



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

Wednesday, January 04, 2017
WELL WORK PERMIT
Horizontal / Plugging

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

Re: Permit approval for 513827 EQT PRODUCTION
47-103-02719-00-00

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: 513827 EQT PRODUCTION
Farm Name: KILCOYNE, JOHN W. & FLORENCE
U.S. WELL NUMBER: 47-103-02719-00-00
Horizontal / Plugging
Date Issued: 1/4/2017

Promoting a healthy environment.

01/06/2017

1) Date 12/8, 2016
2) Operator's Well No. 513827
3) API Well No. 47-103 - 02719 PA

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) Well Type: Oil ___ / Gas X / Liquid injection ___ / Waste disposal ___ /
(If "Gas, Production ___ or Underground storage ___) Deep ___ / Shallow X

5) Location: Elevation 858' Watershed North Fork Fishing Creek
District Grant County Wetzel Quadrangle Big Run

6) Well Operator EQT Production Company 7) Designated Agent Rex C. Ray
Address 115 Professional Place Address 120 Professional Place
Bridgeport, WV 26330 Bridgeport, WV 26330

8) Oil and Gas Inspector to be notified Name Derek Haught
Address P.O. Box 85
Smithville, WV 26178
9) Plugging Contractor Name HPC
Address 736 Front Street
Fredericktown, PA 15333

10) Work Order: The work order for the manner of plugging this well is as follows:
see attached

Received
Office of Oil & Gas
DEC 22 2016

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector [Signature] Date 12-14-16

01/06/2017

103-2719P

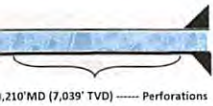
Type	Size (inches)	Wt (ppf)	Grade	Cemented to
Conductor	26"			Surface
Surface	20"	94	A-500	Surface
3/8" Surface	13 3/8"	54	J-55	Surface

Intermediate 9 5/8" 40 MC-50 Surface

Top of Cement
Off Point 0 Deg

DMH
12-14-16

Production 5 1/2" 20 P-110



TD @ 7,058' ft TVD
11393' ft MD

3,340' ft Lateral

Received
Office of Oil & Gas
DEC 22 2016

01/06/2017

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well Work

DATE: 11/10/2016
API #: 47-103-02719

Farm name: John W. & Florence E. Kilcoyna Operator Well No.: 513827

LOCATION: Elevation: 859 Quadrangle: Big Run

District: Grant County: Wetzel
Latitude: 8.350 Feet South of ³⁹ Deg. 35 Min. 00 Sec.
Longitude 9.220 Feet West of ⁶⁰ Deg. 32 Min. 30 Sec.

Company: EQT Production Company

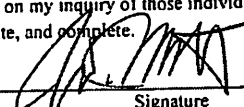
Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
EQT Plaza, Suite 1700				
625 Liberty Avenue, Pittsburgh, PA 15222	26	80	80	116
Agent: Cecil Ray	20	265	265	590
Inspector: David Scranage	13 3/8	825	825	904
Date Permit Issued: 3/13/2012	9 5/8	3,093	3,093	1,944
Date Well Work Commenced: 9/8/2012	5 1/2	11,395	11,395	1303
Date Well Work Completed: 10/18/2012				
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input checked="" type="checkbox"/>				
Total Vertical Depth (ft): 7,058				
Total Measured Depth (ft): 11,395				
Fresh Water Depth (ft.): 137', 211'				
Salt Water Depth (ft.): No show reported				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 411', 594', 612'				
Void(s) encountered (N/Y) Depth(s) No				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 7,012
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure _____ psig (surface pressure) after _____ Hours

Second producing formation No second formation Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure _____ psig (surface pressure) after _____ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the 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.



Signature

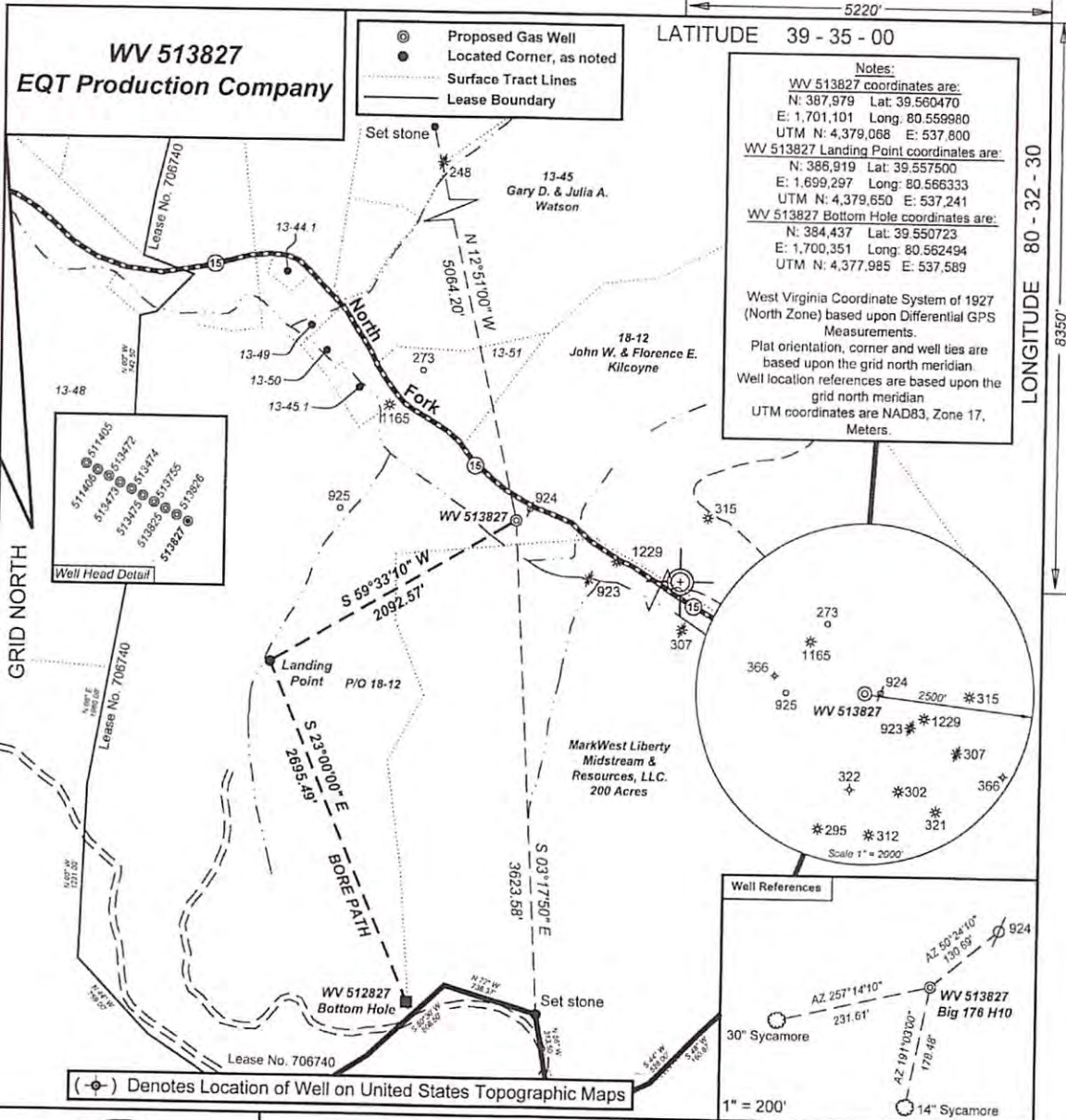
10 Nov 2016

Date

Received
Office of Oil & Gas

DEC 22 2016

01/06/2017



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

Ben R. Smith
P.S. 2092



FILE NO: 145-34-G-10
DRAWING NO: Big 176 H9
SCALE: 1" = 1000'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

DATE: October 5 20 11
OPERATOR'S WELL NO. 513827
API WELL NO. 47-103-2719P
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
LOCATION: ELEVATION: 859' WATERSHED North Fork of Fishing Creek QUADRANGLE: Big Run
DISTRICT: Grant COUNTY: Wetzel
SURFACE OWNER: John W. and Florence E. Kilcoyne ACREAGE: 604.56
ROYALTY OWNER: EQT Production Company, Inc. LEASE NO: 706740 ACREAGE: 1003.75
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: TVD=7100 MD=12,000

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex C. Ray
ADDRESS: 1710 Pennsylvania Avenue ADDRESS: 1710 Pennsylvania Avenue
Charleston, WV 25302 Charleston, WV 25302

Received
Office of Oil & Gas
DEC 22 2016

01/06/2017

WW-4A
Revised 6-07

1) Date: October 4, 2016
2) Operator's Well Number
513827

3) API Well No.: 47 - 103 - 02719 P

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL

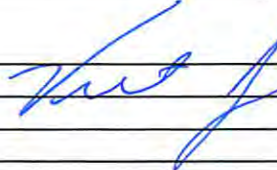
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>John W. & Florence Kilcoyne</u>	Name <u>none</u>
Address <u>410 Stephanie Drive</u>	Address _____
<u>Goose Creek, SC 29445-3542</u>	_____
(b) Name <u>MarkWest Liberty Midstream & Resources LLC</u>	(b) Coal Owner(s) with Declaration
Address <u>c/o John Spillner, 1515 Arapahoe St. Tower 1 Ste.</u>	Name <u>see attached listing</u>
<u>Denver, CO 80202</u>	Address _____
(c) Name _____	Name _____
Address _____	Address _____
6) Inspector <u>Derek Haught</u>	(c) Coal Lessee with Declaration
Address <u>P.O. Box 85</u>	Name <u>none</u>
<u>Smithville, WV 26178</u>	Address _____
Telephone <u>304-206-7613</u>	_____

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

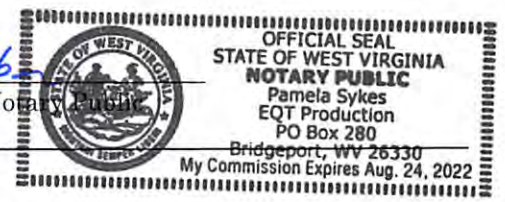
- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

Well Operator	<u>EQT Production Company</u>		Received Office of Oil & Gas DEC 22 2016
By:	<u>Victoria J. Roark</u>		
Its:	<u>Permitting Supervisor</u>		
Address	<u>115 Professional Place</u>		
	<u>Bridgeport, WV 26330</u>		
Telephone	<u>304-848-0076</u>		

Subscribed and sworn before me this 8 day of December
Pamela Sykes
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 phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

01/06/2017

Coal Owners:

CNX RCPC, LLC ✓
Attn: Casey Saunders
CNX Center
Engineering and Operations Support Dept Coal
1000 Consol Energy Dr.
Canonsburg, PA 15317-6506

Murray American Energy, Inc. OH ✓
Attn: Alex O'Neill
46226 National Road
St. Clairsville, OH 43960

Anandarko Petroleum Corp. ✓
Attn: Dave Ward
P.O. Box 1330
Houston, TX 77251-1330

Murray American Energy, Inc. WV ✓
Attn: Troy Freels
1 Bridge Street
Monongah, WV 26554

Benedum-Trees Oil Co. ✓
Attn: Dave Ward
P.O. Box 1330
Houston, TX 77251-1330

103-27198

Received
Office of Oil & Gas
DEC 22 2016

01/06/2017

WW-9
(5/16)

API Number 47 - 103 - 02719 ^P
Operator's Well No. 513827

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) North Fork Fishing Creek Quadrangle Big Run

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: _____

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

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection (UIC Permit Number _____)
- 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: _____

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

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

Additives to be used in drilling medium? _____

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

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

-Landfill or offsite name/permit number? _____

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 April 1, 2016, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

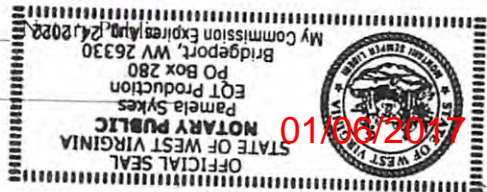
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is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

Company Official Signature *Victoria J. Roark*
Company Official (Typed Name) Victoria J. Roark
Company Official Title Permitting Supervisor

Received
Office of Oil & Gas
DEC 22 2016

Subscribed and sworn before me this 8 day of Dec., 20 16

Pamela Sykes
My commission expires 8-24-20



DMH
12-14-16

Operator's Well No. 513827

Proposed Revegetation Treatment: Acres Disturbed 1+/- Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 1/3 ton lbs/acre

Mulch 2 Tons/acre

103-2719P

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Red Fescue	40	Red Fescue	15
Alsike Clover	5	Alsike Clover	5
Annual Rye	15		

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: _____

Title: Oil + Gas Inspector

Date: 12-14-16

Field Reviewed? () Yes () No

Received
Office of Oil & Gas

DEC 22 2016

01/06/2017

EQT Production Water plan
Offsite disposals

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

103-2719P

Received
Office of Oil & Gas

DEC 22 2016

01/06/2017

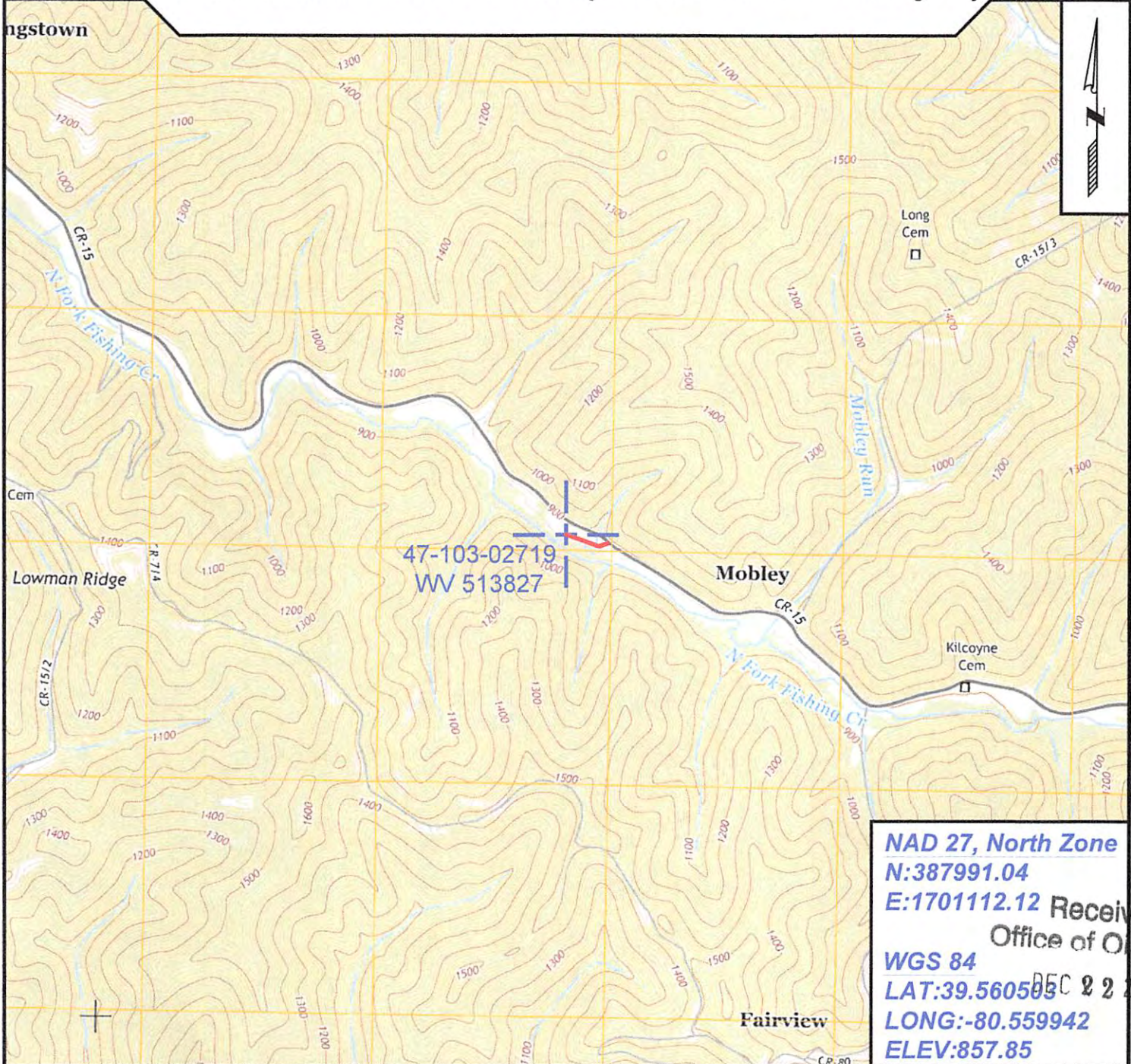
Topo Quad: Big Run 7.5'
County: Wetzel
District: Grant

Scale: 1" = 2000'
Date: September 12, 2016
Project No: 40-34-00-09

103-02719

47-103-02719 WV 513827 (BIG 176 H10 - Kilcoyne)

Topo



47-103-02719
WV 513827

NAD 27, North Zone
N:387991.04
E:1701112.12
WGS 84
LAT:39.560505
LONG:-80.559942
ELEV:857.85

Received
Office of Oil & G
DEC 22 2016



SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
1-800-482-8606
237 Birch River Road
Birch River, WV 26610
PH: (304) 649-8606
FAX: (304) 649-8608

PREPARED FOR:
EQT Production Company
P.O. Box 280
Bridgeport, WV 26330

01/06/2017



POTENTIAL WATER SAMPLE DATA SHEET

CLIENT: EQT PRODUCTION COMPANY
LEASE NAME AND WELL No. BIG 176 H10 - Kilcoyne - WV 513827 - API No. 47-103-02719

POTENTIAL SAMPLE LOCATIONS

Site: 1 Spacing: 384 +/- Owner: EQT Production Company
Address: 1710 Pennsylvania Avenue, Charleston, WV 25302 Phone No. _____
Comments: Gas well on this property.

103-2719P

Received
Office of Oil & Gas
DEC 22 2016

BIRCH RIVER OFFICE
237 Birch River Road
Birch River, WV 26610
phone: 304-649-8606
fax: 304-649-8608

BRIDGEPORT OFFICE
172 Thompson Drive
Bridgeport, WV 26330
phone: 304-848-5035
fax: 304-848-5037

ALUM CREEK OFFICE
P.O. Box 108 • 1413 Childress Rd
Alum Creek, WV 25003
phone: 304-756-2949
fax: 304-756-2948

MARTINSBURG OFFICE
25 Lights Addition Drive
Martinsburg, WV 25404
phone: 304-901-2162
fax: 304-901-2182

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas
WELL LOCATION FORM: GPS

API: 47-103-02719 ^P WELL NO.: WV 513827 (BIG 176 H10 - Kilcoyne)

FARM NAME: John W. and Florence E. Kilcoyne

RESPONSIBLE PARTY NAME: EQT Production Company

COUNTY: Wetzel DISTRICT: Grant

QUADRANGLE: Big Run 7.5'

SURFACE OWNER: John W. and Florence E. Kilcoyne

ROYALTY OWNER: EQT Production Company

UTM GPS NORTHING: 4379072

UTM GPS EASTING: 537803 GPS ELEVATION: 261 m (858 ft)

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS X: Post Processed Differential _____
Real-Time Differential X

Mapping Grade GPS _____: Post Processed Differential _____
Real-Time Differential _____

4. **Letter size copy of the topography map showing the well location.**

I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.


Signature

PS # 2180
Title

9/28/16
Date

Received
Office of Oil & Gas
DEC 22 2016

01/06/2017