west virginia department of environmental protection

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

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

Tuesday, August 30, 2016
WELL WORK PERMIT
Horizontal 6A / Horizontal 6A Well - 1

EQT PRODUCTION COMPANY
120 PROFESSIONAL PLACE
BUILDING II
BRIDGEPORT, WV 26330

Re: Permit approval for 516238
47-017-06746-00-00

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: 516238
Farm Name: WETZEL, CATHY
U.S. WELL NUMBER: 47-017-06746-00-00
Horizontal 6A / Horizontal 6A Well - 1
Date Issued: 8/30/2016

API Number: 17-06746

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. 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.

8. 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.

9. 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.

WW-6B
(04/15)

API NO. 47- 017 - 06746
OPERATOR WELL NO. 516238
Well Pad Name: OXF43

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

1) Well Operator:	EQT Production Company	306686	Doddridge	SouthWest/ Cove	Oxford
		Operator ID	County	District	Quadrangle

2) Operator's Well Number: 516238 Well Pad Name: OXF43

3) Farm Name/Surface Owner: Cathy Wetzel Public Road Access: Rt 20

4) Elevation, current ground: 1254' Elevation, proposed post-construction: 1229'

5) Well Type (a) Gas X Oil _____ Underground Storage _____
Other _____
(b)If Gas Shallow X Deep _____
Horizontal X

SDW 3/30/2016
DAF

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus, 6666' TVD, 57', 2951 PSI, top of Marcellus 6631

8) Proposed Total Vertical Depth: 6666'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 14663

11) Proposed Horizontal Leg Length: 6431

12) Approximate Fresh Water Strata Depths: 70, 221, 307, 382

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

14) Approximate Saltwater Depths: None found

15) Approximate Coal Seam Depths: 321

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

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No X

(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

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API NO. 47- 017 - 06746
OPERATOR WELL NO. 516238
Well Pad Name: OXF43

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	20	New	A-500	78.6	40	40	60 ft^3 / CTS
Fresh Water	13 3/8	New	J-55	54.5	532	532	487 ft^3 / CTS
Coal							
Intermediate	9 5/8	New	A-500	40	2426	2426	960 ft^3 / CTS
Production	5 1/2	New	P-110	20	14663	14663	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							

SDW 3/30/2016
DAF

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20	26	.375	1378	1102	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 H	1.07/1.86
Tubing	2 3/8	NA	.19	7700			
Liners							

PACKERS

Kind:	n/a			
Sizes:	n/a			
Depths Set:	n/a			

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WW - 6B
(10/14)

API NO. 47 - 017 - 06746
OPERATOR WELL NO. 516238
Well Pad Name: OXF43

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. The vertical drill to go down to an approximate depth of 4008 then kick off the horizontal leg into the Marcellus using a slick water frac.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Hydraulic fracturing is completed in accordance with state regulations using water recycled from previously fractured wells and obtained from freshwater sources. This water is mixed with sand and a small percentage (less than 0.3%) of chemicals (including 15% Hydrochloric acid, gelling agent, gel breaker, friction reducer, biocide, and scale inhibitor), referred to in the industry as a "slickwater" completion. Maximum anticipated internal casing pressure is expected to average approximately 8500 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 200,000 barrels of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 200,000 pounds of sand per stage.

21) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres): 86.46

22) Area to be disturbed for well pad only, less access road (acres): 40.47

23) Describe centralizer placement for each casing string.

- Surface: Bow spring centralizers – One at the shoe and one spaced every 500'.
- Intermediate: Bow spring centralizers– One cent at the shoe and one spaced every 500'.
- Production: One spaced every 1000' from KOP to Int csg shoe

24) Describe all cement additives associated with each cement type. **Surface (Type 1 Cement):** 0-3% Calcium Chloride Used to speed the setting of cement slurries. 0.4% flake. Loss Circulation Material (LCM) is used to combat the loss of the cement slurry to a thief zone.

Intermediate (Type 1 Cement): 0-3% Calcium Chloride. Salt is used in shallow, low temperature formations to speed the setting of cement slurries. 0.4% flake. Loss Circulation Material (LCM) is used to combat the loss of whole drilling fluid or cement slurry (not filtrate) to a thief zone.

Production:

Lead (Type 1 Cement): 0.2-0.7% Lignosulfonate (Retarder). Lengthens thickening time.

0.3% CFR (dispersant). Makes cement easier to mix.

Tail (Type H Cement): 0.25-0.40% Lignosulfonate (Retarder). Lengthens thickening time.

0.2-0.3% CFR (dispersant). This is to make the cement easier to mix.

60 % Calcuim Carbonate. Acid solubility.

0.4-0.6% Halad (fluid loss). Reduces amount of water lost to formation.

25) Proposed borehole conditioning procedures. **Surface:** Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating one full joint until cuttings diminish at surface. When cuttings returning to surface diminish, continue to circulate an additional 5 minutes. To ensure that there is no fill, short trip two stands with no circulation. If there is fill, bring compressors back on and circulate hole clean. A constant rate of higher than expected cuttings volume likely indicates washouts that will not clean up.

Intermediate: Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating one full joint until cuttings diminish at surface. When cuttings returning to surface diminish, continue to circulate an additional 5 minutes. If foam drilling, to enhance hole cleaning use a soap sweep or increase injection rate & foam concentration.

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 516238(OXF43H30)

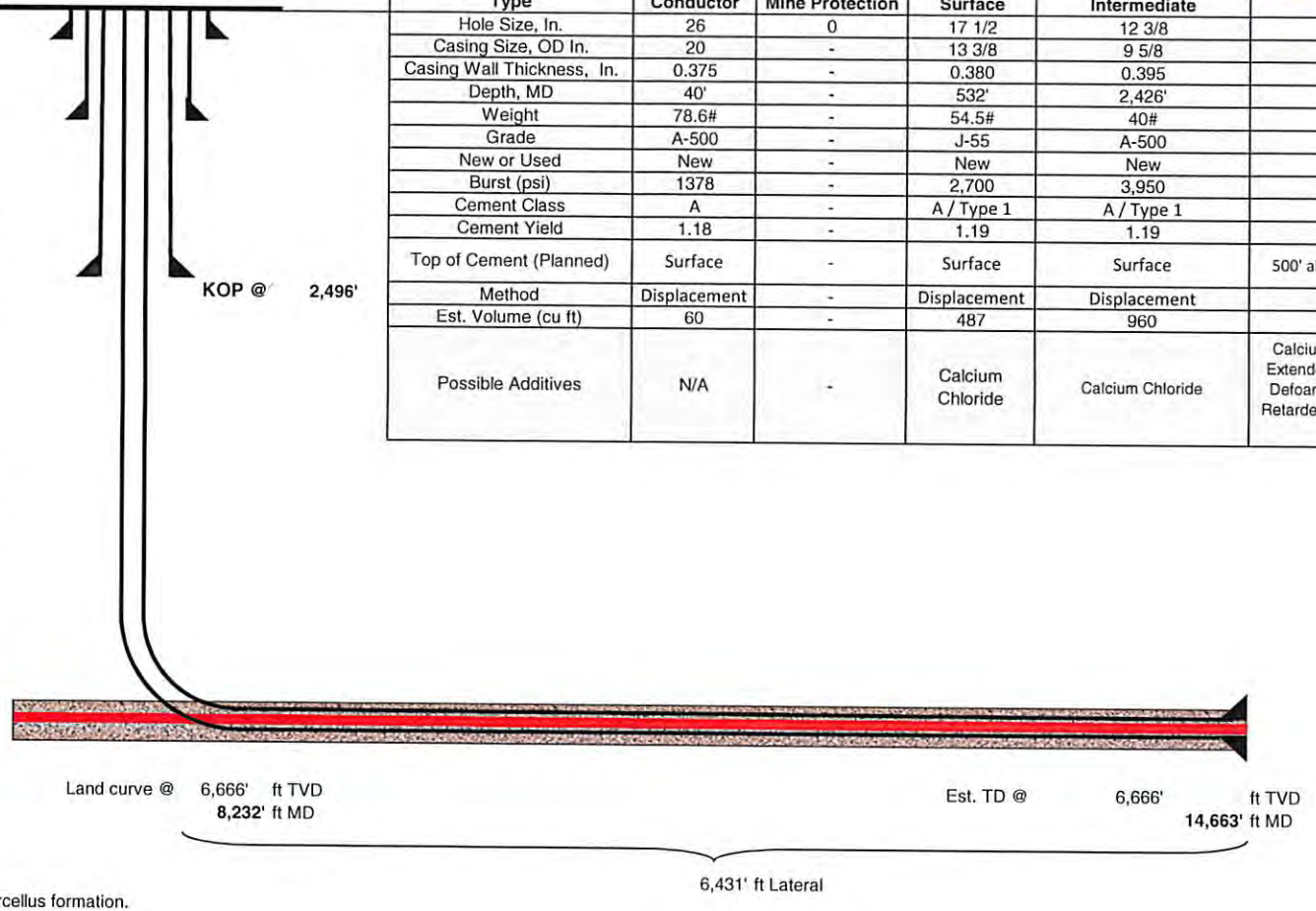
EQT Production

Oxford Quad
Doddridge County, WV

Azimuth 336.6
Vertical Section 8165

Note: Diagram is not to scale

Formations	Top TVD	Base TVD
Conductor	40	
Base Fresh Water	382	
Surface Casing	532	
Base Red Rock	1073	
Maxton	1088	1128
Big Lime	1964	2032
Big Injun	2076	2108
Weir	2250	2376
Intermediate Casing	2426	
Gantz	2450	2532
Fifty foot	2532	2589
Thirty foot	2630	2666
Gordon	2672	2721
Forth Sand	2772	2839
Bayard	2952	3023
Warren	3286	3352
Speechley	3352	3857
Balltown A	3857	4215
Riley	4455	4831
Benson	4831	4925
Alexander	5133	5226
Sonyea	6309	6459
Middlesex	6459	6449
Genesee	6449	6558
Geneseo	6558	6600
Tully	6600	6613
Hamilton	6613	6631
Marcellus	6631	6687
Production Casing	14663	MD
Onondaga	6687	



Casing and Cementing Deepest Fresh Water: **382'**

Type	Conductor	Mine Protection	Surface	Intermediate	Production
Hole Size, In.	26	0	17 1/2	12 3/8	8 1/2
Casing Size, OD In.	20	-	13 3/8	9 5/8	5 1/2
Casing Wall Thickness, In.	0.375	-	0.380	0.395	0.361
Depth, MD	40'	-	532'	2,426'	14,663'
Weight	78.6#	-	54.5#	40#	20#
Grade	A-500	-	J-55	A-500	P-110
New or Used	New	-	New	New	New
Burst (psi)	1378	-	2,700	3,950	12,640
Cement Class	A	-	A / Type 1	A / Type 1	H
Cement Yield	1.18	-	1.19	1.19	1.07/1.86
Top of Cement (Planned)	Surface	-	Surface	Surface	500' above top Producing Zone
Method	Displacement	-	Displacement	Displacement	Displacement
Est. Volume (cu ft)	60	-	487	960	3,190
Possible Additives	N/A	-	Calcium Chloride	Calcium Chloride	Calcium Carbonate, Fluid Loss, Extender, Dispersent, Viscosifier, Defoamer, POZ, Bonding Agent, Retarder, Anti-Settling/Suspension Agent

Proposed Well Work:
Drill and complete a new horizontal well in the Marcellus formation.
Drill the vertical to an approximate depth of 2496'.
Kick off and drill curve. Drill lateral in the Marcellus. Cement casing.

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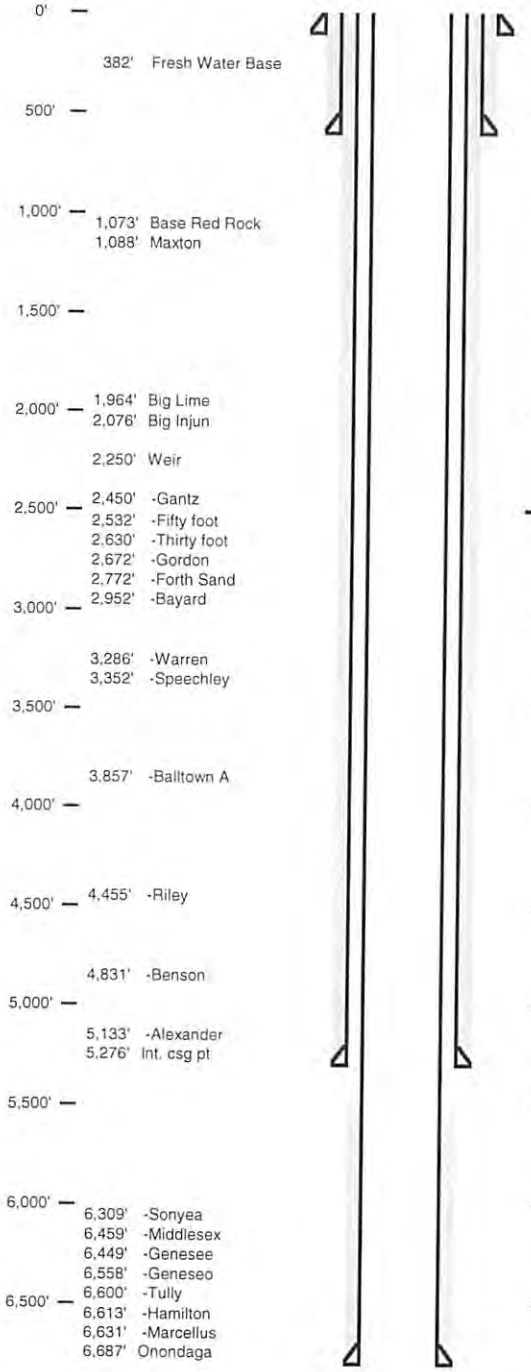
17-062746

Well Schematic
EQT Production

Well Name	516238(OXF43H30)
County	Doddridge
State	West Virgina

Elevation KB:	1242
Target	Marcellus
Prospect	
Azimuth	336.6
Vertical Section	6761



Hole Size 24" - 20" Conductor at 40'
Bit Size 17.5"

TOC @ Surface
13 3/8", MC-50, 54.5# @ 532' ft MD
Bit Size 12.375"

KOP = 4,008' ft MD
10 Deg DLS

TOC @ Surface
9 5/8", MC-50, 40# @ 5,276' ft MD
Bit Size 8.5"

Land @ 9,503' ft MD
6,666' ft TVD

5 1/2", P-110, 20# 13,995' ft MD
6,666' ft TVD

WW-9
(2/15)

API Number 47 - 017 - 06746
Operator's Well No. 516238

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) Middle Fork Hughes River Quadrangle Oxford

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

Will a pit be used? Yes ☐ No ☑

If so, please describe anticipated pit waste: n/a

Will a synthetic liner be used in the pit? Yes ☐ No ☑ If so, what ml.? n/a

Proposed Disposal Method For Treated Pit Wastes: SDW 3/30/2016

_____ 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 _____

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

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

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

Additives to be used in drilling medium? See Attached

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

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

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

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

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

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

Company Official Signature _____

Company Official (Typed Name) Victoria J. Roark

Company Official Title Permitting Supervisor

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APR 01 2016

Subscribed and sworn before me this 23 day of March, 2016

_____ Notary Public

My commission expires 8-24-22

OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
Pamela Sykes
EQT Production
PO Box 280
Bridgeport, WV 26330
My Commission Expires Aug. 24, 2022

Form WW-9

Operator's Well No. 516238

Proposed Revegetation Treatment: Acres Disturbed +/- 77.67 Prevegetation pH 6.1

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:
Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Joe C Flowers Samuel D Ward II

Comments: Maintain and upgrade E+S controls as needed. No rig is to be brought on site until all disturbed areas are protected + mulched as per WVDEP regulations

Title: OOG Inspector Date: 3/30/2016

Field Reviewed? (_____) Yes (_____) No

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WW-9

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

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

Additives to be used in drilling medium?

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

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EQT Production

Hydraulic Fracturing Monitoring Plan

Pad ID: OXF43

Doddridge County, WV

7/27/16

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JUL 28 2016
WV Department of
Environmental Protection

Purpose

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to identify and notify conventional well operators near EQT hydraulic fracturing in Doddridge County, WV prior to hydraulic fracturing at the following EQT wells on the OXF43 pad: 516228, 516229, 516230, 516231, 516232, 516233, 516234, 516235, 516238, 516240.

Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communication, via natural gas, water, or both, may occur between hydraulically fractured wells in the Marcellus formation (approximately 6,600' TVD) and existing conventional natural gas wells in the partially-depleted, relatively high permeability Alexander formation (approximately 5,100' TVD).

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 pre-notification of conventional well operators of the timing and location of the hydraulic fracturing, establishment of measures conventional 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 Conventional Well Operators

EQT, using available data (WV Geological Survey, WVDEP website, and IHS data service), has identified all known conventional wells and well operators within 500 feet of this pad and the lateral sections. A map showing these wells along with a list of the wells and operators is included in **Attachment A.**

Upon approval of this plan, EQT will notify these operators, via letter, of the hydraulic fracturing schedule for these wells. A copy of this letter is included in **Attachment B.**

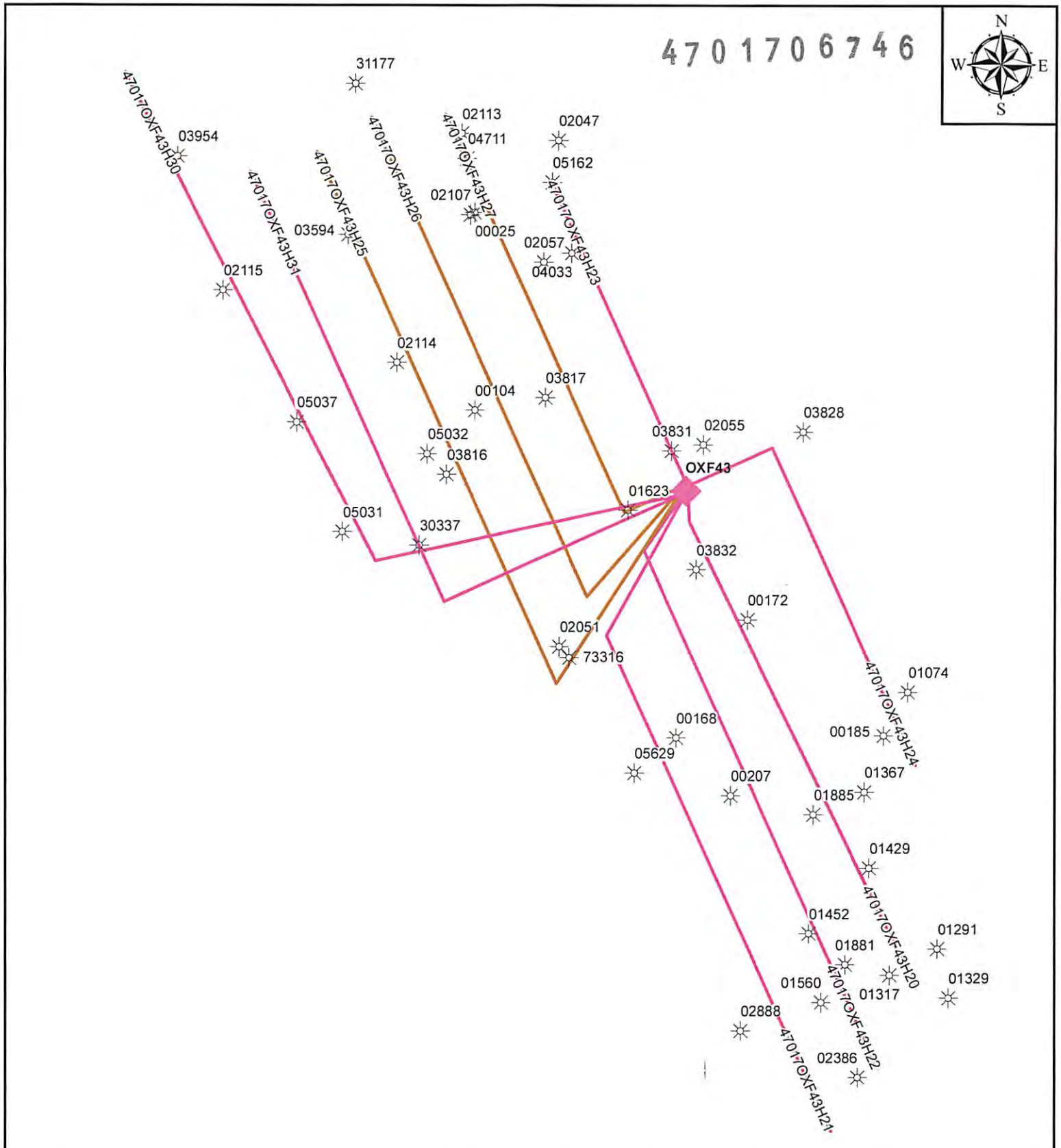
The letter provides recommendations to these conventional operators to 1) increase their monitoring of their wells during that time period, 2) ensure that their well head equipment is sound, and 3) provide immediate notification to EQT and the OOG in the event of any changes in their well conditions.

Specifically, the letter recommends that conventional well operators conduct the following activities during and after fracturing operations:

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 rated to 3,000 psi or other necessary equipment for wellhead integrity
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 conventional operators, and ongoing monitoring of the work upon request of OOG or immediately in the event of any noted abnormalities.



EQT

EQT Corporation
625 Liberty Avenue
Pittsburgh, PA 15222

Strope Offset Wells

Vertical Offsets and Foreign Laterals within 500'

Legend

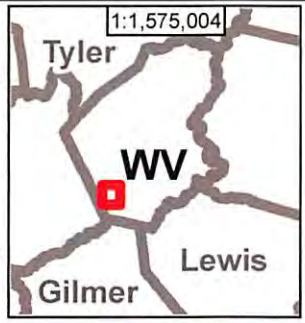
- OXF43 Vertical Offsets
- GENESEO
- MARCELLUS
- MIDDLESEX
- POINT PLEASANT
- UTICA

1,400 700 0 1,400 Feet

1:18,329

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.



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Printed By: mearsR on 7/19/2016

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Attachment A(6)

4701706746

Attachment A (a)

Well ID	Well Status	Comp Date	Permit	Operator	Longitude	Latitude	Target	Datum Eleva	SS Depth	TD
4701700025	UNK	8/13/1930	00025	PGH & WV GAS	-80.8015	39.1659		1012.0000	-1490.0000	2502.0000
4701700104	GAS	9/21/1939	00104	EPC	-80.8015	39.1596		1095.0000	-1397.0000	2492.0000
4701700168	GAS	10/15/1946	00168	P & M OIL	-80.7932	39.1491		905.0000	-1416.0000	2321.0000
4701700172	GAS	12/7/1946	00172	P & M OIL	-80.7903	39.1529		955.0000	-1262.0000	2217.0000
4701700185	GAS	2/11/1919	00185	EPC	-80.7847	39.1492		1103.0000	-905.0000	2008.0000
4701700207	GAS	10/5/1954	00207	P & M OIL	-80.7910	39.1473		883.0000	-853.0000	1736.0000
4701701074	GAS	2/21/1964	01074	WILLIAMS OIL & GAS	-80.7837	39.1506		949.0000	-1510.0000	2459.0000
4701701291	O&G	9/3/1965	01291	PENNZOIL	-80.7825	39.1424		1027.0000	-994.0000	2021.0000
4701701317	OIL	2/27/1919	01317	EPC	-80.7845	39.1416		1067.0000	-934.0000	2001.0000
4701701367	O&G	10/19/1966	01367	EPC	-80.7855	39.1474		1071.0000	-959.0000	2030.0000
4701701429	O&G	3/31/1967	01429	EPC	-80.7853	39.1450		883.0000	-933.0000	1816.0000
4701701452	O&G	6/29/1967	01452	EPC	-80.7878	39.1429		1091.0000	-936.0000	2027.0000
4701701560	O&G	10/8/1969	01560	EPC	-80.7873	39.1407		1022.0000	-921.0000	1943.0000
4701701623	O&G-P	8/8/1971	01623	WARREN DRILLING	-80.7952	39.1564		1226.0000	-1474.0000	2700.0000
4701701881	O&G	5/27/1978	01881	EPC	-80.7863	39.1419		918.0000	-975.0000	1893.0000
4701701885	OIL	5/23/1978	01885	EPC	-80.7876	39.1467		863.0000	-1030.0000	1893.0000
4701702047	GAS	5/23/1918	02047	EPC	-80.7981	39.1682		0.0000	-1907.0000	1907.0000
4701702051	GAS	7/5/1918	02051	EPC	-80.7980	39.1521		0.0000	-1801.0000	1801.0000
4701702055	GAS-P	1/1/1918	02055	EPC	-80.7921	39.1585		1097.0000	-542.0000	1639.0000
4701702057	P&A	12/13/1918	02057	EQUITRANS	-80.7986	39.1643		985.0000	-530.0000	1515.0000
4701702107	GAS	7/14/1930	02107	EPC	-80.8017	39.1658		1012.0000	-814.0000	1826.0000
4701702113	P&A	5/5/1920	02113	EPC	-80.8020	39.1684		0.0000	-2485.0000	2485.0000
4701702114	P&A	10/15/1920	02114	EPC	-80.8047	39.1611		0.0000	-2400.0000	2400.0000
4701702115	GAS-P	10/14/1924	02115	EPC	-80.8118	39.1634		1180.0000	-722.0000	1902.0000
4701702386	GAS	2/19/1914	02386	EPC	-80.7858	39.1383		1000.0000	-1604.0000	2604.0000
4701703594	GAS	10/10/1987	03594	TERM ENERGY	-80.8067	39.1652		958.0000	-4073.0000	5031.0000
4701703816	GAS	9/20/1990	03816	ECA	-80.8027	39.1576		1065.0000	-4170.0000	5235.0000
4701703817	GAS	6/21/1990	03817	ECA	-80.7986	39.1600		1210.0000	-4110.0000	5320.0000
4701703828	GAS	9/28/1990	03828	ECA	-80.7880	39.1589		920.0000	-4187.0000	5107.0000
4701703831	GAS	9/18/1990	03831	ECA	-80.7934	39.1583		1250.0000	-4172.0000	5422.0000
4701703832	GAS	9/20/1990	03832	ECA	-80.7924	39.1545		1092.0000	-4191.0000	5283.0000
4701703954	GAS	6/30/1992	03954	TERM ENERGY	-80.8137	39.1677		895.0000	-4065.0000	4960.0000
4701704033	GAS	9/15/1993	04033	TERM ENERGY	-80.7975	39.1646		970.0000	-4030.0000	5000.0000
4701704711	GAS	1/20/2003	04711	KEY OIL	-80.8018	39.1676		1215.0000	-4126.0000	5341.0000
4701705031	GAS	6/24/2004	05031	SPENCER ENTERPRISES	-80.8070	39.1557		0.0000	-2070.0000	2070.0000
4701705032	GAS	6/22/2004	05032	SPENCER ENTERPRISES	-80.8035	39.1582		0.0000	-2730.0000	2730.0000
4701705037	GAS	6/30/2004	05037	SPENCER ENTERPRISES	-80.8088	39.1592		0.0000	-1950.0000	1950.0000
4701705162	GAS	6/28/2006	05162	KEY OIL	-80.7983	39.1668		1201.0000	-1554.0000	2755.0000
4701705629	GAS	9/4/2008	05629	EPC	-80.7950	39.1480		866.0000	-5466.0000	6332.0000
4701730337	GAS	6/24/1917	30337	PGH & WV GAS	-80.8038	39.1553		1084.0000	-874.0000	1958.0000
4701731177	GAS	5/17/1919	31177	EPC	-80.8064	39.1700		1064.0000	-933.0000	1997.0000
4701773316	UNK		73316	UNKNOWN	-80.7976	39.1517		0.0000	-99999.0000	-99999.0000
4701701329	GAS	10/1/1965	01329	PENNZOIL COMPANY	-80.7820	39.1408			2170.0000	2170.0000
4701702888	D&A	2/8/1981	02888	DORAN ASSOC	-80.7906	39.1398	BENSON		2250.0000	2250.0000

4701706746

*All reported data reported is correct to the best our knowledge with the resources available.

UWI	Name	PERFORATED FORMATION
47017050370000	BIG LIME	NON-PERFORATED POTENTIAL FORMATION
47017050370000	BIG INJUN	
47017047110000	LITTLE LIME	
47017047110000	BIG LIME	
47017047110000	BIG INJUN	
47017047110000	WEIR /SD/	
47017047110000	BEREA	
47017047110000	GORDON	
47017047110000	WARREN /SD/	
47017047110000	SPEECHLEY	
47017047110000	BALLTOWN /SD/	
47017047110000	RILEY /SD/	
47017047110000	RILEY 3	
47017047110000	BENSON /SD/	
47017047110000	ELK /SD/	
47017047110000	ALEXANDER	
47017039540000	BIG LIME	
47017039540000	BIG INJUN /SD/	
47017039540000	WEIR /SD/	
47017039540000	BEREA	
47017039540000	GORDON /SD/	
47017039540000	WARREN /SD/	
47017039540000	SPEECHLEY	
47017039540000	BALLTOWN /SD/	
47017039540000	BRADFORD /SD/	
47017039540000	BENSON /SD/	
47017039540000	LEOPOLD	
47017039540000	ALEXANDER	
47017018810000	MAXTON	
47017018810000	LITTLE LIME	
47017018810000	BIG LIME	
47017018810000	BIG INJUN /SD/	
47017035940000	BIG LIME	
47017035940000	BIG INJUN /SD/	
47017035940000	WEIR /SD/	
47017035940000	GORDON /SD/	
47017035940000	WARREN /SD/	
47017035940000	BALLTOWN /SD/	
47017035940000	RILEY /SD/	
47017035940000	BENSON /SD/	
47017035940000	ALEXANDER	
47017040330000	BIG LIME	
47017040330000	BIG INJUN /SD/	
47017040330000	WEIR /SD/	
47017040330000	BEREA	
47017040330000	GORDON /SD/	
47017040330000	WARREN /SD/	
47017040330000	SPEECHLEY	
47017040330000	BALLTOWN /SD/	
47017040330000	BRADFORD /SD/	
47017040330000	BENSON /SD/	
47017040330000	LEOPOLD	

Attachment A (3)

4701706746

47017040330000	ALEXANDER
47017050310000	BIG LIME
47017050310000	BIG INJUN
47017038280000	LITTLE LIME
47017038280000	BIG LIME
47017038280000	BIG INJUN /SD/
47017038280000	WEIR /SD/
47017038280000	BEREA
47017038280000	WARREN /SD/
47017038280000	RILEY /SD/
47017038280000	BENSON /SD/
47017038280000	ALEXANDER
47017021140000	COW RUN 2 /SD/
47017021140000	SALT SD 2
47017021140000	SALT SD 3
47017021140000	MAXON/SD/
47017021140000	BIG LIME
47017021140000	BIG INJUN
47017021140000	GANTZ /SD/
47017021140000	GORDON STRAY /SD/
47017021140000	GORDON /SD/
47017038310000	LITTLE LIME
47017038310000	BIG LIME
47017038310000	BIG INJUN /SD/
47017038310000	WEIR /SD/
47017038310000	BEREA
47017038310000	WARREN /SD/
47017038310000	RILEY /SD/
47017038310000	BENSON /SD/
47017038310000	ALEXANDER
47017038160000	BIG LIME
47017038160000	BIG INJUN /SD/
47017038160000	WEIR /SD/
47017038160000	BENSON /SD/
47017038320000	BIG LIME
47017038320000	BIG INJUN /SD/
47017038320000	WEIR /SD/
47017038320000	BEREA
47017038320000	WARREN /SD/
47017038320000	RILEY /SD/
47017038320000	BENSON /SD/
47017038320000	ALEXANDER
47017050320000	BIG LIME
47017050320000	BIG INJUN
47017050320000	GORDON
47017016230000	SALT SD 2
47017016230000	MAXTON
47017016230000	LITTLE LIME
47017016230000	BIG LIME
47017016230000	BIG INJUN /SD/
47017016230000	GANTZ /SD/
47017016230000	GORDON /SD/
47017051620000	LITTLE LIME
47017051620000	BIG LIME

Attachment A (4)

4701706746

47017051620000	KEENER /SD/
47017051620000	BIG INJUN /SD/
47017051620000	WEIR /SD/
47017051620000	BEREA
47017051620000	GORDON /SD/
47017021130000	COW RUN 1 /SD/
47017021130000	COW RUN 2 /SD/
47017021130000	SALT SD 1
47017021130000	SALT SD 2
47017021130000	SALT SD 3
47017021130000	MAXON/SD/
47017021130000	LITTLE LIME
47017021130000	PENCIL CAVE
47017021130000	BIG LIME
47017021130000	BIG INJUN
47017021130000	GANTZ /SD/
47017021130000	FIFTY FOOT SD
47017021130000	GORDON STRAY /SD/
47017021130000	GORDON
47017056290000	BIG LIME
47017056290000	BIG INJUN
47017056290000	WEIR /SD/
47017056290000	GANTZ /SD/
47017056290000	GORDON
47017056290000	FIFTH SAND
47017056290000	WARREN /SD/
47017056290000	SPEECHLEY
47017056290000	BALLTOWN
47017056290000	RILEY /SD/
47017056290000	BENSON /SD/
47017056290000	ALEXANDER
47017056290000	GENESEE /SH/
47017056290000	GENESEO /SH/
47017056290000	TULLY /LM/
47017056290000	MARCELLUS /SH/
47017056290000	ONONDAGA /LM/
47017038170000	LITTLE LIME
47017038170000	BIG LIME
47017038170000	BIG INJUN /SD/
47017038170000	WEIR /SD/
47017038170000	BEREA
47017038170000	WARREN /SD/
47017038170000	RILEY /SD/
47017038170000	BENSON /SD/
47017038170000	ALEXANDER

Attachment (5)

4701706746

625 Liberty Ave, Suite 1700
Pittsburgh PA 15222
www.eqt.com

TEL: (412) 395-3305
FAX: (412) 395-2156

John Centofanti
Corporate Director,
Environmental Affairs

(date)

[Conventional Well Operator]
[address]
[state]

RE: Doddridge County Hydraulic Fracturing Notice

Dear Sir/Madam,

EQT has developed a Marcellus pad (Oxford 43 pad) located in Doddridge County, WV. As an owner or operator of conventional natural gas wells in this area, we are requesting your assistance in this matter.

Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communication, via natural gas, water, or both, may occur between hydraulically fractured wells in the Marcellus formation (approximately 6,600' TVD) and existing conventional natural gas wells in the partially-depleted, relatively high permeability, Alexander formation (approximately 5,100' TVD).

EQT anticipates conducting hydraulic fracturing at the Oxford 43 pad during the [first,second, third,fourth] quarter of [year]. We have identified conventional natural gas wells operated by your company within 500' (lateral distance) of our new/planned laterals. Plats for each well on this pad are attached.

We recommend that conventional well operators conduct the following activities before, during, and after fracturing operations:

1. Inspect surface equipment, prior to fracturing, to establish integrity and establish 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 rated to 3,000 psi or other necessary equipment for wellhead integrity.
4. Notify the OOG and EQT if any changes in water, gas production, pressure, or other anomalies are identified.

Please feel free to contact me at 412-395-3305 with any questions or comments. You may also contact the West Virginia Office of Oil and Gas at 304-926-0440.

Sincerely,
EQT Production

John Centofanti
Corporate Director, Environmental Affairs

cc: James Martin, WV Office of Oil and Gas

SAMPLE

Attachment B

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 LL
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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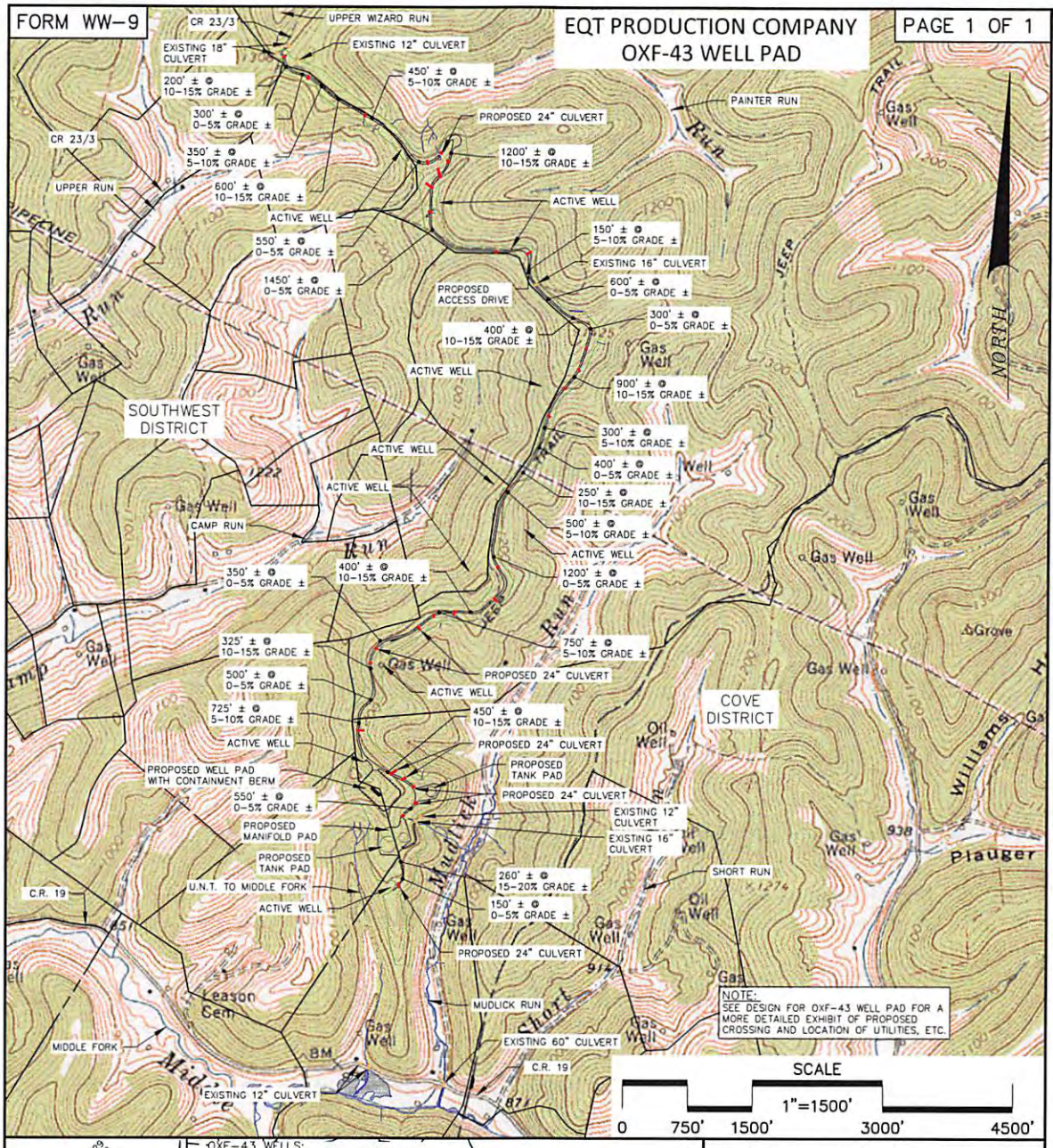
Office of Oil and Gas
APR 01 2016
WV Department of
Environmental Protection

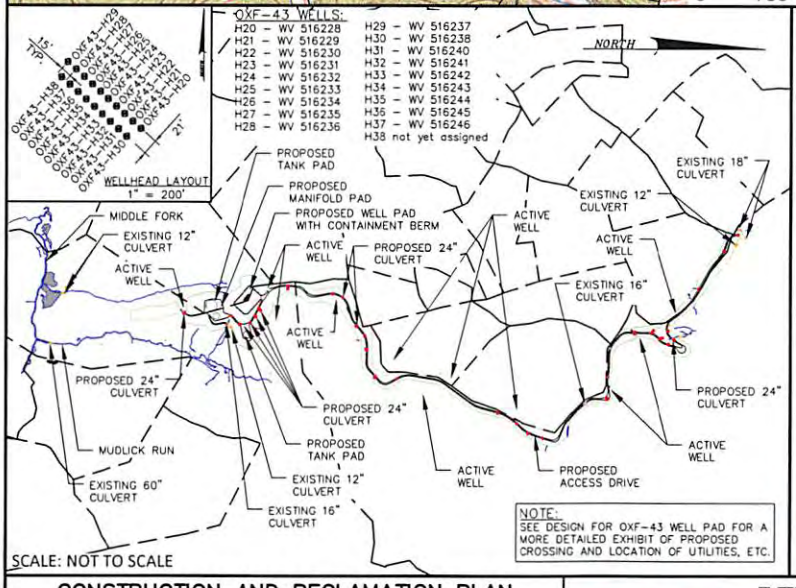
FORM WW-9

EQT PRODUCTION COMPANY
OXF-43 WELL PAD

PAGE 1 OF 1



SPW
3/30/2016
APF



ALL ROADS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH WV DEP OIL AND GAS BMP MANUAL. ENTRANCES AT COUNTY/STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV DOT REGULATION. SEPARATE PERMITS MAY BE REQUIRED BY DOT.

APPROPRIATE EROSION CONTROL BARRIERS ARE TO BE CONSTRUCTED AT ALL CULVERT AND CROSS DRAIN INLETS AND OUTLETS AS REQUIRED IN THE WV DEP OIL AND GAS BMP MANUAL. FIELD CONDITIONS (ROCK OUTCROPS AND BEDROCK) MAY PROHIBIT TRAPS BEING INSTALLED. WHEN THESE CONDITIONS EXIST ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.

EARTHWORK CONTRACTORS ARE RESPONSIBLE FOR NOTIFICATION TO THE OPERATOR AND INSPECTOR PRIOR TO ANY DEVIATION FROM THIS PLAN.

TEMPORARY SEED AND MULCH ALL SLOPES AFTER CONSTRUCTION OF LOCATION.

CUT AND STACK ALL MARKETABLE TIMBER.

STACKED BRUSH MAY BE USED FOR SEDIMENT CONTROL.

APPLICATIONS FOR SEPARATE PLC PERMITS ON THE ACCESS ROAD STREAM CROSSINGS HAVE BEEN PREPARED (IF APPLIES).

= PROPOSED CULVERT 18" MIN UNLESS OTHERWISE NOTED

= EXISTING CULVERT

= APPROXIMATE LIMIT OF DISTURBANCE

RECEIVED
Office of Oil and Gas
APR 01 2016
WV Department of
Environmental Protection

CONSTRUCTION AND RECLAMATION PLAN

OXF-43 WELL PAD

SOUTHWEST TAX DISTRICT

DODDRIDGE COUNTY, WV

EQT Where energy meets innovation.

RETTEW
RETTEW Associates, Inc.
One Robinson Plaza,
Suite 200
6600 Steubenville Pike,
Pittsburgh, PA 15205

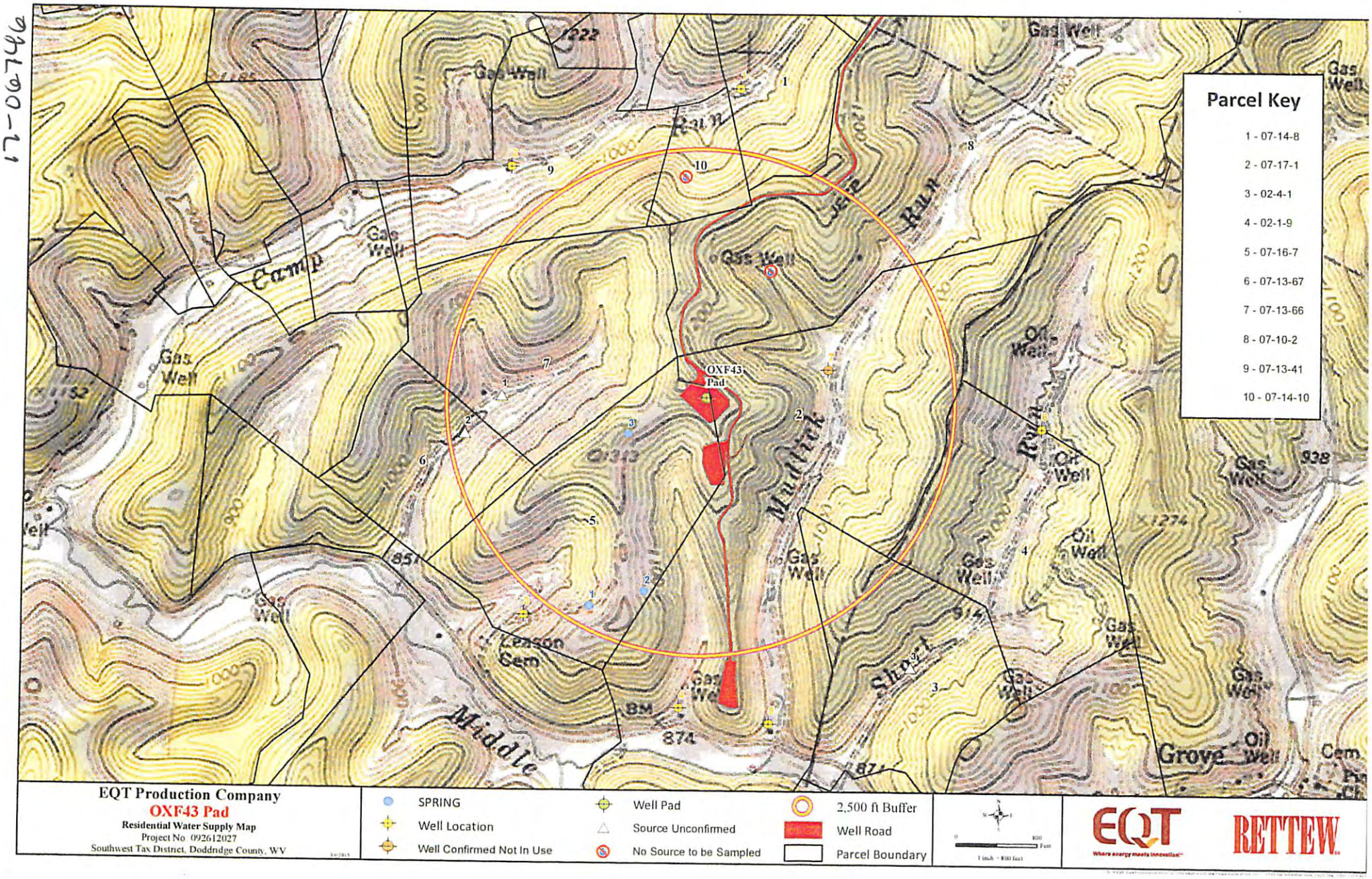
DRAWN BY: DAW

DATE: 9-25-2015

SCALE: AS NOTED

C:_RETTEWVAULTWP\092612027-OXF 43\SHEETS\LD\WW-9 EXHIBIT\092612027-FORM WW-9 EXHIBIT.DWG

94700-L1



EQT Production Company
OXF43 Pad
Residential Water Supply Map
Project No 092612027
Southwest Tax District, Doddridge County, WV

EQT Where energy meets innovation

RETTEW

Where energy meets innovation.℠

Site Specific Safety Plan

EQT OXF43 Pad

Oxford

Doddridge County, WV

For Wells:

__516228__ __516229__ __516230__ __516231__ __516232__ _516233___ __516234_

__516235__ __516238__ ___516240_ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

Date Prepared: **January 11, 2016**

EQT Production

Permitting Supervisor

Title

3-23-16

Date

DPF SDW

WV Oil and Gas Inspector

RECEIVED
Office of Oil and Gas

Title

3/30/2016 APR 01 2016

Date

WV Department of
Environmental Protection

WV 516238
EQT Production Company
Franklin Maxwell Heirs L. P.
255 Acres ±

12,089' LATITUDE: 39°10'00" TH

6,811' LATITUDE: 39°12'30" BH

13,802' LONGITUDE: 80°47'30" BH

3,518' LONGITUDE: 80°45'00" TH

LEGEND

- EXISTING OIL/GAS WELL
- WATER FEATURE
- WELL HEAD TOP HOLE
- WELL LANDING POINT
- WELL BOTTOM HOLE
- REBAR FOUND
- WELL LATERAL LINE
- LEASE BOUNDARY
- PROPERTY LINE
- STREAM
- 500' LATERAL COLLECTION BUFFER

NO.	ADJACENT OWNER
4	MORRIS I L IKE
7	HUFF WILLIAM LEE
36	CHARLES WALTER MUNCHMORE

NO.	SURFACE OWNER
1	CHARLES R & EVELYN GREATHOUSE GAPN
2	JAMES P GREATHOUSE
3	CATHY JEAN WETZEL ETAL
5	HUFF RANDY E DECEDENT'S
14	BETTY M. RYAN
17	EDWARD DALE PRUNTY
18	EDRA LOUISE GRIMM
19	RANDALL L GRIMM
20	UNKNOWN
21	RANDALL L & KELLY GRIMM
22	RANDALL L & KELLY GRIMM
23	UNITED STATES OF AMERICA
24	GREGORY L & ROXANNA J MORGAN
25	GREGORY L & ROXANNA J MORGAN
37	UNKNOWN
38	SAMUEL D GASTON

Coordinate Notes
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.

WV 516238 Well Point Coordinates

Top Hole Coordinates

NAD 27 S.P.C. (Ft.)	N: 241,902.39	E: 1,633,402.15
NAD 27 GEO	LAT: 39.156922	LONG: 80.792804
NAD 83 UTM 17N (M)	N 4,334,220.6	E: 517,916.8
NAD 83 S.P.C. (Ft.)	N 241,937.7	E: 1,601,961.3

Landing Point Coordinates

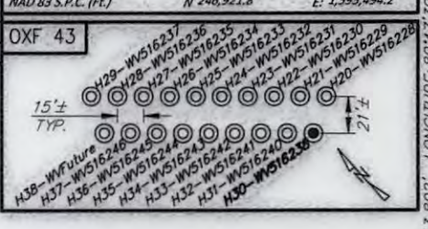
NAD 27 S.P.C. (Ft.)	N: 241,172.39	E: 1,629,762.15
NAD 27 GEO	LAT: 39.154773	LONG: 80.805601
NAD 83 UTM 17N (M)	N 4,333,979.7	E: 516,811.6
NAD 83 S.P.C. (Ft.)	N 241,207.6	E: 1,598,321.3

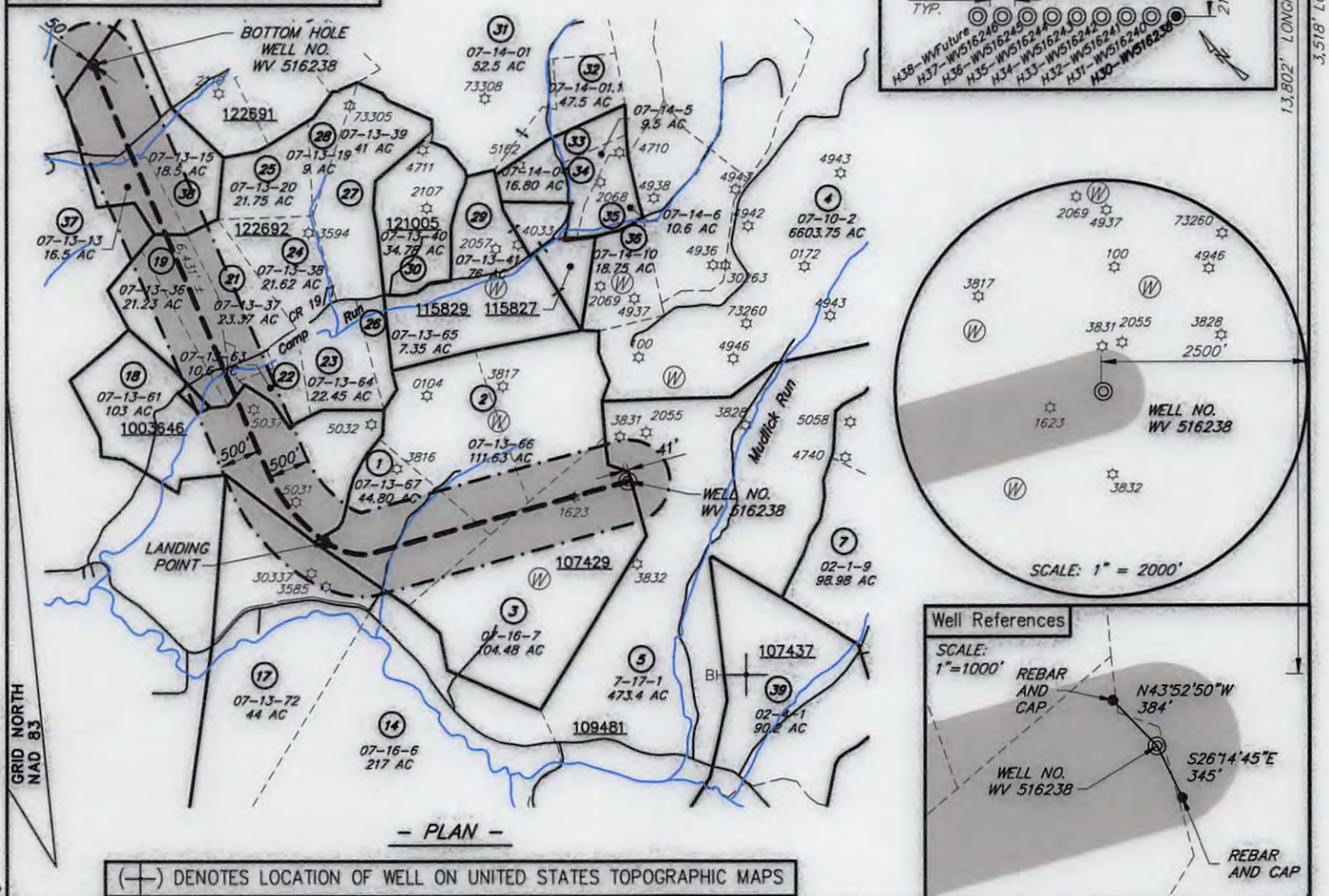
Bottom Hole Coordinates

NAD 27 S.P.C. (Ft.)	N: 246,886.68	E: 1,626,935.09
NAD 27 GEO	LAT: 39.170348	LONG: 80.815864
NAD 83 UTM 17N (M)	N 4,335,706.2	E: 515,921.3
NAD 83 S.P.C. (Ft.)	N 246,921.8	E: 1,595,494.2

Lease No.	Acres	Owner
109481	2,000	Adele McDougal, et al
1003646	104	ET Blue Grass LLC, et al
122692	200	Jonathan D. Casto, et al
122691	63	Samuel J. Hileman, et al

OXF 43





Well References

— PLAN —

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

encompass

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 REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

WILLIAM J. WHITMAN, II LICENSED No. 2005 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

FILE NO.: EES-60635
DRAWING NO.: OXF43_Well Plat
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: ±3'
PROVEN SOURCE OF ELEVATION: GPS

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

DATE JULY 19, 2016
OPERATORS WELL NO. WV 516238
API WELL NO. H6A
47 (STATE) 017 (COUNTY) 06746 (PERMIT)

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL ☒ (IF GAS) PRODUCTION: ☐ STORAGE ☐ DEEP ☐ SHALLOW
LOCATION, ELEVATION: 1254' (Ground) 1229' (Prop.) WATERSHED: Middle Fork Hughes River QUADRANGLE: OXFORD
DISTRICT: SOUTH WEST / COVE COUNTY: DODDRIDGE
SURFACE OWNER: Cathy Wetzel ACREAGE: 104.48± AC
ROYALTY OWNER: Franklin Maxwell Heirs L. P. LEASE NO.: 107429 ACREAGE: 255± AC
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: 6631'

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

WWW.ENCOMPASSSERVICES.COM PLOT DATE: 7/19/2016 CAD FILE: OXF 43_WELL PLAT-2016-07-14.DWG

47-06746

WW-6AI
(5/13)

Operator's Well No. 516238

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

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.

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APR 01 2016
WV Department of
Environmental Protection

Well Operator: EQT Production Company
By: Victoria J. Roark
Its: Permitting Supervisor

17-06746

WW-6A1 attachment | Operator's Well No. 516238

Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
107429	**Franklin Maxwell Heirs L.P. (current royalty owner)**			
	W. Brent Maxwell, et al (original lessor)	Fisher Oil Co.		LB23/337
	Fisher Oil Co.	The Philadelphia Oil Co.		LB24/64
	The Philadelphia Oil Co.	The Philadelphia Co. of West Virginia		DB87/90
	The Philadelphia Co. of West Virginia	Equitable Gas Co.		LB95/88
	Equitable Gas Co.	Equitrans, Inc.		LB154/475
	Equittrans, Inc.	Equitable Production-Eastern States, Inc.		LB 192/19
	Equitable Production-Eastern States, Inc.	Equitable Production Company		CB281/346
	Equitable Production Company	EQT Production Co.		CB281/346
109481	**Adele McDougal et al (currenty royalty owner)**			
	Jackson Leeson, et al (original lessor)	The Philadelphia Co. of West Virginia		LB21/76
	The Philadelphia Co. of West Virginia	Pittsburgh & West Virginia Gas Co.		DB87/90
	Pittsburgh & West Virginia Gas Co.	Equitable Gas Company		DB121/303
	Equitable Gas Company	Equitrans, Inc.		LB154/475
	Equitrans, Inc.	Equitable Production-Eastern States, Inc.		LB192/19
	Equitable Production-Eastern States, Inc.	Equitable Production Company		CB281/346
	Equitable Production Company	EQT Production Company		CB281/346
1003646	**ET Blue Grass LLC, et al (current royalty owner)**			
	Cyril Scott, et ux, et al (original lessor)	Hugh Spencer		LB91/637
	Hugh Spencer	J & J Enterprises		LB111/390
	J & J Enterprises	Eastern American Energy Corp.		LB211/137
	Eastern American Energy Corp.	Energy Corporation of America		LB240/498
	Energy Corporation of America	Antero Resources Corp.		LB272/339
	Antero Resources Corp.	EQT Production Co.		DB330/617
122692	**Jonathan D. Casto, et al (current royalty owner)**			
	R. J. Gaston, et al (original lessor)	Carter Oil Co.		LB36/362
	Carter Oil Co.	Hope Natural Gas Co.		LB42/410
	Hope Natural Gas Co.	Pittsburgh & WV Gas Co.		LB53/82
	Pittsburgh & WV Gas Co.	Equitable Gas Co.		DB121/303
	Equitable Gas Co.	Equitrans, Inc.		LB154/475
	Equittrans, Inc.	Equitable Production-Eastern States, Inc.		LB192/19
	Equitable Production-Eastern States, Inc.	Equitable Production Company		CB281/346
	Equitable Production Company	EQT Production Co.		CB281/346
122691	**Samuel J. Hileman, et al (current royalty owner)**			
	John M. Gaston. et ux (original lessor)	J. C. Trainer		LB31/311
	J. C. Trainer	Carter Oil Co.		LB37/389
	Carter Oil Co.	Hope Natural Gas Co.		LB42/411
	Hope Natural Gas Co.	Pittsburgh & WV Gas Co.		LB53/82
	Pittsburgh & WV Gas Co.	Equitable Gas Co.		DB121/302
	Equitable Gas Co.	Equitrans, Inc.		DB154/475
	Equitrans, Inc.	Equitable Production-Eastern States, Inc.		LB192/19
	Equitable Production-Eastern States, Inc.	Equitable Production Company		CB281/346
	Equitable Production Company	EQT Production Co.		CB281/346

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Office of Oil and Gas
APR 01 2016
WV Department of
Environmental Protection

17-06746

March 21, 2016

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

Re: OXF43, 516238
South West/Cove District, Doddridge 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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Office of Oil and Gas
APR 01 2016
WV Department of
Environmental Protection

EQT Production 115 Professional Place I P.O. Box 280 I Bridgeport, WV 26330
T 304.848.0000 I F 304.848.0040 I www.eqt.com

WW-6AC
(1/12)

17-06746

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

Date of Notice Certification: 6-25-15

API No. 47 - 017 - 0
Operator's Well No. 516238
Well Pad Name: OXF43

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:	WV	UTM NAD 83 Easting:	517,916.80
County:	Doddridge	UTM NAD 83 Northing:	4,334,220.60
District:	South West / Cove	Public Road Access:	RT20
Quadrangle:	Oxford	Generally used farm name:	Cathy Wetzel
Watershed:	Middle Fork Hughes River		

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.

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:	OOG OFFICE USE ONLY
*PLEASE CHECK ALL THAT APPLY	
☐ NOTICE OF SEISMIC ACTIVITY or ☑ NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	☐ RECEIVED/NOT REQUIRED
☐ NOTICE OF ENTRY FOR PLAT SURVEY or ☑ NO PLAT SURVEY WAS CONDUCTED	☐ RECEIVED
☑ NOTICE OF INTENT TO DRILL or ☐ NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OR ☐ WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)	☐ RECEIVED/NOT REQUIRED
☑ NOTICE OF PLANNED OPERATION	☐ RECEIVED
☑ PUBLIC NOTICE	☐ RECEIVED
☑ NOTICE OF APPLICATION	☐ RECEIVED

Required Attachments:

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

Received
Office of Oil & Gas
JUN 26 2015

WW-6AC
(1/12)

17-06746

Certification of Notice is hereby given:

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

Well Operator:	EQT Production Company	Address:	P.O. Box 280
By:	Victoria J. Roark		Bridgeport, WV 26330
Its:	Permitting Supervisor	Facsimile:	304-848-0040
Telephone:	304-848-0076	Email:	vroark@eqt.com

OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
Pamela Sykes
EQT Production
PO Box 280
Bridgeport, WV 26330
My Commission Expires Aug. 24, 2022

NOTARY SEAL

Subscribed and sworn before me this 24 day of June ,2015

_____ Notary Public

My Commission Expires 8-24-22

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.

WW-6A
(9-13)

API NO. 47 - 017 - 06746
OPERATOR WELL NO 516238
Well Pad Name: OXF43

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: 6.25.15 Date Permit Application Filed: 6.25.15

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 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 requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of 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; 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 disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) 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 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 construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field 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 in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be 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 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 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: Cathy Jean Wetzel et al
Address: 322 Zacks Run Road
Mount Clare WV 26408
0

Name: 0
Address: 0
0
0

☑ SURFACE OWNERS(s) (Road and/or Other Disturbance)
Name: The Randy E Huff Decedent's Trust B
Address: C/O Joye E Huff Trustee
826 Orange Ave
Coronado CA 92118
Name: William Lee Huff
Address: 1108 W County Road 130
Midland TX 79706
See Attached

☑ SURFACE OWNER(s) (Impoundments/Pits)
Name: Randy E Huff Decedent's Trust B
Address: C/O Joye E Huff Trustee
826 Orange Ave #205
Coronado CA 92118
See Attached

☑ COAL OWNER OR LESSEE
Name: Franklin Maxwell Heirs
Address: LTD Partnership #1
PO Box 2395
Buckhannon WV 26201

☐ COAL OPERATOR
Name: 0
Address: 0
0
0

☑ SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: Randy E Huff Decedent's Trust B
Address: 826 Orange Ave
Coronado CA 92118
0

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

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Office of Oil & Gas
JUN 26 2015

*Please attach additional forms if necessary

17-06746

WW6-A

Additional Surface Ownders (Access Roads or other Disturbances):

I.L. Morris
PO Box 397
Glenville WV 26351

Mathew Copeland
3 Earl Dr
Cape May NJ 08204

Sandra Matheny Armentrout &
William A. Armentrout
851 Mace St.
Elkview WV 25071

Additional Surface Owners (Pit or Impoundments):

William Lee Huff
1108 W County Rd. 130
Midland TX 79706

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JUN 26 2015

WW-6A
(8-13)

API NO. 47 - 017 - 0 6746
OPERATOR WELL NO. 516238
Well Pad Name: OXF43

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

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

Received
Office of Oil & Gas
JUN 26 2015

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.

WW-6A
(8-13)

API NO. 47 - 017 - 0 6746
OPERATOR WELL NO. 516238
Well Pad Name: OXF43

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.

Received
Office of Oil & Gas
JUN 26 2015

17-06746

Notice is hereby given by:

Well Operator:	EQT Production Company	Address:	115 Professional Place P.O. Box 280
Telephone:	304-848-0082		Bridgeport, WV 26330
Email:	Vroark@eqt.com	Facsimile:	304-848-0041

Oil and Gas Privacy Notice:

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

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, 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.

OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
Pamela Sykes
EQT Production
PO Box 280
Bridgeport, WV 26330
My Commission Expires Aug. 24, 2022

By: Victoria Roark
Its: Permitting Supervisor

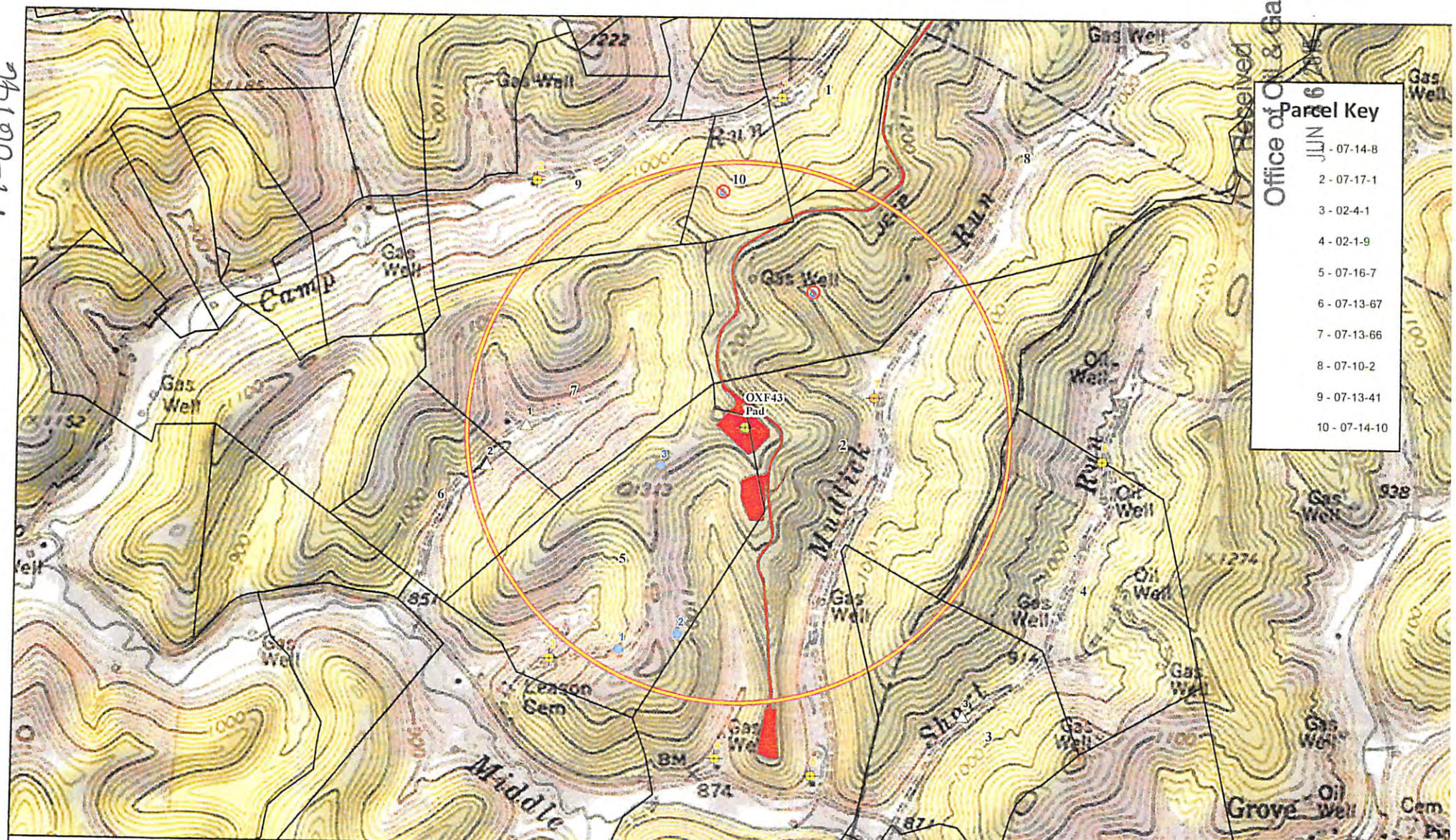
Subscribed and sworn before n 24 day of June, 2015

Notary Public

My Commission Expi 8-24-22

Received
Office of Oil & Gas
JUN 26 2015

17-06746



Received
Office of Oil & Gas
JUN 16 2015

EQT Production Company
OXF43 Pad
Residential Water Supply Map
Project No. 092612027
Southwest Tax District, Doddridge County, WV

SPRING	Well Pad	2,500 ft Buffer
Well Location	Source Unconfirmed	Well Road
Well Confirmed Not In Use	No Source to be Sampled	Parcel Boundary

0 800 Feet
1 inch = 800 feet

EQT Where energy meets innovation
RETTEW

WW-6A4
(1/12)

Operator Well No. 17-06746 516238

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: JUN 04 2015 **Date Permit Application Filed:** JUN 14 2015

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: William Lee Huff
Address: 1108 W. County Road 130
Midland TX 79706

Name: I.L. Morris
Address: PO Box 397
Glenville WV 26351

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:	WV	UTM NAD 83 Easting	517,916.80
County:	Doddridge	Northing	4,334,220.60
District:	South West / Cove	Public Road Access:	RT20
Quadrangle:	Oxford	Generally used farm name:	Cathy Wetzel
Watershed:	Middle Fork Hughes River		

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:	EQT Production Company	Authorized Representative:	Victoria Roark
Address:	115 Professional Place, P.O Box 280	Address:	115 Professional Place, P.O Box 280
	Bridgeport, WV 26330		Bridgeport, WV 26330
Telephone:	304-848-0076	Telephone:	304-848-0076
Email:	vroark@eqt.com	Email:	vroark@eqt.com
Facsimile:	304-848-0041	Facsimile:	304-848-0041

Received
Office of Oil & Gas
JUN 26 2015

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17-06246

WW-6A4
(1/12)

Operator Well No. 516238

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DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
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Delivery method pursuant to West Virginia Code § 22-6A-16(b)

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

Name: Cathy Jean Wetzel et al
Address: 322 Zacks Run Road
Mount Clare WV 26408

Name: Randy E Huff Decedent's Trust B
Address: c/o Joye E Huff
826 Orange Ave
Coronado CA 92118

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: WV
County: Doddridge
District: South West / Cove
Quadrangle: Oxford
Watershed: Middle Fork Hughes River

UTM NAD 83 Easting: 517,916.80
Northing: 4,334,220.60
Public Road Access: RT20
Generally used farm name: Cathy Wetzel

This Notice Shall Include:
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Notice is hereby given by:

Well Operator: EQT Production Company
Address: 115 Professional Place, P.O Box 280
Bridgeport, WV 26330
Telephone: 304-848-0076
Email: vroark@eqt.com
Facsimile: 304-848-0041

Authorized Representative: Victoria Roark
Address: 115 Professional Place, P.O Box 280
Bridgeport, WV 26330
Telephone: 304-848-0076
Email: vroark@eqt.com
Facsimile: 304-848-0041

Received
Office of Oil & Gas
JUN 26 2015

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17-06746

WW-6A4
(1/12)

Operator Well No. 516238

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DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
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Notice Time Requirement: Notice shall be provided at least TEN (10) days prior to filing a permit application.
Date of Notice: JUN 04 2015 **Date Permit Application Filed:** JUN 14 2015

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

☐ HAND DELIVERY	☑ CERTIFIED MAIL RETURN RECEIPT REQUESTED

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

Name: Mathew Copeland
Address: 3 Earl Drive
Cape May NJ 08204

Name: Sandra Matheny Armentrout & William A Armentrout
Address: 851 Mace St
Elkview WV 25071

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:	WV	UTM NAD 83	Easting	517,916.80
County:	Doddridge		Northing	4,334,220.60
District:	South West / Cove		Public Road Access:	RT20
Quadrangle:	Oxford		Generally used farm name:	Cathy Wetzel
Watershed:	Middle Fork Hughes River			

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:	EQT Production Company	Authorized Representative:	Victoria Roark
Address:	115 Professional Place, P.O Box 280 Bridgeport, WV 26330	Address:	115 Professional Place, P.O Box 280 Bridgeport, WV 26330
Telephone:	304-848-0076	Telephone:	304-848-0076
Email:	vroark@eqt.com	Email:	vroark@eqt.com
Facsimile:	304-848-0041	Facsimile:	304-848-0041

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47-067746

WW-6A5
(1/12)

Operator Well No. 516238

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: 6-25-15 **Date Permit Application Filed:** 6-25-15

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

☑ CERTIFIED MAIL RETURN RECEIPT REQUESTED ☐ HAND 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: Cathy Jean Wetzel et al
Address: 322 Zacks Run Road
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Address: C/O Joye E Huff
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County:	Doddridge		Northing:	4,334,220.600000
District:	South West / Cove	Public Road Access:		RT20
Quadrangle:	Oxford	Generally used farm name:		Cathy Wetzel
Watershed:	Middle Fork Hughes River			

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: EQT Production Company
Telephone: 304-848-0082
Email: vroark@eqt.com
Address: 115 Professional Place, P.O. Box 280
Bridgeport, WV 26330
Facsimile: 304-848-0040

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Received
Office of Oil & Gas
JUN 26 2015

17-06746

WW-6A5
(1/12)

Operator Well No. 516238

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DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
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Address: 1108 County Rd 130
Midland TX 79706

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Address: PO Box 397
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Well Operator:	EQT Production Company	Address:	115 Professional Place, P.O. Box 280
Telephone:	304-848-0082		Bridgeport, WV 26330
Email:	vroark@eqt.com	Facsimile:	304-848-0040

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17-06746

WW-6A5
(1/12)

Operator Well No. 516238

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Name: Mathew Copeland
Address: 3 Earl Dr
Cape May NJ 08204

Name: Sandra Mathany Armentrout
Address: William A Armentrout
851 Mace St
Elkview, WV 25071

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17-06246.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

Earl Ray Tomblin
Governor

Paul A. Mattox, Jr., P. E.
Secretary of Transportation/
Commissioner of Highways

April 15, 2015

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 OXF43 Well Site, Doddridge County

516228 OXF43H20	516229 OXF43H21	516230 OXF43H22
516231 OXF43H23	516232 OXF43H24	516233 OXF43H25
516234 OXF43H26	516235 OXF43H27	516236 OXF43H28
516237 OXF43H29	516238 OXF43H30	516240 OXF43H31
516241 OXF43H32	516242 OXF43H33	516243 OXF43H34
516244 OXF43H35	516245 OXF43H36	516246 OXF43H37
516247 OXF43H38		

Dear Mr. Martin,

This well site will be accessed from Permit # 04-2015-0394 has been issued to EQT Production Company for access to the State Road for a well pad located off of County Rt. 23/3 SLS in Doddridge County.

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

Very Truly Yours,

Gary K. Clayton

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

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

17-06246

Anticipated Frac Additives
Chemical Names and CAS numbers

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

Received
Office of Oil & Gas
JUN 26 2015

Received
Office of Oil & Gas
JUN 26 2015

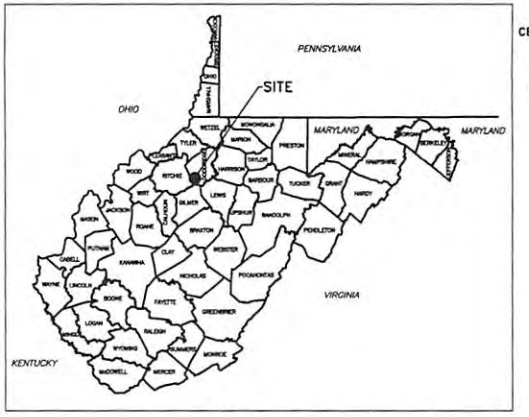
SITE CONSTRUCTION, RECLAMATION, AND EROSION & SEDIMENT CONTROL PLANS

FOR

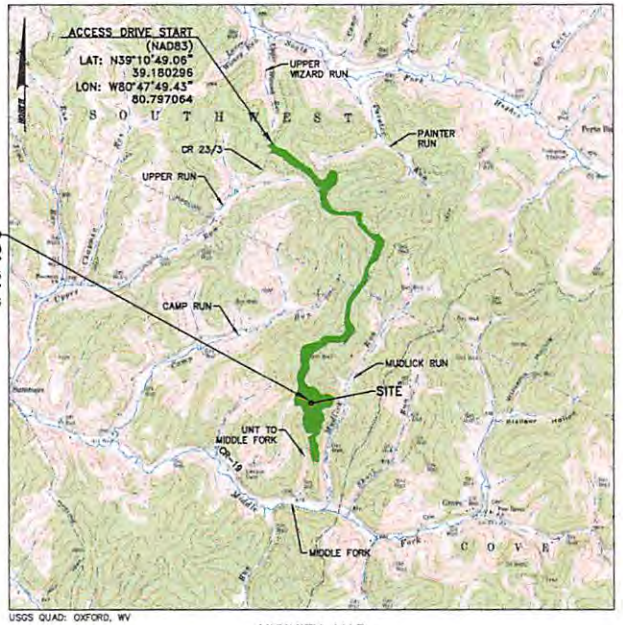
OXF-43 WELL PAD

SOUTHWEST TAX DISTRICT, DODDRIDGE COUNTY, WV

APPROVED
WVDEP OOG
3/18/2016



COUNTY MAP
NOT TO SCALE



USGS QUAD: OXFORD, WV

VICINITY MAP
SCALE - 1"=2000'

AFFECTED TAX PARCELS:

RANDY E. HUFF DECEDENTS TRUST B; ET AL
LOT 4
APN: 7-17-1
D.B. 247 P. 296

WETZEL, CATHY JEAN; ET AL
APN: 07-16-7

MORRIS, I. L.
APN: 07-10-2

COPELAND, MATTHEW H.
APN: 07-10-1

LIST OF DRAWINGS

1 ..... COVER SHEET
2-7 ..... NOTES AND DETAILS
8-9 ..... OVERALL SITE PLAN
10-23 ..... EXISTING CONDITIONS PLAN
24-37 ..... EROSION AND SEDIMENT CONTROL PLAN
38-51 ..... SITE CONSTRUCTION PLAN
52-70 ..... PROFILES AND CROSS SECTIONS
71-73 ..... RECLAMATION PLAN

WEST VIRGINIA 811
CALL BEFORE YOU DIG! Dial 811 or 800.245.4848
Miss Utility of West Virginia

AT LEAST 48 HOURS, BUT NOT MORE THAN 10 WORKING DAYS (EXCLUDING WEEKENDS AND HOLIDAYS), PRIOR TO TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THESE ACTIVITIES SHALL CONTACT MISS UTILITY OF WEST VIRGINIA AT 811 OR 1-800-245-4848.
DESIGN PHASE TICKET #1502099887, DATE: 1/20/2015.

NO.	DATE	REVISION
2	9-25-15	REPLACED COMPLETION PIT
1	8-05-15	PER DEP COMMENTS

FOR RETTEW ASSOCIATES BY:
BRIAN D. SPRAY, PE
20993
STATE OF WEST VIRGINIA
REGISTERED PROFESSIONAL ENGINEER

MANAGER: BRIAN D. SPRAY, PE
DESIGN BY: DAW
CHKD BY: BDS
DRAWN BY: DAW
CHKD BY: BDS
SURV. CHIEF: FIELDBOOK NO.
DRAWING REFERENCE:

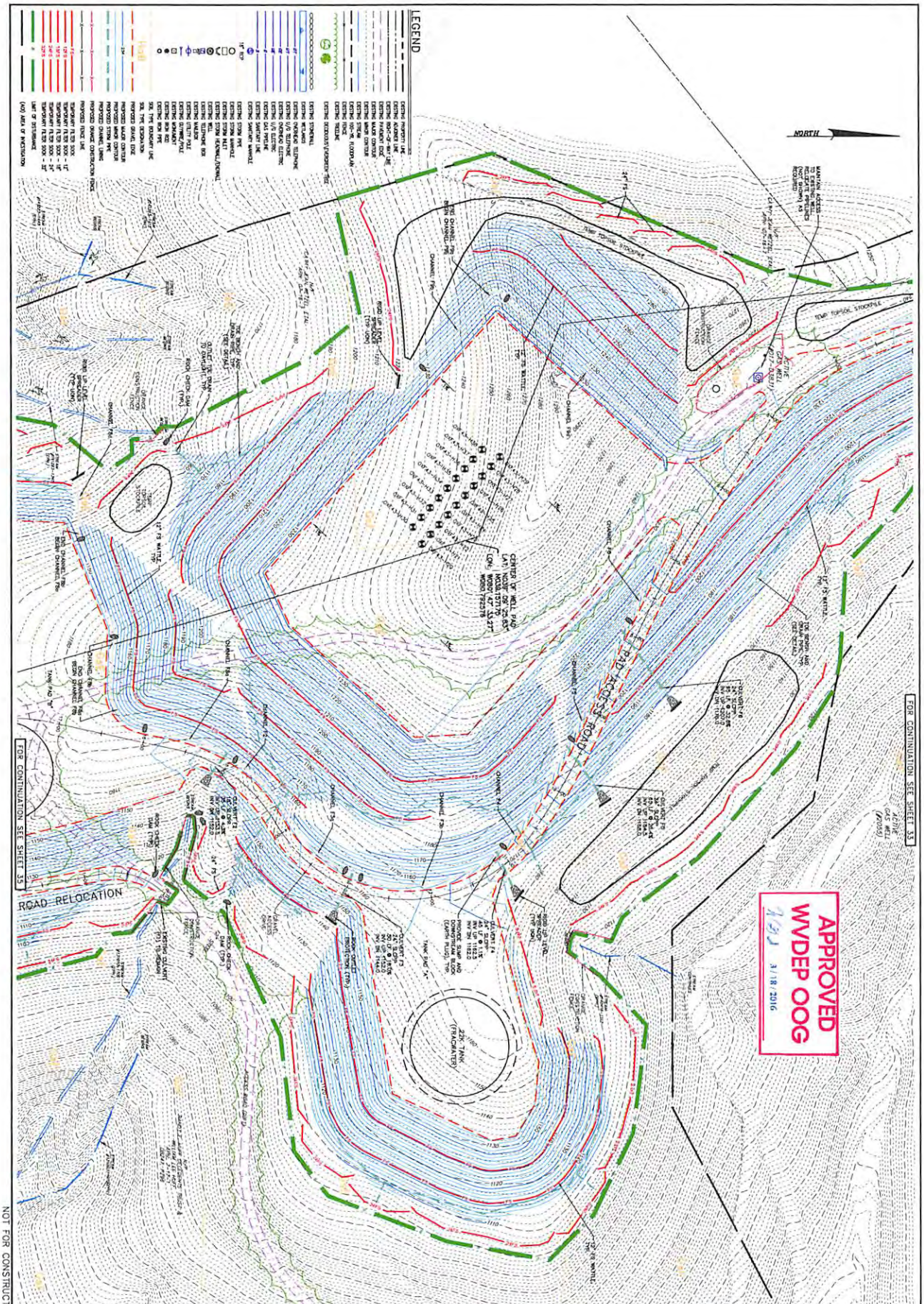
CLIENT
EQT
EQT CORPORATION
115 PROFESSIONAL PLACE
PROFESSIONAL BUILDING ONE
BRIDGEPORT, WEST VIRGINIA 26330
SCALE
AS NOTED

RETTEW
RETTEW Associates, Inc.
One Robinson Plaza, Suite 200
6600 Steubenville Pike
Pittsburgh, PA 15205
Phone (412) 446-1728
Email: rettew@rettew.com, Website: www.rettew.com
Engineers • Planners • Surveyors • Landscape Architects
Environmental Consultants

COVER SHEET
FOR
OXF-43 WELL PAD
SOUTHWEST TAX DISTRICT DODDRIDGE COUNTY, WV

DATE: JUNE 8, 2015
SHEET NO. 1 OF 73
DWG. NO. 092612027

NOT FOR CONSTRUCTION/NOT FOR BIDDING



NOT FOR CONSTRUCTION/NOT FOR BIDDING

EROSION AND SEDIMENT CONTROL PLAN

FOR

OXF-43 WELL PAD

SOUTHWEST TAX DISTRICT DODDRIDGE COUNTY, WV

DATE: JUNE 8, 2015

SHEET NO. 34 OF 73

DWG. NO. 092612022

RETTEW

RETTEW Associates, Inc.
One Robinson Plaza, Suite 200
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CLIENT
EQT

EQT CORPORATION
115 PROFESSIONAL PLACE
PROFESSIONAL BUILDING ONE
BRIDGEPORT, WEST VIRGINIA 26330

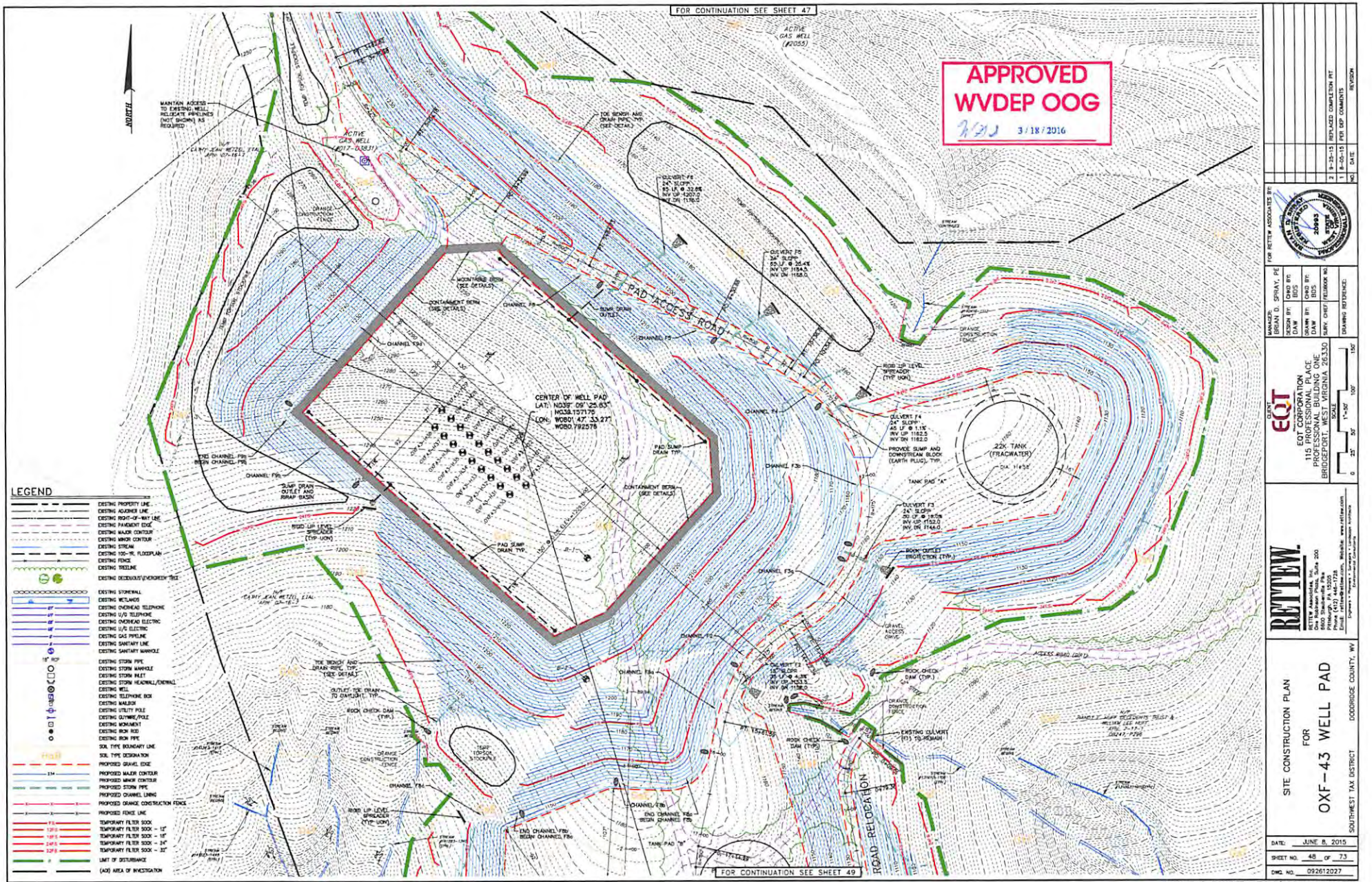
SCALE
1"=50'
0 25' 50' 100' 150'

MANAGER:	BRIAN D. SPRAY, PE
DESIGN BY: DAW	CHKD BY: BDS
DRAWN BY: DAW	CHKD BY: BDS
SURV. CHIEF:	FIELDBOOK NO.
DRAWING REFERENCE:	

FOR RETTEW ASSOCIATES BY:

BRIAN D. SPRAY REGISTERED 20993 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

NO.	DATE	REVISION
2	9-25-15	REPLACED COMPLETION PIT
1	8-05-15	PER DEP COMMENTS



NO.	DATE	REVISION
2	9-25-15	REPLACED COMPLETION PIT
1	8-05-15	PER DEP COMMENTS

FOR RETTEW ASSOCIATES BY:

BRIAN D. SPRAY
REGISTERED
20993
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER

MANAGER: BRIAN D. SPRAY, PE
DESIGN BY: DAW | CHKD BY: BDS
DRAWN BY: DAW | CHKD BY: BDS
SURV. CHIEF | FIELDBOOK NO.
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SCALE
0 25' 50' 100' 150'
1"=50'

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SITE CONSTRUCTION PLAN
FOR
OXF-43 WELL PAD
SOUTHWEST TAX DISTRICT DODDRIDGE COUNTY, WV

DATE: JUNE 8, 2015
SHEET NO. 48 OF 73
DWG. NO. 092612027

NOT FOR CONSTRUCTION/NOT FOR BIDDING