



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
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Jim Justice , Governor
Austin Caperton , Cabinet Secretary
www.dep.wv.gov

Tuesday, December 12, 2017
WELL WORK PERMIT
Horizontal 6A / New Drill

EQT PRODUCTION COMPANY
625 LIBERTY AVE., SUITE 1700

PITTSBURGH, PA 15222

Re: Permit approval for BIG464H26
47-103-03213-00-00

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: BIG464H26
Farm Name: COASTAL FOREST RESOURCES COMPANY D/B/A COASTAL
U.S. WELL NUMBER: 47-103-03213-00-00
Horizontal 6A / New Drill
Date Issued: 12/12/2017

Promoting a healthy environment.

12/15/2017

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

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.

API Number: 103-03213

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.

12/15/2017

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: BIG464H26 Well Pad Name: BIG464

3) Farm Name/Surface Owner: Coastal Forest Resources Company
DBA Coastal Timberlands Company Public Road Access: RT 250

4) Elevation, current ground: 1305' Elevation, proposed post-construction: 1246'

5) Well Type (a) Gas Oil Underground Storage

Other _____

(b) If Gas Shallow Deep

Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus, 7419', 51', 2620 PSI

8) Proposed Total Vertical Depth: 7419

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 12490

11) Proposed Horizontal Leg Length: 4548

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

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

14) Approximate Saltwater Depths: 1724,1848

15) Approximate Coal Seam Depths: 556,795,897,912

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

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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DAH
9-14-17

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	26	New	A-500	85.6	40	40	49 ft ³ / CTS
Fresh Water	13 3/8	New	J-55	54.5	1019	1019	952 ft ³ / CTS
Coal							
Intermediate	9 5/8	New	A-500	40	2841	2841	1108 ft ³ / CTS
Production	5 1/2	New	P-110	20	12490	12490	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
9-14-17*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	26	30	.312	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	See Variance	1.19
Production	5 1/2	8 1/2	.361	12640	10112	Class A/H	1.123/2.098
Tubing	2 3/8	NA	.19	7700			
Liners							

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PACKERS

Kind:				
Sizes:				
Depths Set:				

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill and complete a new horizontal well in the Marcellus Formation. Drill the vertical to an approximate depth of 5908'. Kick off and drill curve. Drill the lateral in the Marcellus. Cement casing.

*DMH
9-14-17*

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, 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 gallons 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): 125.43

22) Area to be disturbed for well pad only, less access road (acres): 7.42

23) Describe centralizer placement for each casing string:

- Surface: Bow spring centralizers – One centralizer at the shoe and one spaced every 500'.
- Intermediate: Bow spring centralizers– One centralizer at the shoe and one spaced every 500'.
- Production: One solid body centralizer spaced every joint from production casing shoe to KOP

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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
 Intermediate (Type 1 Cement): 0-3% Calcium Chloride. Used to speed the setting of cement slurries
 Production:
 Lead (Class A 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. Acid 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.

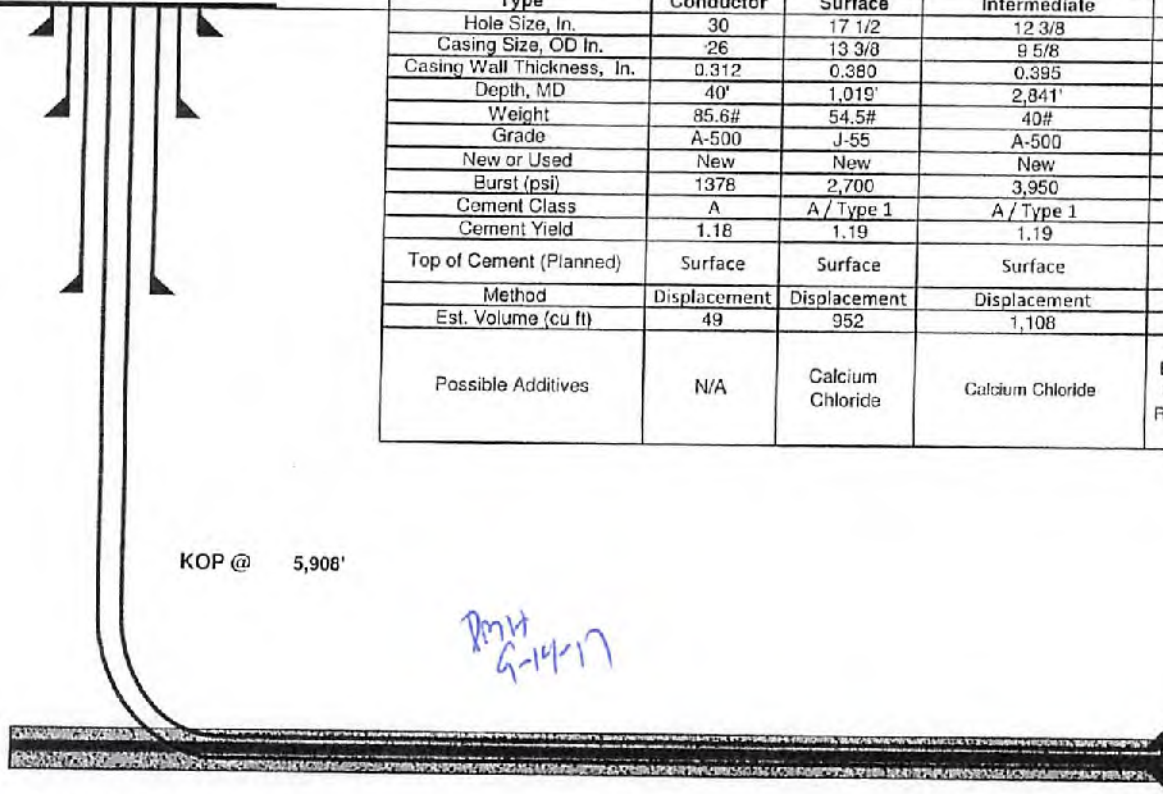
*Note: Attach additional sheets as needed.

Well **BIG464H26**
 EQT Production
 Big Run Quad
 Wetzel County, WV

Azimuth 157
 Vertical Section 4661

Note: Diagram is not to scale

Formations	Top TVD	Base TVD
Conductor	40	
Base Red Rock	132	
Base Fresh Water	432	
Surface Casing	1019	
Maxton	1812	1991
Big Lime	2254	2330
Big Injun	2342	2411
Weir	2540	2690
Gantz	2755	2791
Intermediate Casing	2841	
Fifty foot	2896	2952
Thirty foot	2991	3018
Gordon	3047	3092
Forth Sand	3117	3130
Bayard	3242	3260
Warren	3665	3689
Speechley	3765	3833
Balltown A	4143	4158
Riley	4628	4670
Benson	5257	5306
Alexander	5671	5738
Sonyea	6937	7100
Middlesex	7100	7156
Genesee	7156	7243
Genesee	7243	7275
Tully	7275	7300
Hamilton	7300	7398
Marcellus	7398	7449
Production Casing	12490	MD
Onondaga	7449	



Land curve @ 7,419' TVD
 7,942' MD

Est. TD @ 7,419' TVD
 12,490' MD

Proposed Well Work:
 Drill and complete a new horizontal well in the Marcellus formation.
 Drill the vertical to an approximate depth of 5908'.
 Kick off and drill curve. Drill lateral in the Marcellus. Cement casing.

Casing and Cementing				Deepest Fresh Water: 432'
Type	Conductor	Surface	Intermediate	Production
Hole Size, In.	30	17 1/2	12 3/8	8 1/2
Casing Size, OD In.	26	13 3/8	9 5/8	5 1/2
Casing Wall Thickness, In.	0.312	0.380	0.395	0.361
Depth, MD	40'	1,019'	2,841'	12,490'
Weight	85.6#	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	A / Type 1	A / H
Cement Yield	1.18	1.19	1.19	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)	49	952	1,108	2,531
Possible Additives	N/A	Calcium Chloride	Calcium Chloride	Calcium Carbonate, Fluid Loss, Extender, Dispersant, Viscosifier, Defoamer, POZ, Bonding Agent, Retarder, Anti-Settling/Suspension Agent

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4710303213

*PMH
 9-14-17*

4,548' Lateral

4710303213

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

8/21/17

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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 BIG464 pad: BIG464H13, BIG464H14, BIG464H26, BIG464H27, BIG464H28

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.

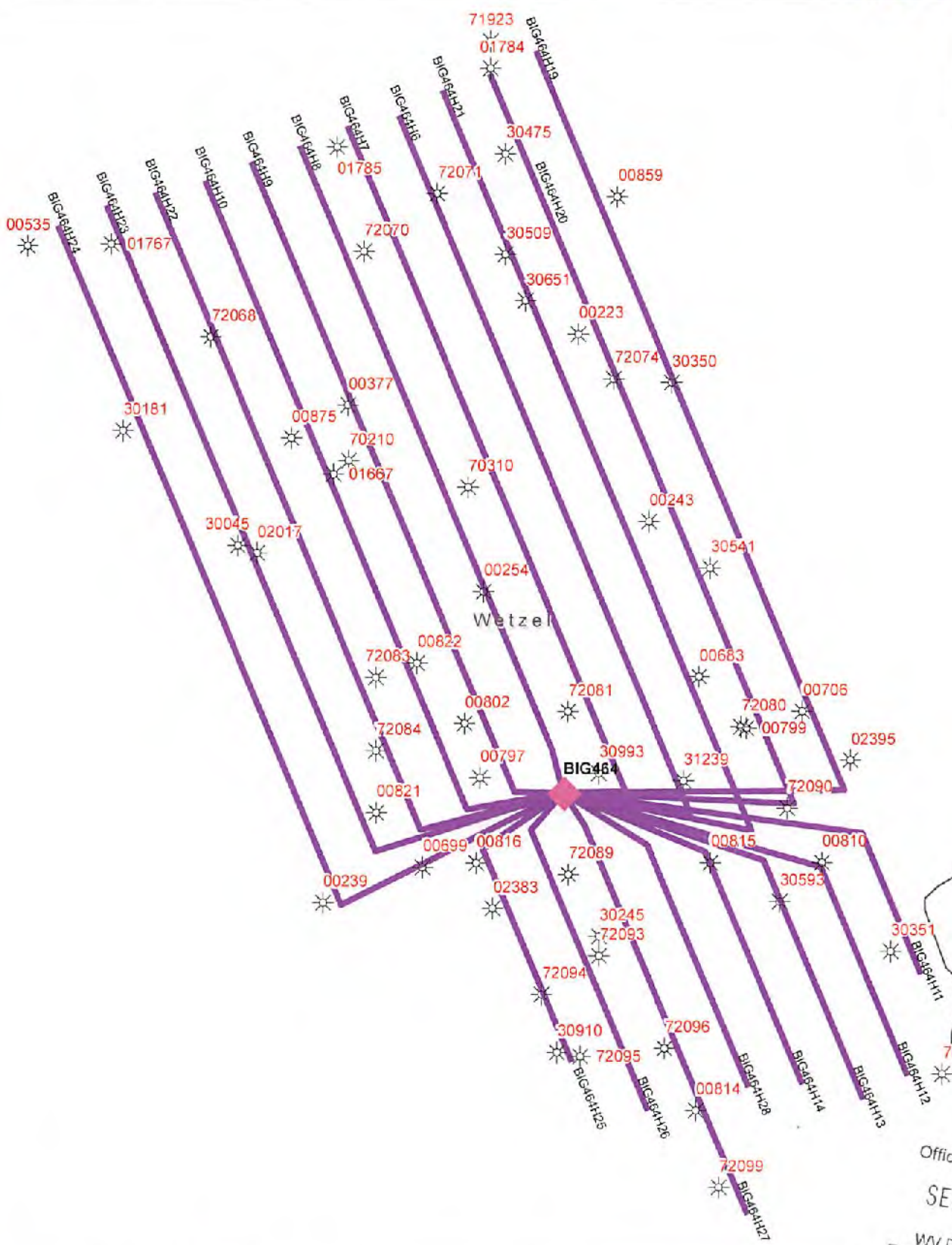
EQT will recommend to these operators at a minimum to:

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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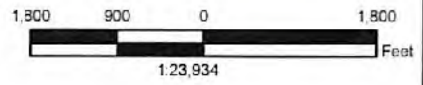
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EQT
EQT Corporation
625 Liberty Avenue
Pittsburgh, PA 15222

BIG 464

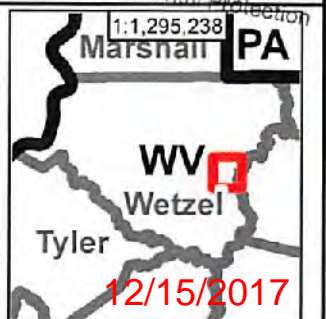
Vertical Offsets and Foreign Laterals within 500'

✱ Vertical Offsets
Target Formation
— MR



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.



API Number	Abandoned Date	Completion Date	Current Operator	Elevation	Elevation Ref.	Final Status	Lat	Long	Permit Date	SPUD Date	TD Formation	Total Depth	Permit
47103002230000	8/19/2015	4/8/1939	EQT PRODUCTION COMPANY	1148	GR	ABD-GW	39.584421	-80.515215	2/22/1939	3/9/1939	BAYARD	3230	00223
47103300450000	2/5/1931		HOPE NATURAL GAS		GR	ABD-GW	39.576512	-80.531847			BIG INJUN /SD/	2146	30045
47103301810000	12/16/1935	9/29/1923	PITTSBURGH & W VA GAS	906	GR	ABD-GW	39.580866	-80.537468	5/29/1923	6/13/1923	HAMPSHIRE	2936	30181
47103302450000	8/12/1937	3/24/1903	CARNEGIE NATURAL GAS CORPORATION	1040	GR	ABD-GW	39.561853	-80.514238	6/25/1902	7/10/1902	HAMPSHIRE	2908	30245
47103303500000	1/17/1941		HOPE NATURAL GAS	1427	GR	ABD-GW	39.582608	-80.510678			POCONO	2573	30350
47103303510000	4/17/1941	12/16/1910	CARNEGIE NATURAL GAS CORPORATION	1620	GR	ABD-GW	39.561272	-80.5	10/11/1910	10/26/1910	HURON LOWER	3355	30351
47103304750000	2/8/1944	9/22/1916	PITTSBURGH & W VA GAS	1120	GR	ABD-GW	39.591194	-80.518768	5/3/1916	5/18/1916	HURON LOWER	3072	30475
47103305090000	11/22/1945	6/20/1928	DUNN-MAR OIL & GAS COMPANY	1182	GR	ABD-GW	39.587421	-80.518768	2/12/1928	2/27/1928	HAMPSHIRE	3102	30509
47103305930001	10/14/1947	6/16/1922	UNKNOWN	1527	GR	ABD-GW	39.563159	-80.505433	5/1/1922	5/16/1922	HAMPSHIRE	3438	30593
47103306510000	6/15/1948	8/14/1919	PITTSBURGH & W VA GAS	1401	GR	ABD-GW	39.585667	-80.517797	5/4/1919	5/19/1919	HAMPSHIRE	3297	30651
47103309100000	4/9/1951	9/13/1916	CARNEGIE NATURAL GAS CORPORATION	1250	GR	ABD-GW	39.557499	-80.516298	8/8/1916	8/23/1916	SALT SD 3	1848	30910
47103309930000	9/21/1953	7/19/1911	CARNEGIE NATURAL GAS CORPORATION	1131	GR	ABD-GW	39.567949	-80.514238	5/3/1911	5/18/1911	FIFTH SAND	3004	30993
47103002430000		11/1/1940	HOPE NATURAL GAS	1272	GR	D&A	39.577383	-80.511802	9/17/1940	10/2/1940	CONEMAUGH /SERIES/	1018	00243
47103003770000		7/1/1952	ANJA RESOURCES		GR	D&A	39.581796	-80.526452	6/5/1952	6/15/1952	BAYARD	3197	00377
47103017840001		6/1/2000	DAC ENERGY LLC	937	GR	D&AW	39.594383	-80.519486	5/12/2000	5/22/2000	DEVONIAN	3307	01784
47103008220000		8/30/1929	EPC			GAS	-80.5231	39.5721				-1954	00822
47103002390001		9/19/1940	EQT PRODUCTION COMPANY	1410	GR	GAS	39.563159	-80.527726	8/4/1940	8/19/1940	HAMPSHIRE	3426	00239
47103002540000		9/1/1941	EQT PRODUCTION COMPANY	1464	GR	GAS	39.57477	-80.519858	7/18/1941	8/2/1941	FIFTH SAND	3449	00254
47103006990001		8/9/1922	EQT PRODUCTION COMPANY	0	GR	GAS	39.564465	-80.522855	4/25/1922	5/10/1922	HAMPSHIRE	3154	00699
47103007060000		8/7/1917	ROSS & WHARTON	979	GR	GAS	39.570271	-80.504309	5/2/1917	5/17/1917	HAMPSHIRE	3086	00706
47103007990000		1/1/1981	EQT PRODUCTION COMPANY	1090	GR	GAS	39.569634	-80.507055	10/24/1980	11/24/1980	FOURTH SAND	3086	00799
47103017670000		11/12/1998	ALLIANCE PETROLEUM CORPORATION	868	GR	GAS	39.587852	-80.538034	10/16/1998	10/26/1998	DEVONIAN /SD/	3264	01767
47103017850000		8/13/1999	ALLIANCE PETROLEUM CORPORATION	1186	GR	GAS	39.591481	-80.52698	6/29/1999	8/3/1999	DEVONIAN /SD/	3554	01785
47103023830000		9/30/2008	ALLIANCE PETROLEUM CORPORATION	1453	GR	GAS	39.56291	-80.519436	8/19/2008	8/25/2008	FOURTH SAND	3403	02383
47103023950000		11/25/2008	ALLIANCE PETROLEUM CORPORATION	1064	GR	GAS	39.568424	-80.501965	8/27/2008	10/8/2008	BAYARD	3262	02395
47103020170000		4/29/2004	DYNATEC ENERGY INCORPORATED	948	GR	GAS-CB	39.576229	-80.530913	11/30/2003	12/10/2003	PITTSBURGH COAL	711	02017
47103706340000						LOC	-80.4975	39.5567				70634	
47103006830000	9/12/1986		CONSOLIDATED GAS SUPPLY CORPORATION		GR	PSEUDO	39.571577	-80.509367				00683	
47103007970000			EQT PRODUCTION COMPANY		GR	PSEUDO	39.567803	-80.520045				00797	
47103008020000			EQUITABLE PRODUCTION COMPANY		GR	PSEUDO	39.569835	-80.520794				00802	
47103008100000			EQT PRODUCTION COMPANY		GR	PSEUDO	39.56461	-80.503372				00810	
47103008140000			EQUITABLE PRODUCTION COMPANY		GR	PSEUDO	39.555322	-80.509554				00814	
47103008150000			EQT PRODUCTION COMPANY		GR	PSEUDO	39.56461	-80.508805				00815	
47103008160000			EQT PRODUCTION COMPANY		GR	PSEUDO	39.56461	-80.520232				00816	
47103008210000	11/7/2007		CARNEGIE NATURAL GAS CORPORATION		GR	PSEUDO	39.566497	-80.525103				00821	
47103008590000	5/11/1997		PHILADELPHIA OIL		GR	PSEUDO	39.589586	-80.513301				00859	
47103008750000			EQT PRODUCTION COMPANY		GR	PSEUDO	39.580576	-80.529225				00875	
47103016670000			ANJA RESOURCES	1066	GR	PSEUDO	39.57919	-80.527179				01667	
47103702100000			HOPE NATURAL GAS		GR	PSEUDO	39.579705	-80.526415				70210	
47103005350000		1/2/1963	EPC	1008		STORAGE	-80.5421	39.5878				00535	
47103305410000	1/1/1946		UNKNOWN		GR	UNKW	39.575641	-80.508805				30541	
47103312390000	1/5/1973	3/23/1911	CONSOLIDATED GAS SUPPLY CORPORATION		GR	UNKW	39.567658	-80.510116	2/6/1911	2/21/1911		31239	
47103703100000		7/6/1900	HOPE NATURAL GAS		GR	UNKW	39.578689	-80.520607	5/22/1900	6/6/1900		70310	
47103719230000			UNKNOWN		GR	UNKW	39.595392	-80.519483				71923	
47103720680000			UNKNOWN		GR	UNKW	39.584361	-80.533159				72068	
47103720700000			HOPE NATURAL GAS		GR	UNKW	39.587554	-80.525665				72070	
47103720710000			UNKNOWN		GR	UNKW	39.589731	-80.522106				72071	
47103720740000			UNKNOWN		GR	UNKW	39.582753	-80.513488				72074	
47103720800000			CARNEGIE NATURAL GAS CORPORATION		GR	UNKW	39.56969	-80.507306				72080	
47103720810000			HOPE NATURAL GAS		GR	UNKW	39.570271	-80.515736				72081	
47103720830000			UNKNOWN		GR	UNKW	39.571577	-80.525103				72083	
47103720840000			HOPE NATURAL GAS		GR	UNKW	39.568819	-80.525103				72084	

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47103720890000
47103720900000
47103720930000
47103720940000
47103720950000
47103720960000
47103720990000

UNKNOWN
HOPE NATURAL GAS
UNKNOWN
HOPE NATURAL GAS
UNKNOWN
UNKNOWN
UNKNOWN
UNKNOWN

GR UNKWN 39.564175 -80.515736
GR UNKWN 39.566642 -80.505058
GR UNKWN 39.561127 -80.514238
GR UNKWN 39.559676 -80.517048
GR UNKWN 39.557353 -80.515174
GR UNKWN 39.557644 -80.511053
GR UNKWN 39.552419 -80.50843

72089
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103-03213

WellID	WellStatus	date	Operator	Longitude	Latitude	TargetFm	DatumElev	TotalDepth	Permit_1
4710300535	STORAGE	1/2/1963	EPC	-80.5421	39.5878		1008	-2049	535
4710300822	GAS	8/30/1929	EPC	-80.5231	39.5721		0	-1954	822
4710370634	LOC			-80.4975	39.5567		0	-99999	70634

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12/15/2017



west virginia department of environmental protection

Office of Oil and Gas
601 57th 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

Promoting a healthy environment.

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west virginia department of environmental protection

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601 57th Street, SE
Charleston, WV 25304
(304) 926-0450
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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.

Promoting a healthy environment.

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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.

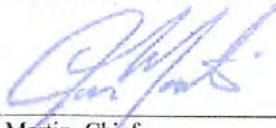
ORDER

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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12/15/2017



4710303213

August 16, 2017

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 (BIG464)

Dear Mr. Smith,

EQT is requesting the 13-3/8" surface casing be set at 1019' KB, 100' below the workable Pittsburgh Coal seam. We will set the 9-5/8" intermediate string at 2841' KB, 50' below the base of the Gantz formation.

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

Sincerely,

Vicki Roark
Permitting Supervisor

DJH
9-14-17

Enc.

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WV Department of
Environmental Protection

12/15/2017

47 10303213

WW-9
(4/16)

API Number 47 - 103 - _____
Operator's Well No. BIG464H26

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name EQT Production Company OP Code 306686

Watershed (HUC 10) 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: _____

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
9-14-17*

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

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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.

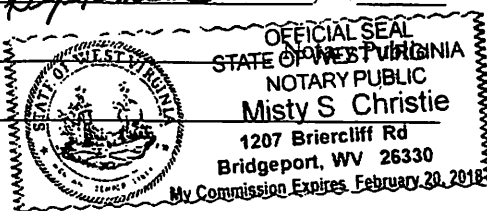
Company Official Signature *Victoria J. Roark*

Company Official (Typed Name) Victoria J. Roark

Company Official Title Permitting Supervisor

Subscribed and sworn before me this 8th day of September, 20 17

Misty S. Christie
My commission expires 2/20/18



12/15/2017

4710303213

Form WW-9

Operator's Well No. BIG464H26

EQT Production Company

Proposed Revegetation Treatment: Acres Disturbed 125.43 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.

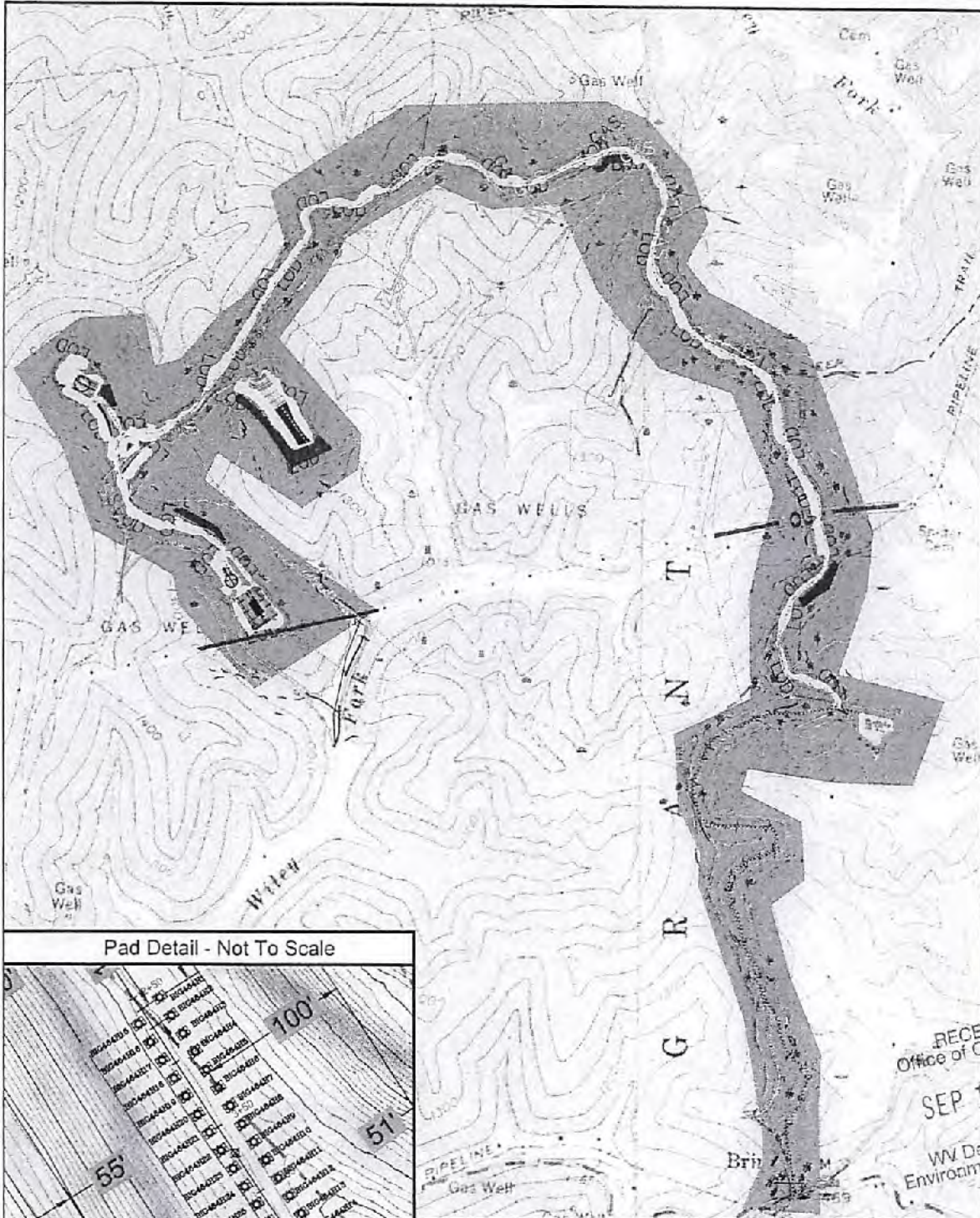
Plan Approved by: [Signature]

Comments: _____

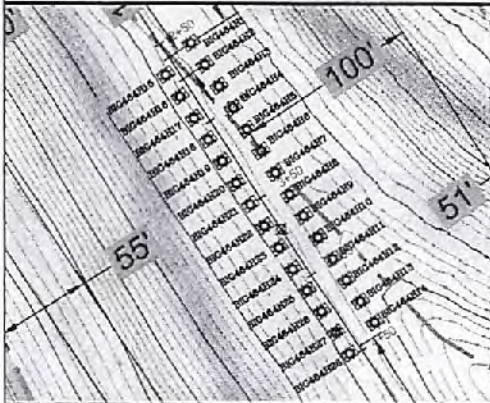
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Title: Oil & Gas Inspector Date: 9-14-17

Field Reviewed? Yes No



Pad Detail - Not To Scale



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9-14-17
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Big Run 7.5' USGS QUADRANGLE		Proposed Disturbance Area	
Projected culvert inventory. (for bid purposes only)		Well Site Location	See Site Plan
15" minimum diameter culverts	See Site Plan	Proposed Access Road	See Site Plan
24" minimum diameter culverts	See Site Plan	Approximate Total Disturbance	See Site Plan
DRAWN BY: Tim Rutledge	DATE: August 31, 2017	FILE NO. 125-16	DRAWING FILE NO. BIG 464 Rec Plan

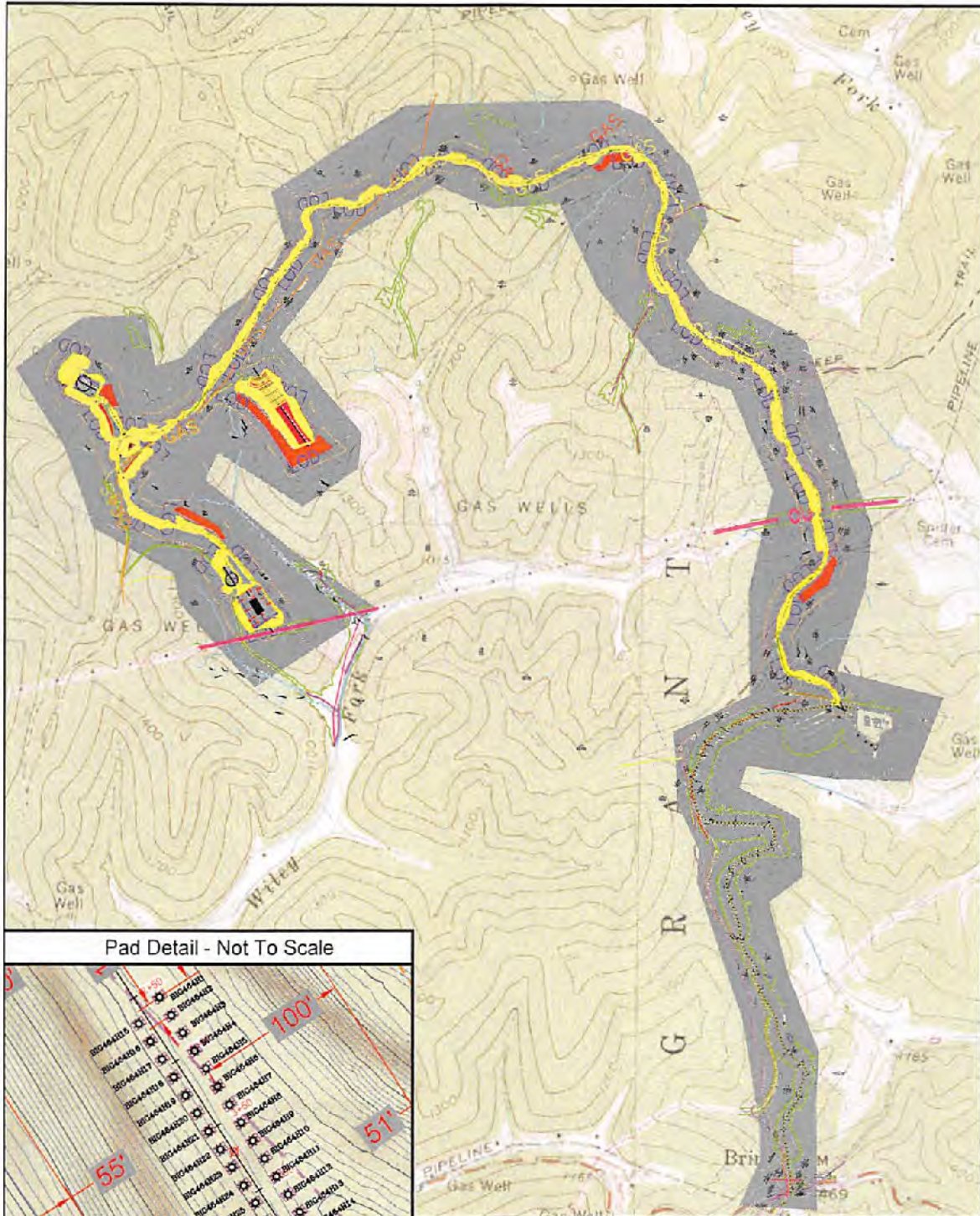
Note: SEE SITE PLAN OF BIG 464 FOR COMPLETE GRADING & DRAINAGE CONSTRUCTION INCLUDING EROSION & SEDIMENT CONTROL DETAILS, ETC.



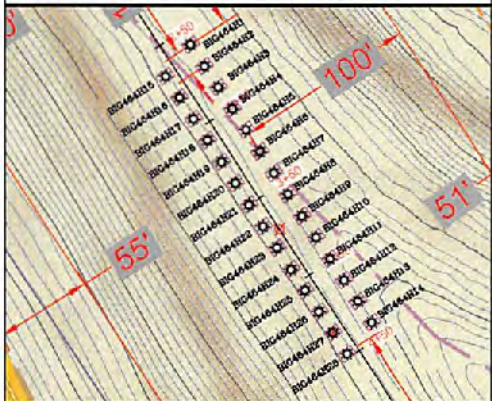
SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
1-800-482-8606
Birch River Office Phone: (304) 649-8606 Fax: (304) 649-8508
237 Birch River Road P.O. Box 438 Birch River, WV 26610

12/15/2017

103-03213



Pad Detail - Not To Scale



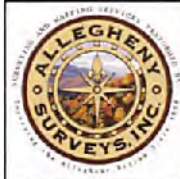
Big Run 7.5' USGS QUADRANGLE		Proposed Disturbance Area	
Projected culvert inventory. (for bid purposes only)		Well Site Location	See Site Plan
15" minimum diameter culverts	See Site Plan	Proposed Access Road	See Site Plan
24" minimum diameter culverts	See Site Plan	Approximate Total Disturbance	See Site Plan
DRAWN BY: Tim Rutledge	DATE: August 31, 2017	FILE NO: 125-16	DRAWING FILE NO: BIG 464 Rec Plan

Note: SEE SITE PLAN OF BIG 464 FOR COMPLETE GRADING & DRAINAGE CONSTRUCTION INCLUDING EROSION & SEDIMENT CONTROL DETAILS, ETC.

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WV Department of
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SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.

Birch River Office
Phone: (304) 649-8505
Fax: (304) 649-8508

1-800-482-8606

237 Birch River Road
P.O. Box 438
Birch River, WV 26610

12/15/2017



Where energy meets innovation.™

Site Specific Safety Plan

EQT
BIG 464 Pad
Mannington
Wetzel County, WV

For Wells:

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Office of Oil and Gas

SEP 19 2017

WV Department of
Environmental Protection

Date Prepared: December 21, 2016

[Signature]

 EQT Production
[Signature]

 Title

 9-8-17

 Date

[Signature]

 WV Oil and Gas Inspector
[Signature]

 Title

 9-14-17

 Date

103-03213

EQT Production Water plan
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

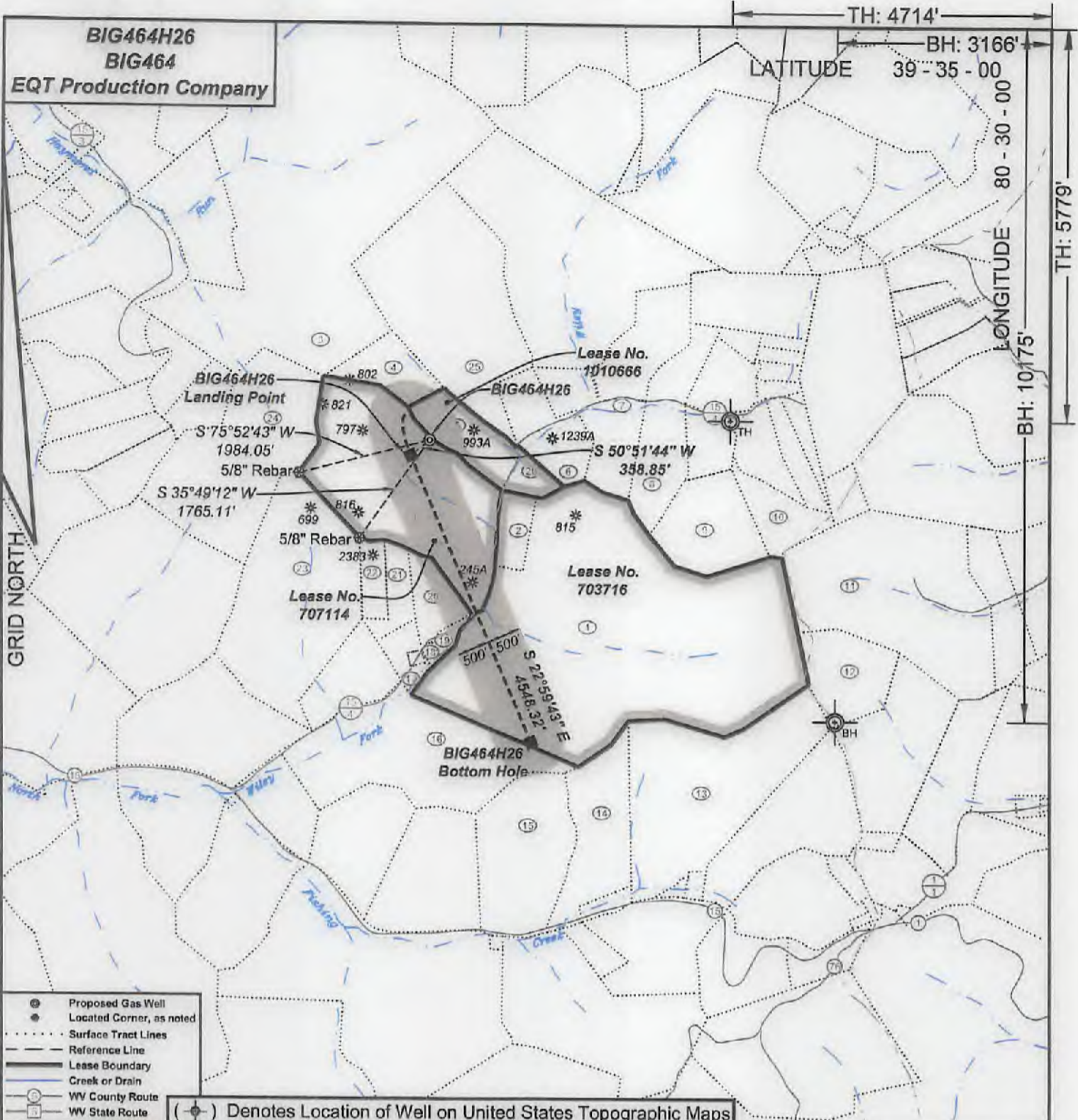
512 E. Dry Road
Parkersburg, WV 26104
304-428-0602
Permit #SWF-1025 WV-0109400
Approval #100833WV

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Environmental Protection

12/15/2017



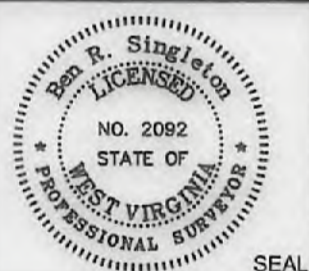
- ⊙ Proposed Gas Well
- ⊙ Located Corner, as noted
- Surface Tract Lines
- Reference Line
- Lease Boundary
- Creek or Drain
- ⊙ WV County Route
- ⊙ WV State Route

(⊙) Denotes Location of Well on United States Topographic Maps



I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Department of Environmental Protection.

Ben R. Singleton
P.S. 2092



FILE NO: 125-16
 DRAWING NO: 125-16 BIG464H26
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1:2500
 PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

DATE: August 31 20 17
 OPERATOR'S WELL NO.: BIG464H26
 API WELL NO. H6A
 47 103 03213
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: Existing: 1305.0 Proposed: 1246.0 WATERSHED Wiley Fork QUADRANGLE: Big Run
 DISTRICT: Grant COUNTY: Wetzel
 SURFACE OWNER: Coastal Forest Resources Company d/b/a Coastal Timberlands Company ACREAGE: 2.425/2017
 ROYALTY OWNER: Ridgetop Royalties LLC, et al LEASE NO.: 707114 ACREAGE: 78
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: 7,419'
 WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex C. Ray
 ADDRESS: 115 Professional Place PO Box 280 ADDRESS: 115 Professional Place PO Box 280
Bridgeport, WV 26330 Bridgeport, WV 26330

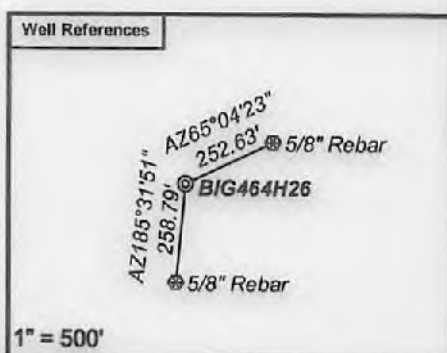
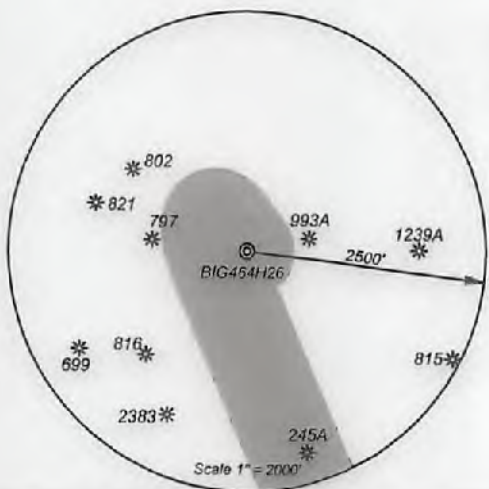
BIG464H26
BIG464
EQT Production Company

Tract I.D.	Tax Map No.	Parcel No.	County	District	Surface Tract Owner	Acres
1	20	1	Wetzel	Grant	Coastal Forest Resources Co.	542.50
2	15	27	Wetzel	Grant	William J. Barr	10.00
3	14	6	Wetzel	Grant	Coastal Lumber Co.	332.60
4	14	27	Wetzel	Grant	The E. Lorna Howard Trust, LLC, et al.	22.00
5	14	34	Wetzel	Grant	The E. Lorna Howard Trust, LLC, et al.	25.25
6	15	16	Wetzel	Grant	Donald J. D'Lusky	25.00
7	15	18	Wetzel	Grant	Donald J. D'Lusky	39.50
8	15	29	Wetzel	Grant	Terry W. & Carolyn P. Phillips	40.00
9	15	34	Wetzel	Grant	John C. & Donald J. D'Lusky	42.00
10	15	35	Wetzel	Grant	John C. & Donald J. D'Lusky	17.60
11	43	11	Marion	Mannington	Robert & Maxine Tonkery	85.00
12	43	11.1	Marion	Mannington	David A. & Diane E. Floyd	30.00
13	20	3	Wetzel	Grant	Linda Corwin, et al.	99.82
14	20	2	Wetzel	Grant	Scott A. Shannon, et al.	41.40
15	20	2.1	Wetzel	Grant	Larry & Mary Shimp	63.00
16	19	19.3	Wetzel	Grant	Richard M. & Mary G. Underwood	99.82
17	19	14	Wetzel	Grant	Mabel F. Barr	1.00
18	19	12	Wetzel	Grant	Mabel F. Barr	1.10
19	19	13	Wetzel	Grant	Mabel F. Barr	2.00
20	14	45	Wetzel	Grant	Coastal Forest Resources Co.	11.06
21	14	44	Wetzel	Grant	Mabel F. Barr	11.00
22	14	43	Wetzel	Grant	Mabel F. Barr	11.01
23	14	42	Wetzel	Grant	Donald J. D'Lusky	111.00
24	14	33	Wetzel	Grant	Atlee & Hilda Conaway	108.00
25	14	20	Wetzel	Grant	The E. Lorna Howard Trust, LLC, et al.	126.50
26	none	none	Wetzel	Grant	Unknown	unknown

Notes:
BIG464H26 coordinates are
NAD 27 N: 390,416.46 E: 1,713,377.16
NAD 27 Lat: 39.567468 Long: -80.516727
NAD 83 UTM N: 4,379,873.12 E: 541,527.47
BIG464H26 Landing Point coordinates are
NAD 27 N: 390,189.96 E: 1,713,098.82
NAD 27 Lat: 39.566838 Long: -80.517705
NAD 83 UTM N: 4,379,802.70 E: 541,443.82
BIG464H26 Bottom Hole coordinates are
NAD 27 N: 386,003.06 E: 1,714,875.65
NAD 27 Lat: 39.555398 Long: -80.511236
NAD 83 UTM N: 4,378,536.15 E: 542,006.39
West Virginia Coordinate system of 1927 (North Zone)
based upon Differential GPS Measurements.
Plat orientation, corner and well ties are based upon
the grid north meridian.
Well location references are based upon the grid north
meridian.
UTM coordinates are NAD83, Zone 17, Meters.



Lease No.	Acres	Owner
703716	400	Ridgetop Royalties LLC, et al
1010666	32	Ridgetop Royalties LLC, et al

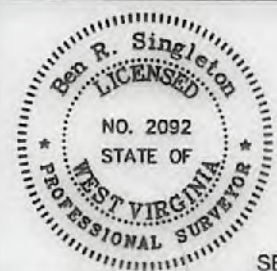


- Proposed Gas Well
- Located Corner, as noted
- Surface Tract Lines
- Reference Line
- Lease Boundary
- Creek or Drain
- WV County Route
- WV State Route



I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Department of Environmental Protection.

Ben R. Stebbins
P.S. 2092



FILE NO: 125-16
DRAWING NO: 125-16 BIG464H26
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

DATE: August 31 20 17
OPERATOR'S WELL NO.: BIG464H26
API WELL NO: H6A
47 - 103 - 03213
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
LOCATION: ELEVATION: Existing: 1305.0 Proposed: 1246.0 WATERSHED: Wiley Fork QUADRANGLE: Big Run
DISTRICT: Grant COUNTY: Wetzel
SURFACE OWNER: Coastal Forest Resources Company d/b/a Coastal Timberlands Company ACREAGE: 542.50
ROYALTY OWNER: Ridgetop Royalties LLC, et al LEASE NO: 707114 ACREAGE: 78
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: 7,419'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex C. Ray
ADDRESS: 115 Professional Place PO Box 280 ADDRESS: 115 Professional Place PO Box 280
Bridgeport, WV 26330 Bridgeport, WV 26330

**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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WV Department of
Environmental Protection

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: Victoria J Roark
 Its: Regional Land Supervisor

103-03213

WW-6A1 attachment

Operator's Well No.

BIG464H26

Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>707114</u>	<u>Ridgetop Royalties LLC, et al. (current royalty owner)</u>		**	
	W.S. Furbee, et ux	Carnegie Natural Gas Company		DB 2A/182
	Carnegie Natural Gas Company	Carnegie Production Company		DB 78A/513
	Carnegie Production Company	Equitable Production - Eastern States, Inc.		see attached mei
	Equitable Production - Eastern States, Inc.	Equitable Production Company		see attached mei
	Equitable Production Company	EQT Production Company		CB 281/347
	<u>Ridgetop Royalties LLC, et al. (current royalty owner)</u>		**	
<u>703716</u>	Sara J. Furbee	C.D. Greenlee		DB 63/89
	C.D. Greenlee	Carnegie Natural Gas Company		See attached ass
	Carnegie Natural Gas Company	Carnegie Production Company		DB 78A/513
	Carnegie Production Company	Equitable Production - Eastern States, Inc.		see attached mei
	Equitable Production - Eastern States, Inc.	Equitable Production Company		see attached mei
	Equitable Production Company	EQT Production Company		CB 281/347
<u>1010666</u>	Ridgetop Royalties LLC, et al.	EQT Production Company	**	DB 166A/638

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

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DEC 29 2000

Microfilm Number _____

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Entity Number 2719730

[Signature]
Secretary of the Commonwealth

ARTICLES OF MERGER-DOMESTIC BUSINESS CORPORATION
ACT:15-1922 (REV 10)

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 - EASTERN STATES, INC.

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: _____
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 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: CT Corporation System ALLEGHENY
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>Carnegie Production Company</u>	<u>One Oxford Centre, Suite 3300, Pittsburgh, PA 15219-6401</u>	<u>Allegheny</u>

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PADES - 101-499 C.T. System Query

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PA DEPT OF STATE

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P.03

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,

The plan of merger shall be effective on: December 31, 2000 at 12:16 a.m.
Date 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>Carnegie Production Company</u>	<u>Adopted by action of the board of directors of the corporation pursuant to 15 Pa. C. S. Section 1924(b)(2)</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):

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 29th day of December, 2000.

Equitable Production - Eastern States, Inc.
(Name of Corporation)

BY: Johanna B. O'Keefe
(Signature)

TITLE: VP and Corporate Secretary

Carnegie Production Company
(Name of Corporation)

BY: [Signature]
(Signature)

TITLE: VP

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103-03a13

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

AGREEMENT AND PLAN OF MERGER, dated this 29th day of December, 2000, pursuant to Section 252 of the General Corporation Law of the State of Delaware and Section 1926 of the Pennsylvania Business Corporation Law of 1988 between Equitable Production - Eastern States, Inc., a Delaware corporation and Carnegie 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 and intending to be legally bound, do hereby prescribe the terms and conditions of said merger and mode of carrying the same into effect as follows:

FIRST: Effective December 31, 2000, Carnegie Production Company hereby merges into Equitable Production - Eastern States, Inc. and Equitable Production - Eastern States, Inc. shall be the surviving corporation.

SECOND: The Certificate of Incorporation of Equitable Production - Eastern States, Inc. as heretofore amended and is in effect on the date of the merger provided in this Agreement, shall continue in full force and effect as the Certificate of Incorporation of the corporation surviving this merger.

THIRD: The manner of converting the outstanding shares of the common stock of each of the constituent corporations into shares or other securities of the surviving corporation shall be as follows: Each share of common stock of the surviving corporation, Equitable Production - Eastern States, Inc., which is issued and outstanding on the effective date of this Agreement, shall remain issued and outstanding. Each share of common stock of the merged corporation, Carnegie Production Company, shall be cancelled.

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.

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- (b) The directors and officers of the surviving corporation shall continue in office until the next annual meeting of stockholders 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 corporations as they were of the surviving corporation and the merged corporation 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 and 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 respective Board of Directors and stockholders have caused these presents to be executed by the officers of each party hereto as the respective act, deed and agreement of said corporations on this 29th day of December 2000.

EQUITABLE PRODUCTION -
EASTERN STATES, INC.

By: *Johanna S O'Houghlin*
VP and Corporate Secretary

CARNEGIE PRODUCTION COMPANY

By: *Henry C. Pugh*
VP

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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 *PA*

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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Microfilm Number _____

Filed with the Department of State on _____

Entity Number 2980374

V. Kim Duggan
Secretary of the Commonwealth

ARTICLES OF MERGER-DOMESTIC BUSINESS CORPORATION
DSCB: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 Allegheny
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 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>

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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 _____ at _____
Date 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

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

AGREEMENT AND PLAN OF MERGER, dated this 30th 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

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and until their successors shall have been elected and qualified.

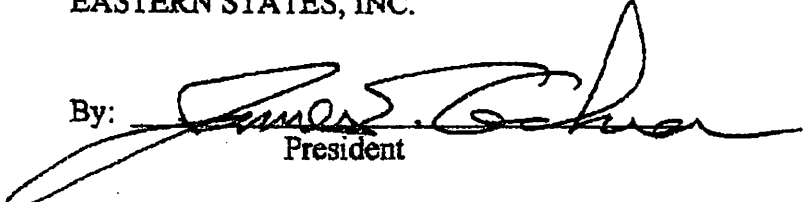
- (c) Upon the merger becoming effective, all the property, rights, privileges, franchises, patents, trademarks, licenses, registrations and other assets of every kind and description of the merged corporation shall be transferred to, vested in and devolved upon the surviving corporation without further 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 30th day of April 2001.

ATTEST:

EQUITABLE PRODUCTION –
EASTERN STATES, INC.

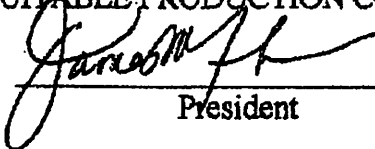

Corporate Secretary

By: 
President

ATTEST:

EQUITABLE PRODUCTION COMPANY


Corporate Secretary

By: 
President

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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.

Kim Pizzingrilli

Secretary of the Commonwealth

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DPOS

12/15/2017

In consideration of One-thousand (\$1,000.00) Dollars to me in hand paid by the Carnegie Natural Gas Company, receipt of which is hereby acknowledged, I, C. D. Greenlee of Pittsburg, Pennsylvania, do hereby sell, transfer and set over to the Carnegie Natural Gas Company, its successors and assigns, the gas and gas rights in two certain oil and gas leases on land situated in Grant District, Wetzell County, West Virginia, bounded and described as follows:- Lease made by Wilson Ney, et. ux., February 16th, 1898, to C. D. Greenlee, bounded on the North by lands of James Furbee; East by lands of John H. Snodgrass, et.al; South by lands of S. F. Snodgrass; West by lands of James Allen, containing 600 acres, more or less, recorded in deed book #55 page #146; also lease made by Sarah J. Furbee, dated March 20th, 1900, to C. D. Greenlee, bounded on the North by lands of Hiley and Snodgrass; East by lands of Ney, Kendall and Allen; South by lands of Allen and Ott; West by lands of Allen and Clover, containing 400 acres, more or less, recorded in deed book #63 page #89.

3715

2716

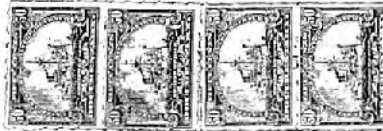
Together with all my estate, right, title, interest and privilege in and to the gas and gas rights in the herein described tracts of land.

SIGNED, SEALED and DELIVERED by the parties hereto this 25 day of June, A.D., 1900.

C. D. Greenlee (SEAL)

Witness:

_____ (SEAL)



STATE OF WEST VIRGINIA)
COUNTY OF Putnam) -To-wit:

I, C. B. Johnson a Notary Public of said County, do certify that C. D. Greenlee and his wife, whose name is signed to the writing within, bearing date the 25 day of June, 1900 has this day acknowledged the same before me in my said County.

Given under my hand this 25 day of June, 1900.

C. B. Johnson
Notary Public

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August 21, 2017

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

Re: BIG464
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,

Vicki Roark
Permitting Supervisor-WV

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

Date of Notice Certification: 9-8-17

API No. 47- 103 - 03213
Operator's Well No. BIG464H26
Well Pad Name: BIG464

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>541,527.47</u>
County: <u>Wetzel</u>	Northing: <u>4,379,873.12</u>
District: <u>Grant</u>	Public Road Access: <u>Rte 250</u>
Quadrangle: <u>Big Run</u>	Generally used farm name: <u>Coastal Forest Resources Co DBA Coastal Timberlands Co</u>
Watershed: <u>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: 100px;"><input 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>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input 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-11(b). 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.

Certification of Notice is hereby given:

THEREFORE, I [Signature], 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:	<u>EQT Production Company</u>	Address:	<u>115 Professional Place PO Box 280</u>
By:	<u>Victoria J Roark</u>		<u>Bridgeport WV 26330</u>
Its:	<u>Permitting Supervisor</u>	Facsimile:	<u>304-848-0041</u>
Telephone:	<u>304-848-0076</u>	Email:	<u>vroark@eqt.com</u>



Subscribed and sworn before me this 8th day of September 2017.

Misty S. Christie Notary Public

My Commission Expires 2/20/18

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.

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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: 9-8-17 **Date Permit Application Filed:** 9-8-17

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: _____

COAL OWNER OR LESSEE
Name: See Attached
Address: _____
 COAL OPERATOR
Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: See Attached
Address: _____
Name: _____
Address: _____

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: See Attached
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)
Name: See Attached
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: _____
Address: _____

*Please attach additional forms if necessary

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Surface Owners:

Coastal Forest Resources Co
DBA Coastal Timberlands Co
PO Box 709
Buckhannon WV 26201

ET Bluegrass
625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222

7015 0640 0005 8278 0799

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OFFICIAL USE

Certified Mail Fee	\$
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$
Total	\$
Sent	\$
Street	
City	

Coastal Forest Resources Co
DBA Coastal Timberlands Co
PO Box 709
Buckhannon WV 26201
BIG464H13,H14,H26,H27,H28 permit app & pl

BRIDGEPORT MPO
Postmark Here
SEP 12 2017

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Surface Owners: Access Road

Coastal Forest Resources Co
DBA Coastal Timberlands Co
PO Box 709
Buckhannon WV 26201

Rich Rager
4620 Simpson Road
Grafton WV 26354

Timothy E Titus
7335 Willey Fork Rd
Burton WV 26562

Higgins Family Trust
531 Franklin Trace
Washington PA 15301

ET Bluegrass
625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222

Robert E Tonkery
33 Tonkery Dr
Fairmont WV 26554

Paul Able Trustee et al
PO Box 54
New Martinsville WV 26155

William J & Beverly L Barr
1044 Barr Road
Smithfield WV 26437

Donald & Diana White
5017 Husky Hwy
Mannington WV 26582

Beverly Hickman
132 Joes Run Rd
Morgantown WV 26508

Paul Glover
15861 Rt 301
LaGrange OH 44050

Raymond Teagarden
718 Evans Run Rd
Mannington WV 26582

David A Floyd & Diane E Floyd
12 Emily Ct
Fairmont WV 26554

Keith & Rita Powell
3898 Buffalo Brink Rd
Mannington WV 26582



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Surface Owners: AST

Coastal Forest Resources Co
DBA Coastal Timberlands Co
PO Box 709
Buckhannon WV 26201

ET Bluegrass
625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222

7015 0640 0005 8278 0799

U.S. Postal Service™	
CERTIFIED MAIL® RECEIPT	
<i>Domestic Mail Only</i>	
For delivery information, visit our website at www.usps.com ™	
OFFICIAL USE	
Certified Mail Fee	\$ _____
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$ _____
<input type="checkbox"/> Return Receipt (electronic)	\$ _____
<input type="checkbox"/> Certified Mail Restricted Delivery	\$ _____
<input type="checkbox"/> Adult Signature Required	\$ _____
<input type="checkbox"/> Adult Signature Restricted Delivery	\$ _____
Postage	\$ _____
Total	\$ _____
Send to:	Coastal Forest Resources Co
	DBA Coastal Timberlands Co
Street:	PO Box 709
City:	Buckhannon WV 26201
	BIG464H13,H14,H25,H27,H28 permit app & pl
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	



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Coal Owners:

CNX Land LLC
Engineering Operations Support Dept Coal
Attn: Casey Saunders
1000 Consol Energy Dr
Canonsburg PA 15317

Consol Mining Company
Engineering Operations Support Dept Coal
Attn: Casey Saunders
1000 Consol Energy Dr
Canonsburg PA 15317

Coastal Forest Resources Co
DBA Coastal Timberlands Co
PO Box 709
Buckhannon WV 26201

Jackson T. Beatty
14048 Roblar Street
Sherman Oaks, CA 91423

Joe P. Beatty Jr.
818 Cabin John Parkway
Rockville, MD 20852

William F. Beatty
83 Cozy mountain Lane
Weaverville, NC 28787

James F. Beatty Trust
317 Washington Street
East Charleston, WV 25301

SKB Mineral Interest LLC
3606 Pruetts Chapel Road
Paraground, AK 72450

Scott T. Beatty
1003 Saint Johns Drive
Charlevoix, MI 497230-1342

Ann Beatty Reynolds
P.O. Box 5
Elkview, WV 25071



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103-03213

Coal Owners Continued:

Patrick G. Beatty
7755 Grant Creek Road
Missoula, MT 59808

CBM Only

CNX Gas Company LLC
1000 Consol Energy Drive
Canonsburg, PA 15317



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Owners of Water Sources:

ET Bluegrass
625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222

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WW-6A
(8-13)

SEP 13 2017

API NO. 47-103 - 03213
OPERATOR WELL NO. BIG464H26
Well Pad Name: BIG464

WV Department of
Environmental Protection

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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

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 57th St. SE
Charleston, WV 25304
(304) 926-0450

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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 - 03213
OPERATOR WELL NO. BIG464H26
Well Pad Name: BIG464

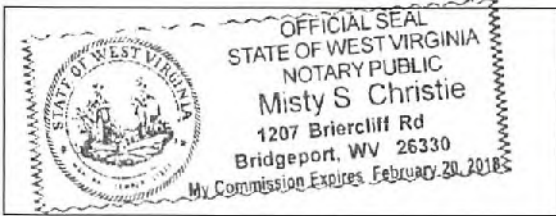
Notice is hereby given by:

Well Operator: EQT Production Company
Telephone: 304-848-0075
Email: vrcark@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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.



[Signature]
Subscribed and sworn before me this 8th day of September 2017.
Misty S. Christie Notary Public
My Commission Expires 2/20/18

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WV Department of
Environmental Protection

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WW-6A4
(1/12)

Operator Well No. BIG464H25

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: 8-23-17 **Date Permit Application Filed:** 8-28-17

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 Name: See Attached
Address: _____ 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>541,527.47</u>
County: <u>Wetzel</u>		Northing: <u>4,379,873.12</u>
District: <u>Grant</u>	Public Road Access: <u>Rte 250</u>	
Quadrangle: <u>Big Run</u>	Generally used farm name: <u>Coastal Forest Resources Co DBA Coastal Timberlands Co.</u>	
Watershed: <u>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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator: <u>EQT Production Company</u>	Authorized Representative: <u>Victoria Roark</u>
Address: <u>115 Professional Place PO Box 280</u>	Address: <u>115 Professional Place PO Box 280</u>
<u>Bridgeport WV 26330</u>	<u>Bridgeport WV 26330</u>
Telephone: <u>304-848-0076</u>	Telephone: <u>304-848-0076</u>
Email: <u>vroark@eqt.com</u>	Email: <u>vroark@eqt.com</u>
Facsimile: <u>304-848-0041</u>	Facsimile: <u>304-848-0041</u>

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.

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Surface Owners:

Coastal Forest Resources Co
DBA Coastal Timberlands Co
PO Box 709
Buckhannon WV 26201

ET Bluegrass
625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222

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Surface Owners: Access Road

Coastal Forest Resources Co
DBA Coastal Timberlands Co
PO Box 709
Buckhannon WV 26201

Paul Glover
15861 Rt 301
LaGrange OH 44050

Rich Rager
4620 Simpson Road
Grafton WV 26354

Raymond Teagarden
718 Evans Run Rd
Mannington WV 26582

Timothy E Titus
7335 Willey Fork Rd
Burton WV 26562

David A Floyd & Diane E Floyd
12 Emily Ct
Fairmont WV 26554

Higgins Family Trust
531 Franklin Trace
Washington PA 15301

Keith & Rita Powell
3898 Buffalo Brink Rd
Mannington WV 26582

ET Bluegrass
625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222

Robert E Tonkery
33 Tonkery Dr
Fairmont WV 26554



Paul Able Trustee et al
PO Box 54
New Martinsville WV 26155

William J & Beverly L Barr
1044 Barr Road
Smithfield WV 26437

Donald & Diana White
5017 Husky Hwy
Mannington WV 26582

Beverly Hickman
132 Joes Run Rd
Morgantown WV 26508

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Surface Owners: AST

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DBA Coastal Timberlands Co
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12/15/2017

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

WAIVER

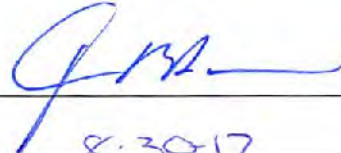
Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *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, Jason Ranson, 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>541,527.47</u>
County:	<u>Wetzel</u>	UTM NAD 83 Northing:	<u>4,379,873.12</u>
District:	<u>Grant</u>	Public Road Access:	<u>Rte 250</u>
Quadrangle:	<u>Big Run</u>	Generally used farm name:	<u>Coastal Forest Resources Co DBA Coastal Timberlands Co.</u>
Watershed:	<u>Wiley Fork</u>		

Name: ET Bluegrass
Address: 625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222

Signature: 
Date: 8-30-17

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.

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Office of Oil and Gas
SEP 13 2017
WV Department of
Environmental Protection
12/15/2017

103-03213

WW-6A5
(1/12)

Operator Well No. BIG464H26

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

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

Date of Notice: 9-8-17 **Date Permit Application Filed:** 9-8-17

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

CERTIFIED MAIL **HAND**
RETURN RECEIPT REQUESTED **DELIVERY**

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)
(at the address listed in the records of the sheriff at the time of notice):

Name: _____ Name: _____
Address: _____ Address: _____

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on 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>541,527.47</u>
County:	<u>Wetzel</u>		Northing:	<u>4,379,873.12</u>
District:	<u>Grant</u>	Public Road Access:	<u>Rte 250</u>	
Quadrangle:	<u>Big Run</u>	Generally used farm name:	<u>Coastal Forest Resources Co DBA Coastal Timberlands Co.</u>	
Watershed:	<u>Wiley Fork</u>			

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator:	<u>EQT Production Company</u>	Address:	<u>115 Professional Place PO Box 280</u>
Telephone:	<u>304-848-0076</u>		<u>Bridgeport WV 26330</u>
Email:	<u>vroark@eqt.com</u>	Facsimile:	<u>304-848-0041</u>

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.

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12/15/2017

103-03213

Surface Owners:

Coastal Forest Resources Co
DBA Coastal Timberlands Co
PO Box 709
Buckhannon WV 26201

ET Bluegrass
625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222

7015 0640 0005 8278 0799

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OFFICIAL USE

Certified Mail Fee	\$	
Extra Services & Fees (check box, add fee as appropriate)		
<input type="checkbox"/> Return Receipt (hardcopy)	\$	
<input type="checkbox"/> Return Receipt (electronic)	\$	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$	
<input type="checkbox"/> Adult Signature Required	\$	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$	
Postage	\$	
Total	\$	

Postmark Here: **SEP 12 2017**
BRIDGEPORT MPO

Coastal Forest Resources Co
DBA Coastal Timberlands Co
PO Box 709
Buckhannon WV 26201
BIG464H13,H14,H26,H27,H28 permit app & pl

PS Form 3800, April 2015 PSN 7530-02-000-0047 See Reverse for Instructions



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Environmental Protection
12/15/2017

Surface Owners: Access Road

Coastal Forest Resources Co
DBA Coastal Timberlands Co
PO Box 709
Buckhannon WV 26201

Paul Glover
15861 Rt 301
LaGrange OH 44050

Rich Rager
4620 Simpson Road
Grafton WV 26354

Raymond Teagarden
718 Evans Run Rd
Mannington WV 26582

Timothy E Titus
7335 Willey Fork Rd
Burton WV 26562

David A Floyd & Diane E Floyd
12 Emily Ct
Fairmont WV 26554

Higgins Family Trust
531 Franklin Trace
Washington PA 15301

Keith & Rita Powell
3898 Buffalo Brink Rd
Mannington WV 26582

ET Bluegrass
625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222



Robert E Tonkery
33 Tonkery Dr
Fairmont WV 26554

Paul Able Trustee et al
PO Box 54
New Martinsville WV 26155

William J & Beverly L Barr
1044 Barr Road
Smithfield WV 26437

Donald & Diana White
5017 Husky Hwy
Mannington WV 26582

Beverly Hickman
132 Joes Run Rd
Morgantown WV 26508

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Environmental Protection
12/15/2017

103-03213

Surface Owners: AST

Coastal Forest Resources Co
DBA Coastal Timberlands Co
PO Box 709
Buckhannon WV 26201

ET Bluegrass
625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222

7015 0640 0005 8278 0799

U.S. Postal Service™	
CERTIFIED MAIL® RECEIPT	
<i>Domestic Mail Only</i>	
For delivery information, visit our website at www.usps.com ®	
OFFICIAL USE	
Certified Mail Fee	\$ _____
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$ _____
<input type="checkbox"/> Return Receipt (electronic)	\$ _____
<input type="checkbox"/> Certified Mail Restricted Delivery	\$ _____
<input type="checkbox"/> Adult Signature Required	\$ _____
<input type="checkbox"/> Adult Signature Restricted Delivery	\$ _____
Postage	\$ _____
Total	\$ _____
Sent to: Coastal Forest Resources Co	
DBA Coastal Timberlands Co	
Street: PO Box 709	
City: Buckhannon WV 26201	
BIG464H13,H14,H26,H27,H28 permit app & pl	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	



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WV Department of
Environmental Protection

12/15/2017

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, Jason Ranson, 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	Eastng:	<u>541,527.47</u>
County:	<u>Wetzel</u>		Northng:	<u>4,379,873.12</u>
District:	<u>Grant</u>	Public Road Access:		<u>Rte 250</u>
Quadrangle:	<u>Big Run</u>	Generally used farm name:		<u>Coastal Forest Resources Co DBA Coastal Timberlands Co.</u>
Watershed:	<u>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.

*Please check the box that applies

- SURFACE OWNER
- SURFACE OWNER (Road and/or Other Disturbance)
- SURFACE OWNER (Impoundments/Pits)
- COAL OWNER OR LESSEE
- COAL OPERATOR
- WATER PURVEYOR
- OPERATOR OF ANY NATURAL GAS STORAGE FIELD

FOR EXECUTION BY A NATURAL PERSON

Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: ET Bluegrass
By: Jason Ranson
Its: Attorney in fact
Signature: [Signature]
Date: 8/30/17

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. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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12/15/2017



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

Jim Justice
Governor

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

Revised September 6, 2017

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

Subject: DOH Permit for the BIG 464 Pad Site, Marion County

BIG464H1	BIG464H2	BIG464H3	BIG464H4	BIG464H5	BIG464H6
BIG464H7	BIG464H8	BIG464H9	BIG464H10	BIG464H11	BIG464H12
BIG464H13	BIG464H14	BIG464H15	BIG464H16	BIG464H17	BIG464H18
BIG464H19	BIG464H20	BIG464H21	BIG464H22	BIG464H23	BIG464H24
BIG464H26 ✓	BIG464H27	BIG464H28			

47-103-03213 ✓

Dear Mr. Martin,

This well site will be accessed from Permit # 04-2014-0722 transferred to EQT Production Company and the haul route revised for access to the State Road. The well site is located off of Marion County Route 1 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, P.E.
Regional Maintenance Engineer
Central Office O&G Coordinator

Cc: Nick Bumgardner
EQT Production Company
CH, OM, D-4, File

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SEP 13 2017
WV Department of
Environmental Protection

47 10303213

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
	Tributyl tetradecyl phosphonium chloride	64742-47-8
Friction Reducer	Ammonium chloride	81741-28-8
Biocide	Hydrochloric Acid	12125-02-9
Scale Inhibitor	Propargyl Alcohol	7647-01-0
15% Hydrochloric Acid	Methanol	107-19-7
Corrosion Inhibitor	Guar Gum	67-56-1
Corrosion Inhibitor	Sodium Persulfate	9000-30-0
Gelling Agent	Potassium Carbonate	7775-27-1
Oxidizing Breaker		584-08-7
Buffering Agent		

DRH
9-14-17

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Environmental Protection

12/15/2017

BIG 464 WELL PAD FINAL SITE DESIGN

FINAL SITE DESIGN, CONSTRUCTION PLANS, & EROSION & SEDIMENT CONTROL PLANS

West Virginia Coordinate System of 1983
State Plane Grid North
Elevations NAVD83
Established By Survey Grade GPS



FLOODPLAIN CONDITIONS	
DO SITE CONSTRUCTION ACTIVITIES TAKE PLACE IN FLOODPLAIN	NO
PERMIT NEEDED FROM COUNTY FLOODPLAIN COORDINATOR	NO
HFCRAS STUDY COMPLETED	NO
FLOODPLAIN SHOWN ON DRAWINGS	NO
FORM MAP NUMBER(S) FOR SITE:	54049C0065D - 54103C2250C - 54103C2250C
ACREAGES OF CONSTRUCTION IN FLOODPLAIN:	N.A.



WELL LOCATION RESTRICTIONS

- Well Pad complies with the Well Location Restrictions of WV code 22A-4-12
- 250' from an existing well or developed spring used for human or domestic activities
- 52' to completed dwelling or barn greater 2500 SF used for poultry or dairy measured from the center of the pad
- 100' from edge of disturbance to existing perennial streams, natural or artificial lake, pond or reservoir
- 300' from edge of disturbance to naturally reproducing tree trunks
- 1000' of surface ground water table to a public water supply

SITE LOCATIONS	
NO.	COORDINATES
Center of Well Pad	39 59 39.5 -80 51 55.9
Center of 60,000 BBL AST Pad	39 59 31.9 -80 52 48.7
Center of 40,000 BBL AST Pad	39 59 54.4 -80 51 77.2
Site 3000 Rains Access	39 59 52.2 -80 51 23.0
Site 6000 60,000 AST Access	39 59 12.9 -80 52 55.0
Site 6000 40,000 AST Access	39 59 42.9 -80 51 82.0
Existing GLO 78 Access Road @ Union Co. Road 1	39 59 29.6 -80 52 24.7

The drawings, construction notes, and reference diagrams attached hereto have been prepared in accordance with the West Virginia Code of State Rules, Division of Environmental Protection, Office of Oil and Gas §35-4-21.

The information reflects a 60,000 BBL Above Ground Storage Tank (AST) / pad with secondary containment and a 40,000 BBL Above Ground Storage Tank (AST).

Horner Brothers Engineers make no certification relating to the design, construction or materials associated with the Above Ground Storage Tank (AST).

REVISION	DATE	DESCRIPTION
1	03/24/2017	ISSUED FOR PERMIT
2	03/24/2017	REVISED PERMIT COMMENTS
3	03/24/2017	REVISED PERMIT COMMENTS
4	03/24/2017	REVISED PERMIT COMMENTS
5	03/24/2017	REVISED PERMIT COMMENTS
6	03/24/2017	REVISED PERMIT COMMENTS
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100	03/24/2017	REVISED PERMIT COMMENTS

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WELL LEGEND

BIG 464 H16	LAT: 39.567938 / LONG: -80.516819
BIG 464 H15	LAT: 39.567915 / LONG: -80.516799
BIG 464 H14	LAT: 39.567893 / LONG: -80.516780
BIG 464 H13	LAT: 39.567870 / LONG: -80.516760
BIG 464 H12	LAT: 39.567847 / LONG: -80.516740
BIG 464 H11	LAT: 39.567824 / LONG: -80.516720
BIG 464 H10	LAT: 39.567802 / LONG: -80.516700
BIG 464 H9	LAT: 39.567779 / LONG: -80.516680
BIG 464 H8	LAT: 39.567756 / LONG: -80.516660
BIG 464 H7	LAT: 39.567733 / LONG: -80.516641
BIG 464 H6	LAT: 39.567710 / LONG: -80.516621
BIG 464 H5	LAT: 39.567688 / LONG: -80.516601
BIG 464 H4	LAT: 39.567665 / LONG: -80.516581
BIG 464 H3	LAT: 39.567642 / LONG: -80.516561
BIG 464 H2	LAT: 39.567619 / LONG: -80.516541
BIG 464 H1	LAT: 39.567597 / LONG: -80.516522

Project Contacts

Paul Ray - EOT
Production Company
304-848-0065 Oil
Storage & Engine
Ben Singleton - PE - PS
Horner Brothers Engineers
304-824-6445 Office

DATE	REVISIONS
11/16/2016	UPDATE PERMIT OWNER
02/08/2017	UPDATE PERMIT OWNER
02/15/2017	UPDATE PERMIT OWNER
02/14/2017	UPDATE PERMIT OWNER

MISS Utility of West Virginia
1-800-245-4848
West Virginia State Law
(Section XIV, Chapter 24-C)
Requires that you call two business days before you dig in the state of West Virginia
IT'S THE LAW!!

Know what's below.
Call before you dig.



Allegheny Surveys Inc.
P.O. Box 438
237 Birch River Road
Birch River, WV 26510
304-519-8606



Horner Brothers Engineers
Civil, Mining, Environmental and Surveying
1000 West Virginia Ave.
Martinsburg, WV 26150
304-824-6445

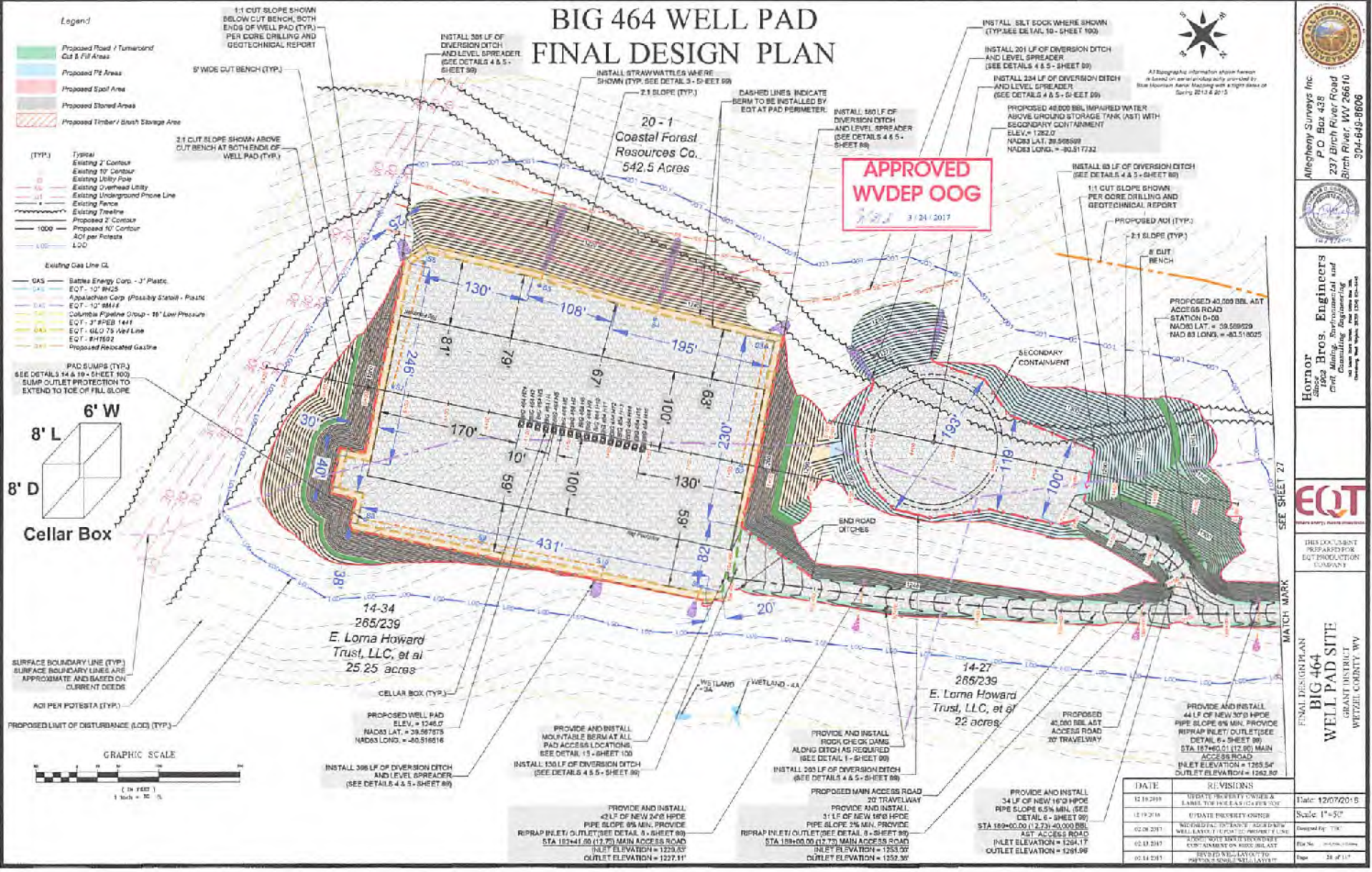


THIS DOCUMENT PREPARED FOR EQT PRODUCTION COMPANY

COVER SHEET / LOCATION MAP
BIG 464 WELL PAD SITE
GRANT DISTRICT WETZEL COUNTY, WV
MANNING DISTRICT MASON COUNTY, WV

Date: 12/07/2018
Scale: N/A
Designed By: TRC
File No: 17-000000-00
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BIG 464 WELL PAD FINAL DESIGN PLAN



- Legend**
- Proposed Road / Turnaround Cut & Fill Area
 - Proposed P&A Areas
 - Proposed Spoil Area
 - Proposed Staked Areas
 - Proposed Timber / Bush Storage Area
- (TYP.)**
- Typical Existing 2" Contour
 - Existing 10' Contour
 - Existing Utility Pole
 - Existing Overhead Utility
 - Existing Underground Phone Line
 - Existing Fence
 - Existing Tree Line
 - Proposed 2" Contour
 - Proposed 10' Contour
 - AOI per Potesta
 - LOD
- Existing Gas Line GL**
- GAS - Battie Energy Corp. - 3" Plastic, EQT - 10" HDPE
 - GAS - Appalachian Corp (Possibly Stalled) - Plastic, EQT - 10" HDPE
 - GAS - Columbia Pipeline Group - 16" Low Pressure, EQT - 3" PE80 1441
 - GAS - GLO 75 - 44" Line, EQT - #11802
 - GAS - Proposed Relocated Gasline
- PAD SUMPS (TYP.)**
SEE DETAILS 14.5, 19 & SHEET 800
SUMP OUTLET PROTECTION TO EXTEND TO TOE OF FILL SLOPE
- 6' W
8' L
8' D
Cellar Box**
- SURFACE BOUNDARY LINE (TYP.)**
SURFACE BOUNDARY LINES ARE APPROXIMATE AND BASED ON CURRENT DEEDS
- AOI PER POTESTA (TYP.)**
- PROPOSED LIMIT OF DISTURBANCE (LOD) (TYP.)**
- GRAPHIC SCALE**
(IN FEET)
1 inch = 50' / 5'

APPROVED WVDEP OOG
3/24/2017



All topographic information shown herein is based on aerial orthophoto data provided by West Mountain Aerial Imaging with a flight date of Spring 2013 & 2015

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THIS DOCUMENT PREPARED FOR
EQT PROTECTION COMPANY

FINAL DESIGN PLAN
BIG 464
WELL PAD SITE
GRANT DISTRICT
WETZEL COUNTY, WV

DATE **REVISIONS** **Date: 12/07/2015**

12/19/2015	VERIFY PROPERTY OWNERS & LANDS FOR INDEMNIFICATION	Scale: 1"=50'
12/19/2015	UPDATE PROPERTY OWNER	Drawn by: TJK
02/08/2017	INTEGRATE TO DATE ACCESS ROAD WELL PAD TO PROPERTY LINE	File No: 15-0000000000
02/10/2017	REWORK WELL PAD PROPERTY LINE ALIGNMENT ON ACCESS ROAD	Page 28 of 114
05/14/2017	REVISED WELL PAD TO PROPERTY BOUNDARY LINE	