018

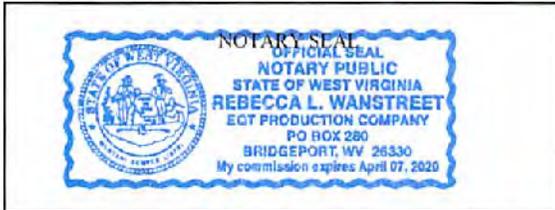
4710303235

**Certification of Notice is hereby given:**

THEREFORE, I Erin Spine, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator: EQT Production Company  
By: Erin Spine *[Signature]*  
Its: Regional Land Supervisor  
Telephone: 304-848-0035

Address: 115 Professional Place PO Box 280  
Bridgeport WV 26330  
Facsimile: 304-848-0041  
Email: espine@eqt.com



Subscribed and sworn before me this 15 day of May 2018.  
Rebecca L. Wanstreet Notary Public  
My Commission Expires 4-7-2020

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [deprivacyofficer@wv.gov](mailto:deprivacyofficer@wv.gov).

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WV Department of  
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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF APPLICATION

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.

Date of Notice: 5/16/18 Date Permit Application Filed: 5/16/18

Notice of:

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice  WSSP Notice  E&S Plan Notice  Well Plat Notice is hereby provided to:

- SURFACE OWNER(s)  
Name: See Attached  
Address: \_\_\_\_\_  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_
- SURFACE OWNER(s) (Road and/or Other Disturbance)  
Name: See Attached  
Address: \_\_\_\_\_  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_
- SURFACE OWNER(s) (Impoundments or Pits)  
Name: See Attached  
Address: \_\_\_\_\_

- COAL OWNER OR LESSEE  
Name: See Attached  
Address: \_\_\_\_\_
- COAL OPERATOR  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_
- SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)  
Name: See Attached  
Address: \_\_\_\_\_
- OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

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WV Department of  
Environmental Protection

\*Please attach additional forms if necessary

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**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

**This Notice Shall Include:**

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

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**Well Location Restrictions**

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

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examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

**Water Well Testing:**

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

**Water Testing Laboratories:**

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

**Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:**

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

**Written Comment:**

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0450

Office of Oil and Gas  
MAY 17 2018  
WV Department of Environmental Protection

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

**Time Limits and Methods for Filing Comments.**

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

**Comment Requirements**

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

**Permit Denial or Condition**

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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WW-6A  
(8-13)

API NO. 47- 103 -  
OPERATOR WELL NO. BIG245H16  
Well Pad Name: ~~BIG245~~ **4710303235**

**Notice is hereby given by:**

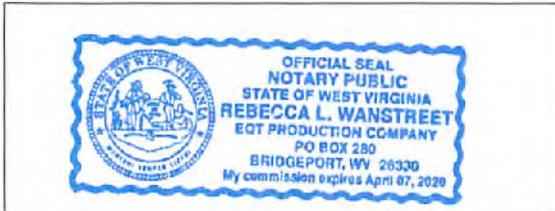
Well Operator: EQT Production Company  
Telephone: 304-848-0035  
Email: espine@eqt.com



Address: 115 Professional Place PO Box 280  
Bridgeport WV 26330  
Facsimile: 304-848-0041

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).



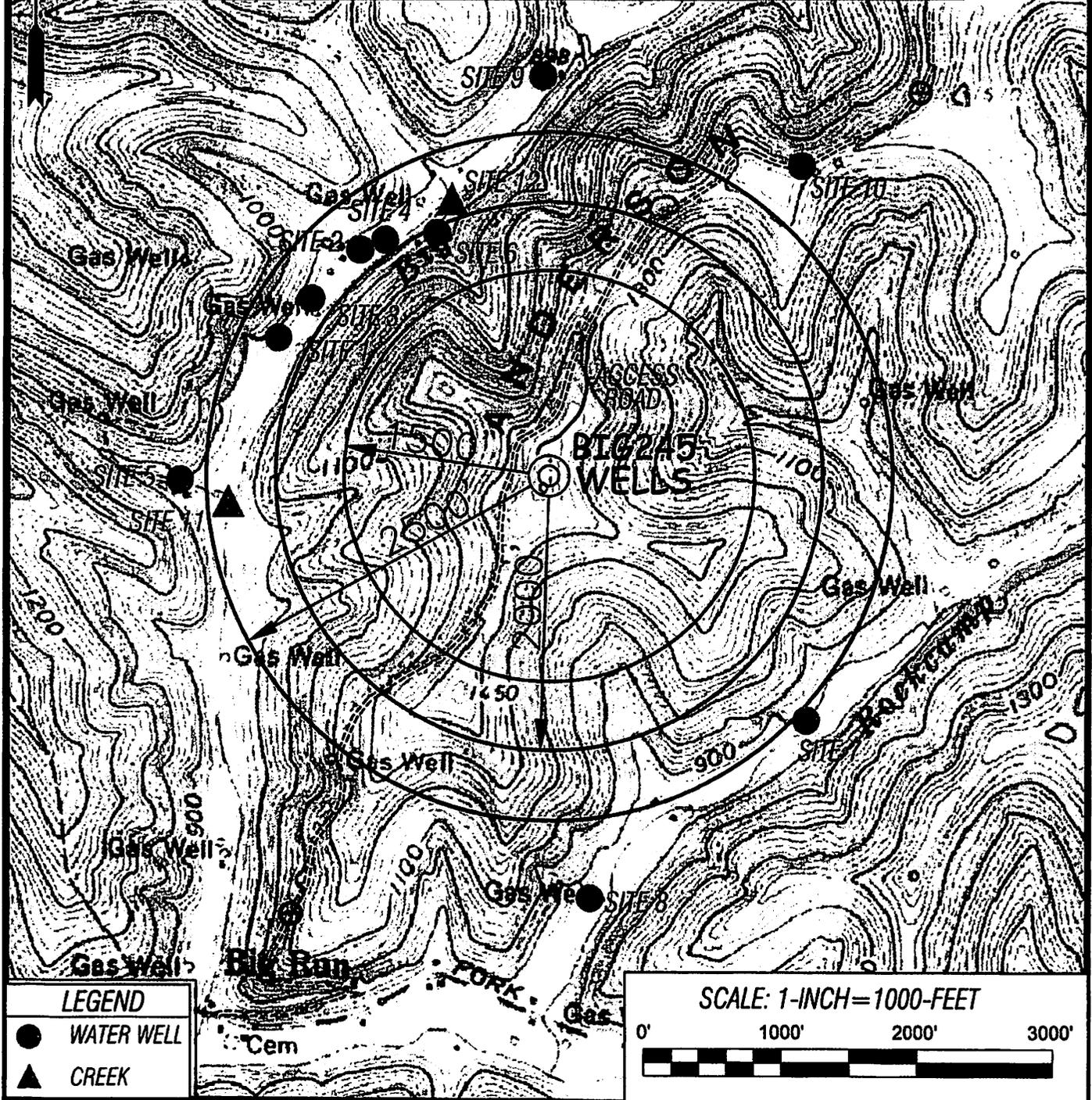
Subscribed and sworn before me this 15 day of May 2018.  
Rebecca L. Wanstreet Notary Public  
My Commission Expires 4-7-2020

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Environmental Protection

08/03/2018

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# WATER SOURCE LOCATIONS FOR JOSEPH SHIBEN ET AL LEASE BIG245 WELLS



**LEGEND**

- WATER WELL
- ▲ CREEK

**SCALE: 1-INCH=1000-FEET**

0' 1000' 2000' 3000'

**SLS**  
Land & Energy Development  
Subsidiary of SLS Energy Services, Inc.  
P.O. Box 100 & 12 Union Dale & Shively, WV 26210 (304) 462-6534  
www.slsenergy.com

**DRAWN BY:** MGF  
**FILE NO.:** 7812  
**DATE:** 07/19/18  
**CADD FILE:** 01212020245-RL.dwg

**TOPO SECTION OF:**  
BIG RUN, WV 7.5' QUAD

DISTRICT	COUNTY	TAX MAP-PARCEL NO.
GRANT	WETZEL	08-22

**OPERATOR:**  
EQT PRODUCTION COMPANY  
115 PROFESIONAL PLACE  
P.O. BOX 280  
BRIDGEPORT, WV 26330

08/03/2018

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**Surface Owners:**

ET Blue Grass LLC  
625 Liberty Avenue Suite 1700  
Pittsburgh, PA 15222

Ikey J. Willey  
12359 Willey Fork Road  
Pine Grove, WV 26419

**Surface Owners (road or other disturbance):**

ET Blue Grass LLC  
625 Liberty Avenue Suite 1700  
Pittsburgh, PA 15222

Wanda L. Byard  
1250 Meadowlane Drive  
Lewisport, KY 42351

Neal Utt  
1204 Big Run Road  
Burton, WV 26562

**Surface Owners (Pits or impoundments or AST):**

ET Blue Grass LLC  
625 Liberty Avenue Suite 1700  
Pittsburgh, PA 15222

**Coal Owner**

ET Blue Grass LLC  
625 Liberty Avenue Suite 1700  
Pittsburgh, PA 15222

Western Pocahontas Properties LLC  
5260 Irwin Road  
Huntington, WV 25705

CNX Land LLC  
Engineering Operations Support Dept. Coal  
1000 Consol Energy Drive  
Canonsburg, PA 15317

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08/03/2018

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
**VOLUNTARY STATEMENT OF NO OBJECTION**

**Instructions to Persons Named on Page WW-6A**

The well operator named on page WW-6A is applying for a permit from the State of West Virginia to conduct oil or gas well work. Well work permits are valid for twenty-four (24) months. Please contact the listed well operator and the Office of Oil and Gas if you do not own any interest in the listed surface tract.

**Comment and Waiver Provisions**

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary.

Pursuant to West Virginia Code § 22-6A-8(b) No permit may be issued less than thirty days after the filing date of the application for any well work except plugging or replugging; and no permit for plugging or replugging may be issued less than five days after the filing date of the application except a permit for plugging or replugging a dry hole: *Provided*, That if the applicant certifies that all persons entitled to notice of the application under the provisions of subsection (b), section ten of this article have been served in person or by certified mail, return receipt requested, with a copy of the well work application, including the erosion and sediment control plan, if required, and the well plat, and further files written statements of no objection by all such persons, the secretary may issue the well work permit at any time.

**VOLUNTARY STATEMENT OF NO OBJECTION**

I, E.T. Bluegrass LLC, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through \_\_\_\_\_, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State:	<u>WV</u>	UTM NAD 83	Easting:	<u>537027.24</u>
County:	<u>Wetzel</u>		Northing:	<u>4382925.49</u>
District:	<u>Grant</u>	Public Road Access:		<u>Rt. 18/2</u>
Quadrangle:	<u>Big Run</u>	Generally used farm name:		<u>E.T. Bluegrass LLC</u>
Watershed:	<u>Rockcamp Run of Wiley Fork</u>			

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

<p>*Please check the box that applies</p> <p><input type="checkbox"/> SURFACE OWNER</p> <p><input type="checkbox"/> SURFACE OWNER (Road and/or Other Disturbance)</p> <p><input type="checkbox"/> SURFACE OWNER (Impoundments/Pits)</p> <p><input checked="" type="checkbox"/> COAL OWNER OR LESSEE</p> <p><input type="checkbox"/> COAL OPERATOR</p> <p><input type="checkbox"/> WATER PURVEYOR</p> <p><input type="checkbox"/> OPERATOR OF ANY NATURAL GAS STORAGE FIELD</p>	<p><b>FOR EXECUTION BY A NATURAL PERSON</b></p> <p>Signature: _____</p> <p>Print Name: _____</p> <p>Date: _____</p>
	<p><b>FOR EXECUTION BY A CORPORATION, ETC.</b></p> <p>Company: <u>E.T. Bluegrass LLC</u></p> <p>By: <u>Jason Ranson</u> RECEIVED Office of Oil and Gas</p> <p>Its: <u>Director, Drilling Land</u></p> <p>Signature: <u>[Signature]</u> MAY 17 2018 Date: _____ WV Department of Environmental Protection</p> <p><b>Jason M. Ranson</b></p>

Director, Drilling Land  
And Attorney in Fact

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF INTENT TO DRILL**

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

**Notice Time Requirement:** Notice shall be provided at least **TEN (10)** days prior to filing a permit application.

**Date of Notice:** 01/25/2018 **Date Permit Application Filed:** 02/04/2018

**Delivery method pursuant to West Virginia Code § 22-6A-16(b)**

- HAND DELIVERY
- CERTIFIED MAIL RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

**Notice is hereby provided to the SURFACE OWNER(s):**

Name: See Attached  
Address: \_\_\_\_\_  
\_\_\_\_\_

Name: See Attached  
Address: \_\_\_\_\_  
\_\_\_\_\_

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State: <u>WV</u>	UTM NAD 83	Easting: <u>537027.24</u>
County: <u>Wetzel</u>		Northing: <u>4382925.49</u>
District: <u>Grant</u>	Public Road Access: <u>Rt. 19/2</u>	
Quadrangle: <u>Big Run</u>	Generally used farm name: <u>E.T. Bluegrass LLC</u>	
Watershed: <u>Rockcamp Run of Wiley Fork</u>		

**This Notice Shall Include:**

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

Well Operator: EQT Production Company  
Address: 115 Professional Place PO Box 280  
Bridgeport WV 26330  
Telephone: 304-848-0035  
Email: espine@eqt.com  
Facsimile: 304-848-0041

Authorized Representative: Erin Spine  
Address: 115 Professional Place PO Box 280  
Bridgeport WV 26330  
Telephone: 304-848-0035  
Email: espine@eqt.com  
Facsimile: 304-848-0041

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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**Surface Owners:**

ET Blue Grass LLC  
625 Liberty Avenue Suite 1700  
Pittsburgh, PA 15222

Ikey J. Willey  
12359 Willey Fork Road  
Pine Grove, WV 26419

**Surface Owners (road or other disturbance):**

ET Blue Grass LLC  
625 Liberty Avenue Suite 1700  
Pittsburgh, PA 15222

Wanda L. Byard  
1250 Meadowlane Drive  
Lewisport, KY 42351

Neal Utt  
1204 Big Run Road  
Burton, WV 26562

**Surface Owners (Pits or impoundments or AST):**

ET Blue Grass LLC  
625 Liberty Avenue Suite 1700  
Pittsburgh, PA 15222

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08/03/2018

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF INTENT TO DRILL**  
**WAIVER**

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

**Surface Owner Waiver:**

I, E.T. Bluegrass LLC, hereby state that I have read the notice provisions listed above and hereby waive the notice requirements under West Virginia Code § 22-6A-16(b) for the tract of land as follows:

State:	<u>WV</u>	UTM NAD 83	Easting:	<u>537027.24</u>
County:	<u>Wetzel</u>		Northing:	<u>4382925.49</u>
District:	<u>Grant</u>	Public Road Access:		<u>Rt. 19/2</u>
Quadrangle:	<u>Big Run</u>	Generally used farm name:		<u>E.T. Bluegrass LLC</u>
Watershed:	<u>Rockcamp Run of Wiley Fork</u>			

Name: Jason Ranson- Director, Drilling Land  
Address: 625 Liberty Ave, Suite 1700  
Pittsburgh, PA 15222

Signature:   
Date: \_\_\_\_\_

**Jason M. Ranson**  
**Director, Drilling Land**  
**And Attorney in Fact**

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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Office of Oil and Gas  
MAY 17 2018  
WV Department of  
Environmental Protection



**Surface Owners:**

ET Blue Grass LLC  
625 Liberty Avenue Suite 1700  
Pittsburgh, PA 15222

4710303235

Ikey J. Willey  
12359 Willey Fork Road  
Pine Grove, WV 26419

**Surface Owners (road or other disturbance):**

ET Blue Grass LLC  
625 Liberty Avenue Suite 1700  
Pittsburgh, PA 15222

Wanda L. Byard  
1250 Meadowlane Drive  
Lewisport, KY 42351

Neal Utt  
1204 Big Run Road  
Burton, WV 26562

**Surface Owners (Pits or impoundments or AST):**

ET Blue Grass LLC  
625 Liberty Avenue Suite 1700  
Pittsburgh, PA 15222

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**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**VOLUNTARY STATEMENT OF NO OBJECTION**

**Instructions to Persons Named on Page WW-6A**

The well operator named on page WW-6A is applying for a permit from the State of West Virginia to conduct oil or gas well work. Well work permits are valid for twenty-four (24) months. Please contact the listed well operator and the Office of Oil and Gas if you do not own any interest in the listed surface tract.

**Comment and Waiver Provisions**

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary.

Pursuant to West Virginia Code § 22-6A-8(b) No permit may be issued less than thirty days after the filing date of the application for any well work except plugging or replugging; and no permit for plugging or replugging may be issued less than five days after the filing date of the application except a permit for plugging or replugging a dry hole: *Provided*, That if the applicant certifies that all persons entitled to notice of the application under the provisions of subsection (b), section ten of this article have been served in person or by certified mail, return receipt requested, with a copy of the well work application, including the erosion and sediment control plan, if required, and the well plat, and further files written statements of no objection by all such persons, the secretary may issue the well work permit at any time.

**VOLUNTARY STATEMENT OF NO OBJECTION**

I, E.T. Bluegrass LLC, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through \_\_\_\_\_, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State: <u>WV</u>	UTM NAD 83	Easting: <u>537027.24</u>
County: <u>Wetzel</u>		Northing: <u>4382925.49</u>
District: <u>Grant</u>	Public Road Access: <u>Rt. 19/2</u>	
Quadrangle: <u>Big Run</u>	Generally used farm name: <u>E.T. Bluegrass LLC</u>	
Watershed: <u>Rockcamp Run of Wiley Fork</u>		

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

<p>*Please check the box that applies</p> <p><input type="checkbox"/> SURFACE OWNER</p> <p><input type="checkbox"/> SURFACE OWNER (Road and/or Other Disturbance)</p> <p><input type="checkbox"/> SURFACE OWNER (Impoundments/Pits)</p> <p><input checked="" type="checkbox"/> COAL OWNER OR LESSEE</p> <p><input type="checkbox"/> COAL OPERATOR</p> <p><input type="checkbox"/> WATER PURVEYOR</p> <p><input type="checkbox"/> OPERATOR OF ANY NATURAL GAS STORAGE FIELD</p>	<p><b>FOR EXECUTION BY A NATURAL PERSON</b></p> <p>Signature: _____</p> <p>Print Name: _____</p> <p>Date: _____</p> <p><b>FOR EXECUTION BY A CORPORATION, ETC.</b></p> <p>Company: <u>E.T. Bluegrass LLC</u></p> <p>By: <u>Jason Ranson</u></p> <p>Its: <u>Director, Drilling Land</u></p> <p>Signature: </p> <p>Date: _____</p> <p style="text-align: right;"><b>RECEIVED</b> Office of Oil and Gas <b>MAY 17 2018</b> WV Department of Environmental Protection</p>
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**Director, Drilling Land  
And Attorney in Fact**

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

**08/03/2018**



4710303235

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
**Division of Highways**

1900 Kanawha Boulevard East • Building Five • Room 110  
Charleston, West Virginia 25305-0430 • (304) 558-3505

Thomas J. Smith, P. E.  
Secretary of Transportation/  
Commissioner of Highways

Reissued July 18, 2018

Jill M. Newman  
Deputy Commissioner

James A. Martin, Chief  
Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

Subject: DOH Permit for the BIG245 Pad Site, Wetzel County

- |           |           |           |           |
|-----------|-----------|-----------|-----------|
| BIG245H1  | BIG245H2  | BIG245H3  | BIG245H4  |
| BIG245H5  | BIG245H6  | BIG245H7  | BIG245H8  |
| BIG245H9  | BIG245H10 | BIG245H11 | BIG245H12 |
| BIG245H13 | BIG245H14 | BIG245H15 | BIG245H16 |
| BIG245H17 | BIG245H18 | BIG245H19 | BIG245H20 |
| BIG245H21 | BIG245H22 | BIG245H23 | BIG245H24 |
| BIG245H25 | BIG245H26 | BIG245H27 | BIG245H28 |
| BIG245H29 | BIG245H30 |           |           |

Dear Mr. Martin,

This well site will be accessed from existing Permit # 06-2016-0430 issued to EQT Production Company for access to the State Road for a well site located off of Wetzel County Route 19/2 SLS.

The operator has signed a STATEWIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,  
*Gary K. Clayton*  
Gary K. Clayton, P.E.  
Regional Maintenance Engineer  
Central Office O&G Coordinator

Cc: Nick Bumgardner  
EQT Production Company  
CH. OM, D-6. File

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Anticipated Frac Additives  
Chemical Names and CAS numbers

<u>Material</u>	<u>Ingredient</u>	<u>CAS Number</u>
Water		
Sand	Hydrotreated light petroleum distillate	14808-60-7
Friction Reducer	Tributyl tetradecyl phosphonium chloride	64742-47-8
Biocide	Ammonium chloride	81741-28-8
Scale Inhibitor	Hydrochloric Acid	12125-02-9
15% Hydrochloric Acid	Propargyl Alcohol	7647-01-0
Corrosion Inhibitor	Methanol	107-19-7
Corrosion Inhibitor	Guar Gum	67-56-1
Gelling Agent	Sodium Persulfate	9000-30-0
Oxidizing Breaker	Potassium Carbonate	7775-27-1
Buffering Agent		584-08-7

DMH  
5-18-18

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MAY 25 2018

WV Department of  
Environmental Protection

4710303235

**PROJECT INFORMATION**

PROJECT NAME: EQT BIG 245  
 TAX PARCEL:  
 GRANT DISTRICT, WETZEL COUNTY, WV  
 MAP 95 PARCELS 08, 18, 21, 22

**PARCELS OWNERS**  
 PARCEL 18, 19, 20  
 MAP 95, PARCEL 08  
 GRANT DISTRICT, WETZEL COUNTY, WV  
 TOTAL PROPERTY AREA: 54.0 H+ACRES  
 TOTAL DISTURBANCE AREA: 6.18 H+ACRES

NEAL LITT  
 MAP 95, PARCEL 14  
 GRANT DISTRICT, WETZEL COUNTY, WV  
 TOTAL PROPERTY AREA: 54.0 H+ACRES  
 TOTAL DISTURBANCE AREA: 6.18 H+ACRES

REV. JOS. W. B. FRY  
 MAP 95, PARCEL 21  
 GRANT DISTRICT, WETZEL COUNTY, WV  
 TOTAL PROPERTY AREA: 54.0 H+ACRES  
 TOTAL DISTURBANCE AREA: 6.18 H+ACRES

ET BLUE GRASS LLC  
 MAP 95, PARCEL 22  
 GRANT DISTRICT, WETZEL COUNTY, WV  
 TOTAL PROPERTY AREA: 1190.0 H+ACRES  
 TOTAL DISTURBANCE AREA: 25.07 H+ACRES

**OIL AND GAS ROYALTY OWNER**  
 S-BEN BEN FAYERS, INC.  
 GRANT DISTRICT, WETZEL COUNTY, WV  
 TOTAL PROPERTY AREA: 1480 H+ACRES

**SITE LOCATION**  
 THE EQT BIG 245 ACCESS ROAD ENTRANCE IS LOCATED 4.427 MI  
 NORTHEAST OF THE JUNCTION OF CO. RT. 18 AND CO. RT. 189  
 THE WELL PAD IS LOCATED 5.8 MILES NORTHEAST OF THE  
 JUNCTION OF CO. RT. 18 AND CO. RT. 189

**LOCATION COORDINATES**  
 EQT BIG 245 CONSTRUCTION ENTRANCE  
 (NAD 83) - 38.508509° LONGITUDE - 80.287560° (NAD 83)

EQT BIG 245 WELL PAD CENTER  
 (NAD 83) - 38.509411° LONGITUDE - 80.588600° (NAD 83)

EQT BIG 245 AST TANK CENTER  
 (NAD 83) - 38.5087500° LONGITUDE - 80.588600° (NAD 83)

**GENERAL DESCRIPTION**

THE WELL PAD, ACCESS ROAD AND TANK PAD ARE BEING CONSTRUCTED TO AID IN THE DEVELOPMENT OF INDUSTRIAL MANUFACTURING GAS WELLS.

**SITE DISTURBANCE COMPUTATIONS**

WELL PAD: 5.76 H+ACRES  
 AST TANK: 3.50 H+ACRES  
 MAIN ACCESS ROAD: 5.76 H+ACRES  
 STOCKPILES: 26.33 H+ACRES  
 TOTAL SITE DISTURBANCE AREA: 40.35 H+ACRES

**ENTRANCE PERMIT**

EQT PRODUCTION COMPANY WILL OBTAIN AN ENTRANCE PERMIT FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

**MISS UTILITY STATEMENT**

MISS UTILITY OF WEST VIRGINIA WAS NOTED FOR THE LOCATION OF UTILITIES PRIOR TO THIS PROJECT DESIGN. TULLET #13259235. IN ADDITION, MISS UTILITY WILL BE CONTACTED PRIOR TO START OF THE PROJECT.

**GEOTECHNICAL NOTES**

A SUBSURFACE INVESTIGATION HAS BEEN FIELD OWNED FOR THIS SITE AND A GEOTECHNICAL REPORT HAS BEEN PREPARED BY LARSON DESIGN GROUP, INC. 1/23/2018. THE ENGINEER AND SURVEYOR ARE NOT RESPONSIBLE FOR UNDESIRABLE SURFACE IRREGULARITIES CAUSING ADDITIONAL WORK OR ADDITIONAL CONSTRUCTION MEASURES REQUIRED BEYOND THOSE STANDARD PRACTICES SHOWN ON THIS PLAN AS A RESULT OF ANY OTHER GEOTECHNICAL COMPUTATIONS ENTAILING FOUNDING CONSTRUCTION.

**ENVIRONMENTAL NOTES**

A WETLAND DELINEATION WAS PERFORMED ON JULY 7, 2017, MAY 29, 2018, AUGUST 14, 2018, SEPTEMBER 1, 2018, APRIL 1, 2019, AND MAY 1, 2019, BY POTESTA & ASSOCIATES TO REVIEW THE SITE FOR WATERS AND WETLANDS THAT ARE MOST LIKELY WITHIN THE REGULATORY JURISDICTION OF THE U.S. ARMY CORPS OF ENGINEERS (DACA) AND/OR THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (WVDEP). THE MAY 29, 2019 REPORT FOR THE BIG 245 SITE WAS PREPARED BY POTESTA & ASSOCIATES. THE SUMMARY OF THE RESULTS OF THE DELINEATION. THE REPORT DOES NOT IN ANY WAY REPRESENT A JURISDICTIONAL DETERMINATION OF THE LANDWARD LIMITS OF WATERS AND WETLANDS WHICH MAY BE REGULATED BY THE LEGISLATION OF THE WETLANDS ACT. IT IS STRONGLY RECOMMENDED THAT THE APPROPRIATE AGENCIES BE CONSULTED IN AN EFFORT TO OBTAIN WRITTEN CONFIRMATION OF THE DELINEATION DESCRIBED BY THIS REPORT PRIOR TO ENGAGING CONSTRUCTION ON THE PROPERTY DESCRIBED HEREIN. THE DEVELOPER SHALL OBTAIN THE APPROPRIATE PERMITS FROM THE FEDERAL AND/OR STATE REGULATORY AGENCIES PRIOR TO ANY PROPOSED IMPACTS TO WATERS OF THE U.S., INCLUDING WETLANDS, RIVERS AND STREAM CROSSINGS.

# EQT BIG 245 SITE PLAN EQT PRODUCTION COMPANY

PERMITTED WELL NO. WV 514365, API 47-103-03154 PROPOSED WELL NO. BIG245H1, BIG245H2, BIG245H3, BIG245H4, BIG245H5, BIG245H6, BIG245H7, BIG245H8, BIG245H9, BIG245H10, BIG245H11, BIG245H12, BIG245H14, BIG245H15, BIG245H16, BIG245H17

SITUATED ON THE WATERS OF BIG RUN, A TRIBUTARY OF WILLEY FORK, GRANT DISTRICT, WETZEL COUNTY, WV



**RESTRICTIONS NOTES**

1. THERE ARE INTERMITTENT STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE END POINT LDD. THERE ARE WETLANDS WITHIN 500 FEET OF THE LDD AND A WAYER FROM THE WAYER WILL BE APPLIED FOR THROUGH THE ARMY CORPS OF ENGINEERS BY EQT PRODUCTION COMPANY.
2. THERE ARE NON-TRIBUTARY PRODUCING TRIBUTARY STREAMS WITHIN 300 FEET OF THE PAD AND LDD.
3. THERE ARE NO GROUNDWATER BODIES OR PUBLIC WATER SUPPLY FACILITIES WITHIN 100 FEET OF THE PAD AND LDD.
4. THERE ARE NO EXISTING TAPPING WELLS OR DEVELOPED SPRINGS WITHIN 200 FEET OF THE WELLHEAD DRILLER, 2" ANTEC AND SMITH LAND SURVEYING ARE NOT RESPONSIBLE FOR ANY EXISTING WATER WELLS DEVELOPED SPRINGS UNDEVELOPED SPRINGS OR BODIES.
5. THERE ARE NO CIRCULAR OR POLYGONAL STRUCTURES WITHIN 200 FEET OF THE CENTER OF THE PAD.
6. THERE ARE NO AERIAL OR AERIAL MULTIBERIAL LARGER THAN 200 SQUARE FEET OF THE CENTER OF THE PAD.



MISS Utility of West Virginia  
 2505 28th Street  
 West Virginia State Law  
 (Section 20C, Chapter 24C)  
 It is hereby that you call her  
 business days before you dig in  
 the state of West Virginia  
 IT'S THE LAW!

LEGEND	
EX. BOUNDARY CONTOUR	---
EX. INTERMEDIATE CONTOUR	---
EX. BOUNDARY LINE	---
EX. EDGE OF ROAD PAVEMENT	---
EX. GUARDRAIL	---
EX. FENCE LINE	---
EX. GATE	---
EX. OVERHEAD UTILITY	---
EX. OVERHEAD UTILITY RW	---
EX. UTILITY POLE	---
EX. GUY WIRE	---
EX. TELEPHONE LINE	---
EX. GASLINE	---
EX. GASLINE RW	---
EX. WATERLINE	---
EX. WATER PILE	---
EX. GAS WELL	---
EX. TREE LINE	---
EX. REFERENCE TREE	---
EX. DELINEATED STREAM	---
EX. DELINEATED WETLAND	---
EX. BUILDING	---
PROP. INDEX CONTOUR	---
PROP. INTERMEDIATE CONTOUR	---
PROP. CUT LINE	---
PROP. FILL LINE	---
PROP. LIMITS OF DISTURBANCE	---
ENVIRONMENTAL ASSESSMENT AREA OF DELINEATION	---
PROP. WELL HEAD	---
PROP. CONTAINMENT EPPM	---
PROP. ROAD CENTERLINE	---
PROP. VERTICAL CURVE DATA	---
PROP. CURVE	---
PROP. RIP-RAP INLET PROTECTION	---
PROP. COMPOST FILTERBANK	---
PROP. CURVE	---
PROP. TREE LINE	---
PROP. STONE CONSTRUCTION ENTRANCE	---
X-SECTION GRID INDEX	---
X-SECTION GRID IN EARTH DATE	---
X-SECTION PROPOSED GRADE	---
X-SECTION EXISTING GRADE	---

**OPERATOR**  
 EQT PRODUCTION COMPANY  
 OPERATOR ID: 13688  
 P.O. BOX 780  
 BRIDGEFORD, WV 26030  
 PHONE: (204) 344-3870

**ENGINEER**  
 STANTEC CONSULTING,  
 111 ELMUS STREET  
 HARRISON, WV 26043  
 PHONE: (204) 917-9001

**SURVEYOR**  
 SMITH LAND SURVEYING INC.  
 PO BOX 150  
 226 WEST MAIN STREET  
 GLENDALE, WV 26031  
 PHONE: (204) 492-5024



LIST OF DRAWINGS	
SHEET NO	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	OVERALL PLAN SHEET INDEX
4-8	WELL PAD LAYOUT
9	ACCESS ROAD PROFILES
10	WELL PAD PROFILES
11-12	ACCESS ROAD CROSS SECTIONS
13-17	WELL PAD CROSS SECTIONS
18-22	AST TANK PAD CROSS SECTIONS
23-24	EXCESS MATERIAL STOCKPILE PROFILES
25-26	EXCESS MATERIAL STOCKPILE CROSS SECTIONS
27	RECLAMATION PLAN
45	TYPICAL ACCESS ROAD CROSS SECTIONS
48-51	CONSTRUCTION DETAILS
52	CONSTRUCTION QUANTITIES
53	RECLAMATION QUANTITIES



TITLE SHEET  
 EQT BIG 245  
 GRANT DISTRICT  
 WETZEL COUNTY WV

SCALE AS SHOWN  
 DESIGNED: CSH  
 CHECKED: CSH  
 REVIEWED: RBK  
 DATE: 7/25/2018

