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west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Wednesday, September 27, 2023  
WELL WORK PERMIT  
Horizontal 6A / New Drill

EQT PRODUCTION COMPANY  
625 LIBERTY AVE., SUITE 1700

PITTSBURGH, PA 15222

Re: Permit approval for RADCLIFF 8H  
47-049-02518-00-00

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: RADCLIFF 8H  
Farm Name: JACKIE D & SHIELA D RADCLIFF  
U.S. WELL NUMBER: 47-049-02518-00-00  
Horizontal 6A New Drill  
Date Issued: 9/27/2023

Promoting a healthy environment.

09/29/2023

# PERMIT CONDITIONS 4704902510

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

## CONDITIONS

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

09/29/2023

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

1) Well Operator: EQT Production Company 306686 Marion Mannington Glover Gap  
Operator ID County District Quadrangle

2) Operator's Well Number: 8H Well Pad Name: Radcliff

3) Farm Name/Surface Owner: Jackie D. & Sheila L. Radcliff Public Road Access: CR 4/4

4) Elevation, current ground: 1,493' (built) Elevation, proposed post-construction: 1,493'

5) Well Type (a) Gas  Oil  Underground Storage

Other \_\_\_\_\_

(b) If Gas Shallow  Deep

Horizontal

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus, 7,916', 78', 2,593 psi

8) Proposed Total Vertical Depth: 7,916'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 23,423'

11) Proposed Horizontal Leg Length: 14,825'

12) Approximate Fresh Water Strata Depths: 460', 490', 621', 751'

13) Method to Determine Fresh Water Depths: Offset Wells - 049-02184, 049-00699, 049-00168, 049-30339, 049-30238

14) Approximate Saltwater Depths: 1,856', 2,127', 2,247'

15) Approximate Coal Seam Depths: 1,200'-1,206', 1,297'-1,304'

16) Approximate Depth to Possible Void (coal mine, karst, other): N/A

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes

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

WW-68  
(04/15)

4704902518  
API NO. 47- \_\_\_\_\_  
OPERATOR WELL NO. 8H \_\_\_\_\_  
Well Pad Name: Radcliff \_\_\_\_\_

18) **CASING AND TUBING PROGRAM**

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	26	New	A252 GR 3 Bars	85.6	40	40	50 ft <sup>3</sup> / CTS
Fresh Water	13 3/8	New	J-55	54.5	1354	1354	1230 ft <sup>3</sup> / CTS
Coal							
Intermediate	9 5/8	New	J-55	36	2721	2721	1050 ft <sup>3</sup> / CTS
Production	6	New	P-110	24	23423	23423	800' above intermediate casing
Tubing							
Liners							

Digitally signed by Randall M. Kirchberg  
Date: 2023.08.18 10:43:11 -04'00'

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	26	30	0.312	1000	18	Class A/L	1.04 - 1.20
Fresh Water	13 3/8	17 1/2	0.380	2730	2184	Class A/L	1.04 - 1.20
Coal							
Intermediate	9 5/8	12 3/8	0.352	3520	2816	Class A/L	1.04 - 1.20
Production	6	8 1/2	0.400	14580	11664	Class A/H/L	1.04 - 2.10
Tubing							
Liners							

**PACKERS**

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Kind:				
Sizes:				
Depths Set:				

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

Drill and complete a new horizontal well in the Marcellus Formation. Drill the vertical, kick off and drill curve. Drill the lateral in the Marcellus. Cement casing.

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

Hydraulic fracturing is completed in accordance with state regulations using water recycled from previously fractured wells and obtained from freshwater sources. This water is mixed with sand and a small percentage (less than 0.1%) of chemicals (including 15% Hydrochloric acid, friction reducer, biocide, and scale inhibitor), referred to in the industry as a "slickwater" completion. Maximum anticipated internal casing pressure is expected to be approximately 10,000 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 350,000 gallons of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 200,000-600,000 pounds of proppant per stage.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 17.33 (built)

22) Area to be disturbed for well pad only, less access road (acres): 5.19 (built)

23) Describe centralizer placement for each casing string:

- Surface: Bow spring centralizers – One centralizer at the shoe and one spaced every 500'.
- Intermediate: Bow spring centralizers– One centralizer at the shoe and one spaced every 500'.
- Production: One solid body centralizer spaced every other joint from production casing shoe to landing point. One solid body centralizer spaced every joint from landing point to planned top of cement.

24) Describe all cement additives associated with each cement type:

Conductor: Class A no additives  
Surface: Calcium Chloride. Used to speed the setting of cement slurries  
Intermediate: Calcium Chloride. Used to speed the setting of cement slurries.  
Production: Calcium Carbonate, Fluid Loss, Extender, Dispersent, Viscosifier, Defoamer, POZ, Bonding Agent, Retarder, Anti-Settling/Suspension Agent

25) Proposed borehole conditioning procedures:

Surface: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.  
Intermediate: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.  
Production: Perform a cleanup cycle by pumping 3-8 bottoms up or until the shakers are clean. Check volume of cuttings coming across the shakers every 15 minutes.

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\*Note: Attach additional sheets as needed.



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**WEST VIRGINIA GEOLOGICAL PROGNOSIS**

Radcliff  
GLO176  
S-000118

**Drilling Objectives:** Marcellus  
**County:** Marion  
**Quad:** Glover Gap  
**Elevation:** 1506 KB  
**Recommended Azimuth:** 149.5 Degrees

1493 GL

Recommended LP to TD: **TBD**

**ESTIMATED FORMATION TOPS**

Formation	Top (TVD)	Base (TVD)	Lithology	Comments	Top RR	Base RR
Fresh Water Zone	1	906		FW @ 460,490,621,751.	1118	1118
Sewickley Coal	1200	1206	Coal			
Pittsburgh Coal	1297	1304	Coal	Not mined. TransEnergy reported depth at 1200' on 1H and 2H GL Elevation		
Big Lime	2470	2543	Limestone	SW @ .1856,2127,2247		
Big Injun	2543	2671	Sandstone			
Int. csg pt	2721					
Berea	2786	3361	Sandstone	Not shown within Storage		
Gordon	3361	3523	Silty Sand			
Bayard	3523	5964	Silty Sand	Base of Offset Well Perforations at 5870' TVD		
Alexander	5964	6409	Silty Sand			
Elks	6409	7350	Gray Shales and Silts			
Sonyea	7350	7546	Gray shale			
Middlesex	7546	7600	Shale			
Genesee	7600	7699	Gray shale interbedded			
Genesee	7699	7739	Black Shale			
Tully	7739	7769	Limestone			
Hamilton	7769	7872	Gray shale with some			
Marcellus	7872	7949	Black Shale			
Purcell	7916	7918	Limestone			
-Lateral Zone	7916			MRC2 Target		
Cherry Valley	7929	7931	Limestone			
Onondaga	7949		Limestone			

Target Thickness	78 feet
Max Anticipated Rock Pressure	2593 PSI

**Comments:**

Intermediate casing point is recommended beneath the Big Injun to shut off any water production from the Upper Devonian sands. Intermediate casing should be cemented into the surface string, per WV regulations.

**RECOMMENDED CASING POINTS**

**Fresh Water/Coal:** CSG OD 13 3/8  
**Intermediate 1:** CSG OD 9 5/8  
**Production:** CSG OD 5 1/2

**Planned Depth GL**  
CSG DEPTH: 1354 50' Below Pittsburgh  
CSG DEPTH: 2721 50' Below Big Injun  
CSG DEPTH: @ TD

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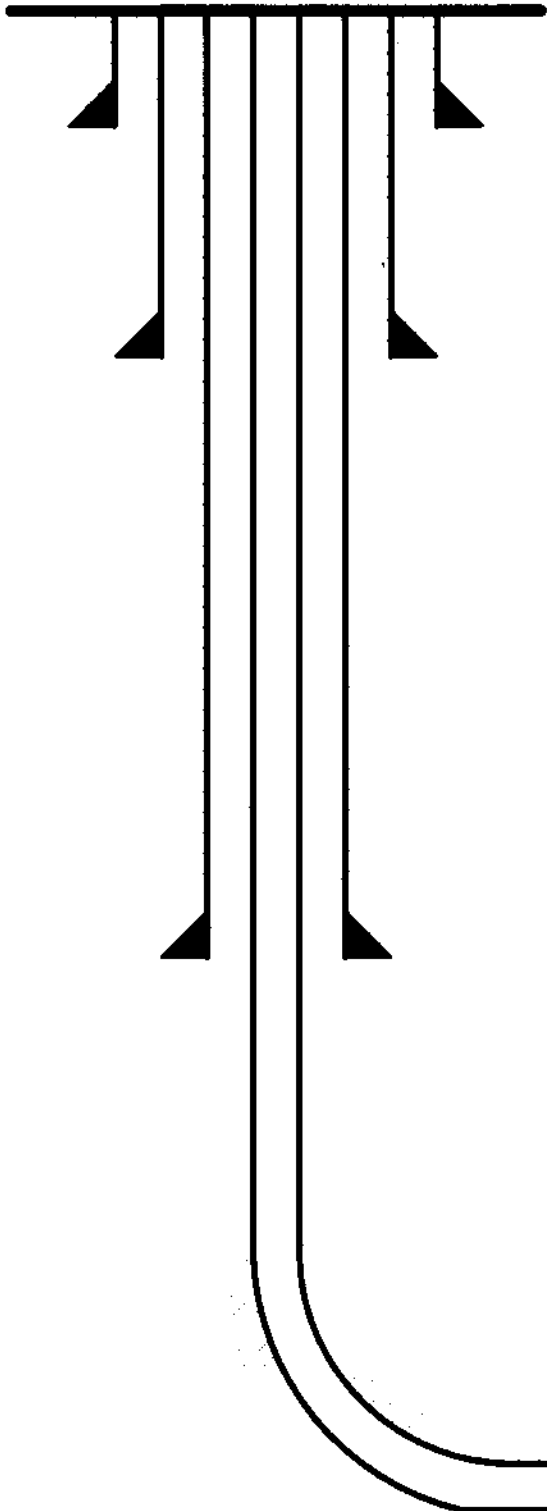
**EQT Production**

**Wellbore Diagram**

Well: Radcliff 8H  
Pad: Radcliff  
Elevation: 1493' GL 1506' KB

County: Marion  
State: West Virginia

4704902518



**Conductor @ 40'**

26", 85.6, A252 GR3 Bare, cement to surface w/ Class A/L

**Surface @ 1,354'**

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

**Intermediate @ 2,721'**

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

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**Production @ 23,423' MD / 7,916' TVD**

6", 24#, P-110, cement to 500' inside 9-5/8" w/ Class A/H/L

Formation: Marcellus

08/29/2023 SALE

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EQT Production  
Hydraulic Fracturing Monitoring Plan  
Pad ID: Radcliff  
County: Marion

July 27, 2023

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## Purpose

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to identify and notify conventional well operators near EQT hydraulic fracturing in Marion County, WV prior to hydraulic fracturing at the following EQT wells on the Radcliff pad: 4H, 6H, 8H, 10H, 12H, 14H, 16H and 18H.

Due to the requirements under 35CSR8 5.11, the permittee is required to review the area surrounding the proposed well pad so as to identify and evaluate potential conduits for unintended fracture propagation.

A report is required to be submitted along with a well work permit application.

The plan is being implemented as an additional safety measure to be utilized in conjunction with existing best management practices and emergency action plans for the site. These additional measures include coordination with well operators of the timing and location of the hydraulic fracturing, establishment of measures well operators should implement, and assurance that the OOG is notified of the timeline, as well as any issues that may arise during fracturing.

### 1. Communications with Well Operators

EQT, using available data (WV Geological Survey, WVDEP website, and IHS data service), has identified all known wells and well operators within 500 feet of this pad and the lateral sections that are known or could reasonably be expected to be within range of the fracture propagation. A map showing these wells along with a list of the wells and operators is included in **Attachment A**.

EQT will notify these operators of the hydraulic fracturing schedule for these wells, and coordinate with them throughout the fracturing process.

EQT will recommend to these operators at a minimum to:

1. Inspect their surface equipment prior to fracturing to establish integrity and establish pre-frac well conditions
2. Observe wells closely during and after fracturing and monitor for abnormal increases in water, gas or pressure
3. Inspect or install master valves or other necessary equipment for wellhead integrity capable of a pressure recommended by EQT
4. Notify the OOG and EQT if any changes in water, gas production, pressure, or other anomalies are identified

### 2. Reporting

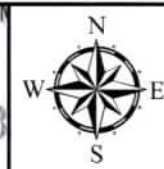
EQT will provide information relating to the hydraulic fracturing schedule, communication with other operators, and ongoing monitoring of the work upon request of OOG or immediately in the event of any noted abnormalities.

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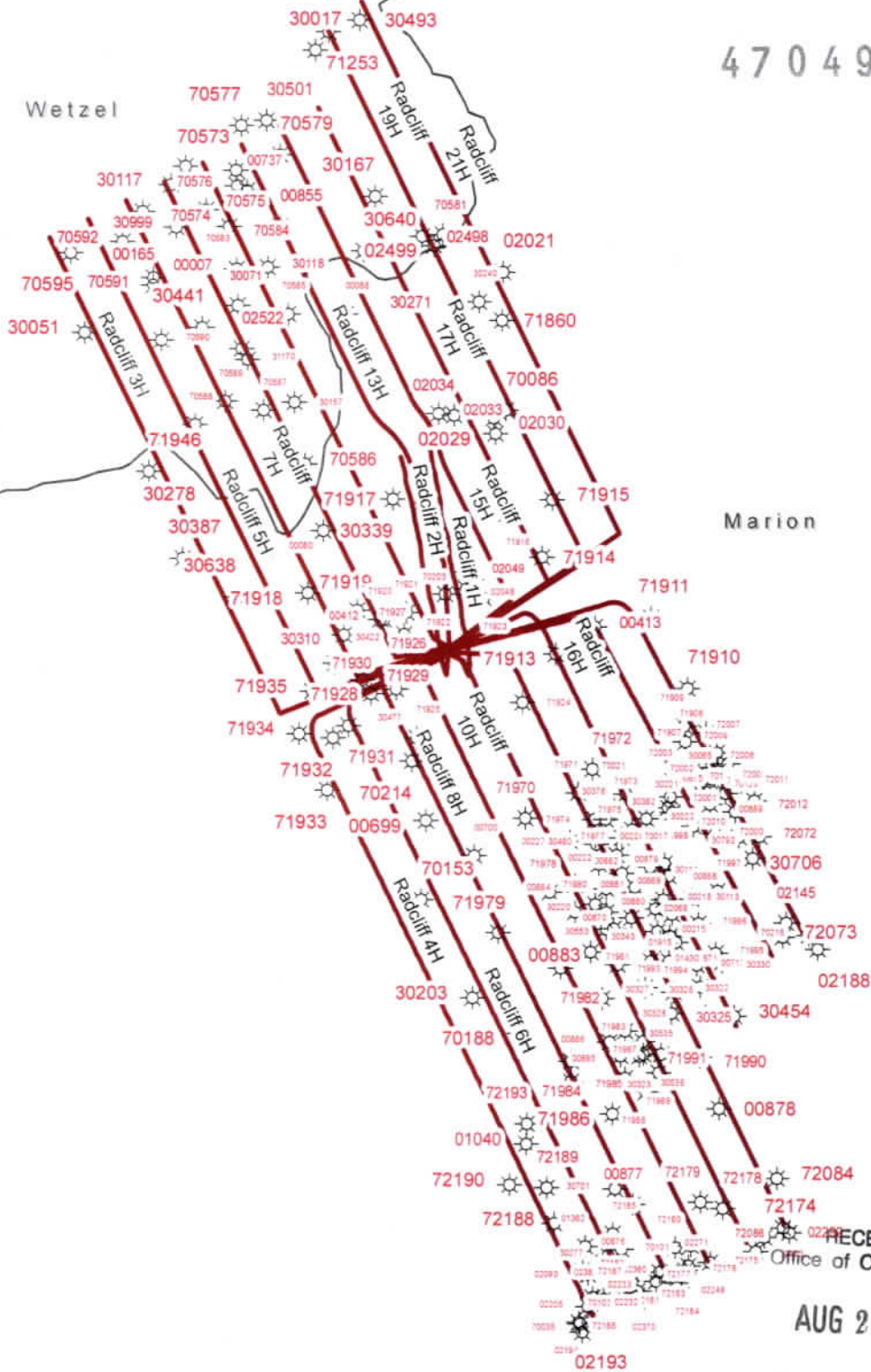
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Wetzel



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Wetzel



Marion

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Wetzel

EQT

EQT Corporation  
625 Liberty Avenue  
Pittsburgh, PA 15222

Radcliff

Vertical Offsets and  
Foreign Laterals  
within 500'

Legend

☀ Foreign\_Offset\_Wells

Well Lateral\_FM  
Formation

— Geneseo  
— Marcellus  
— Utica



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.

1:1,646,784

PA

WV  
Marion

09/29/2023







4704902518



west virginia department of environmental protection

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

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

March 18, 2014

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

Re: Cement Variance Request

Dear Sir or Madam,

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

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

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

Sincerely,

James Peterson  
Environmental Resources Specialist / Permitting

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Office of Oil and Gas  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304  
(304) 926-0450  
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Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
dep.wv.gov

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

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

**REPORT OF THE OFFICE**

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

**FINDINGS OF FACT**

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

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**CONCLUSIONS OF LAW**

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

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

**ORDER**

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

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

IN THE NAME OF THE STATE OF WEST VIRGINIA

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

  
\_\_\_\_\_  
James Martin, Chief  
Office of Oil and Gas

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July 27, 2023

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

Re: Casing on Radcliff 8H

Dear Mr. Brewer,

The 13-3/8" surface casing will be set at 1,354' KB, 50' below the deepest workable coal seam, 603' below the deepest fresh water.

The 9-5/8" intermediate string will be set at 2,721' KB, 50' below the base of the Big Injun formation.

If you have any questions, please do not hesitate to contact me at 724-746-9073.

Sincerely,

A handwritten signature in blue ink, appearing to read 'J. Zavatchan'.

John Zavatchan  
Project Specialist - Permitting

Enc.

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July 27, 2023

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

Re: Class L Cement Variance Request  
Radcliff 8H Well  
Mannington District, Marion County

Dear Mr. Brewer,

EQT Production Company (EQT) has been notified by our cement providers that they will no longer be providing Class A cement. As a result of this, EQT is requesting the option to utilize Class L cement, if necessary, in place of Class A cement for its cement jobs.

The variance request from Legislative Rule 35CSR8, Section 9.2.h.8, related to the use of Class L Cement, was approved by the Office of Oil and Gas on September 13, 2022. A copy of the variance is included with this request.

If you have any questions, please do not hesitate to contact me at 724-746-9073.

Sincerely,

John Zavatchan  
Project Specialist - Permitting

Enc.

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west virginia department of environmental protection

Office of Oil and Gas  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304  
Phone (304) 928-0450

Harold D. Ward, Cabinet Secretary  
dep.wv.gov

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

**IN THE MATTER OF A VARIANCE FROM )  
LEGISLATIVE RULE 35CSR4 )  
SECTION 11.5 AND LEGISLATIVE RULE )  
35CSR8 SECTION 9.2.h.8., )  
RELATING TO THE CEMENTING )  
OF OIL AND GAS WELLS )**

**ORDER NO. 2022-14**

**REPORT OF THE OFFICE**

In response to industry requests, the West Virginia Department of Environmental Protection, Office of Oil and Gas has reviewed the proposed use of American Petroleum Institute (API) Class L cement to be used in place of API Class A cement for well construction.

**FINDINGS OF FACT**

1. On July 14, 2022, Northeast Natural Energy (NNE) submitted a variance request from Legislative Rule 35CSR8 Section 9.2.h.8., for the use of API Class L cement in place of API Class A cement, relating to the construction of horizontal wells.
2. Laboratory analysis submitted by NNE on July 14, 2022, indicates API Class L cement is comparable to API Class A cement and thereby satisfies the requirements of the West Virginia Code.
3. Contemporaneously, the Chief of the Office of Oil and Gas also chose to consider a variance to Legislative Rule 35CSR4 Section 11.5., for the use of API Class L cement in place of API Class A cement, relating to the construction of vertical wells.

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WV Department of Environmental Protection



4. On August 18, 2022, the Office of Oil and Gas provided public notice of acceptance of public comments on the variance consideration. During the 20-day public comment period, no comments were received.

### CONCLUSIONS OF LAW

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

Pursuant to Legislative Rule 35CSR4, Section 18 and Legislative Rule 35CSR8, Section 14, the Chief of the Office of Oil and Gas may grant a variance from any requirement of these rules.


### ORDER

It is ordered that the Class L cement product approved and monogrammed by API is approved for use in place of API Class A cement for well construction subject to the provisions of Legislative Rule 35CSR4 and Legislative Rule 35CSR8.

Dated this, the 13th day of September, 2022.

IN THE NAME OF THE STATE OF WEST VIRGINIA

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

  
\_\_\_\_\_  
James Martin, Chief  
Office of Oil and Gas

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Office of Oil and Gas

AUG 22 2023

WV Department of  
Environmental Protection

09/29/2023



WW-9  
(4/16)

API Number 47 - \_\_\_\_\_ - \_\_\_\_\_  
Operator's Well No. Radcliff 8H

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) Bartholomew Fork Quadrangle Glover Gap

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:

- 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 [Signature]

Company Official (Typed Name) John Zavatchan

Company Official Title Project Specialist - Permitting

Subscribed and sworn before me this 27<sup>th</sup> day of July, 2023

[Signature]

Notary Public

My commission expires March 9, 2024

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Office of Oil and Gas  
AUG 22 2023  
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Environmental Protection

Commonwealth of Pennsylvania - Notary Seal  
Rebecca Shrum, Notary Public  
Beaver County  
My commission expires March 9, 2024  
Commission number 1267706

Member, Pennsylvania Association of Notaries

09/29/2023

**EQT Production Company**

Proposed Revegetation Treatment: Acres Disturbed \_\_\_\_\_ Prevegetation pH \_\_\_\_\_

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type Granular 10-20-20

Fertilizer amount 500 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

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

**Attach:**

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *Randall M. Radcliff*

Comments: Pre-seed/mulch all disturbed areas as soon as reasonably possible, per regulation. Upgrade E&S as necessary per WV DEP E&S Manual.

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Office of Oil and Gas

AUG 22 2023

Title: Oil & Gas Inspector

Date: Aug. 2, 2023 WV Department of Environmental Protection

Field Reviewed?  Yes  No

## WW-9 Attachment

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

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

Additives to be used in drilling medium?

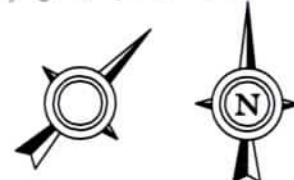
- Air - biodegradable oil lubricant, detergent, defoaming, water.
- Water based mud – Barite, viscosifer, alkalinity control, lime, filtration control, deflocculates, biodegradable oil lubricant, defoaming, walnut shell, salt, x-cide, carbonates.
- Synthetic mud – synthetic base oil, emulsifier, salt,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

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Environmental Protection

4704902518



PREVAILING WIND

RADCLIFF WELL PAD  
WELL PAD EXPANSION  
2' HIGH CONCRETE BERM

2H  
1H  
2' HIGH CONCRETE BERM  
WELL PAD EXPANSION

24-12-0040-0003-0000  
JASON G &  
HEATHER STOUT

SUMPS  
UNT TO BARTHOLOMEW FORK

EXISTING GAS LINE  
(APPROXIMATE LOCATION)

MOUNTABLE BERM  
LIMITS OF DISTURBANCE

UNT TO BARTHOLOMEW FORK  
(EPHEMERAL STREAM)

WELL PAD EXPANSION

24-12-0040-0010-0001  
JACKIE D & SHEA L  
RADCLIFF

EXCESS MATERIAL STOCKPILE

24-12-0040-0010-0001  
JACKIE D & SHEA L  
RADCLIFF

EXISTING ROCK PILE

DELINEATED WETLAND  
0.033 AC

EXISTING ROCK PILE

DELINEATED WETLAND  
0.007 AC

TRUCK PULL OFF AREA

DELINEATED WETLAND  
0.089 AC

DELINEATED WETLAND  
0.095 AC

DELINEATED WETLAND  
0.015 AC

DELINEATED WETLAND  
0.048 AC

DELINEATED WETLAND  
0.135 AC

UNT TO BARTHOLOMEW FORK

24-12-0040-0002-0000  
WINFORD H & LULA  
B KNIGHT

RECEIVED  
Office of Oil and Gas

AUG 22 2023

24-12-0040-0002-0000  
JULIE A & BOB  
SWEENEY  
WV Department of  
Environmental Protection

MURRAY RUN (CR-44)

24-12-0040-0023-0000  
HILDA L SWEENEY

UNT TO BARTHOLOMEW FORK

REFERENCES UNITED STATES GEOLOGICAL SURVEY - GLOVER GAP  
QUADRANGLE, STATE, 7.5 MINUTE SERIES

SCALE : 0 350 ft.

WW-9 EXHIBIT  
made for  
EQT PRODUCTION COMPANY  
RADCLIFF WELL SITE  
MARION COUNTY, WEST VIRGINIA  
prepared by  
DIEFFENBAUCH & HRITZ, LLC  
1095 Chaplin Rd Suite 200, Morgantown, WV 26501  
Phone: 304-985-5555 Fax: 304-985-5557

09/29/2023

SCALE: 1:350 PLOTTED: 0/11/2021 11:35 AM FILE: X:\OIL AND GAS\ECT\2020\20070-028 - RADCLIFF\CADD (K DRIVE) - \M\TO CLIENT\DWG\RADCLIFF\_WW-9 EXHIBIT.DWG



# SITE SAFETY AND ENVIRONMENTAL PLAN

## Radcliff Well Site

Mannington  
Marion County, WV

Wells: 1H - 47-049-02281, 2H - 47-049-02282, 4H, 6H, 8H, 10H,  
12H- 47-049-02510, 14H, 16H, 18H

Prepared By: Donny Prater, CSP, Health and Safety Sciences, LLC  
Approved By: Scott M. Held, Senior Safety Coordinator  
Created Date: 8-Apr-21

*John F. Zavatchan Jr.*

John Zavatchan  
Project Specialist - Permitting  
EQT Production Company

Randall M. Kirchberg  
Digitally signed by Randall M. Kirchberg  
Date: 2023.08.03 15:50:13 -04'00'

Oil and Gas Inspector  
WVDEP Office of Oil and Gas

09/29/2023



Topo Quad: Glover Gap

Scale: 1" = 1000' 4704902518

County: Marion

Date: September 29, 2021

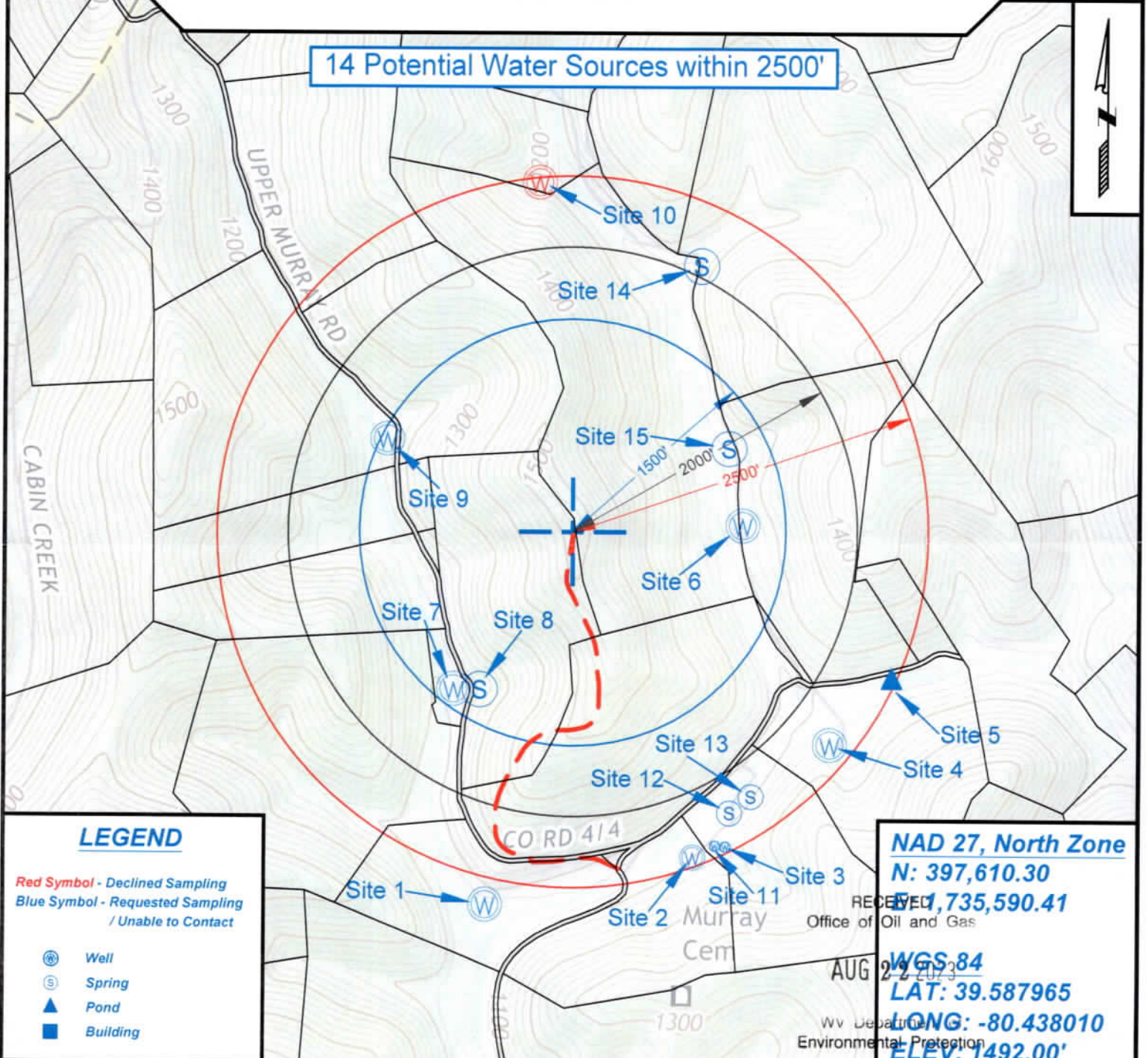
District: Mannington

Project No: 113-18-M-21

Water

# Radcliff South Well Pad

14 Potential Water Sources within 2500'



### LEGEND

Red Symbol - Declined Sampling  
 Blue Symbol - Requested Sampling / Unable to Contact

- Well
- Spring
- Pond
- Building

**NAD 27, North Zone**  
**N: 397,610.30**

**E: 1,735,590.41**

**WGS 84**

**LAT: 39.587965**

**LONG: -80.438010**

**ELEV: 1492.00'**

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 Office of Oil and Gas  
 AUG 29 2023  
 Wv Department of Environmental Protection



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**

400 Woodcliff Drive  
 Canonsburg, PA 15317

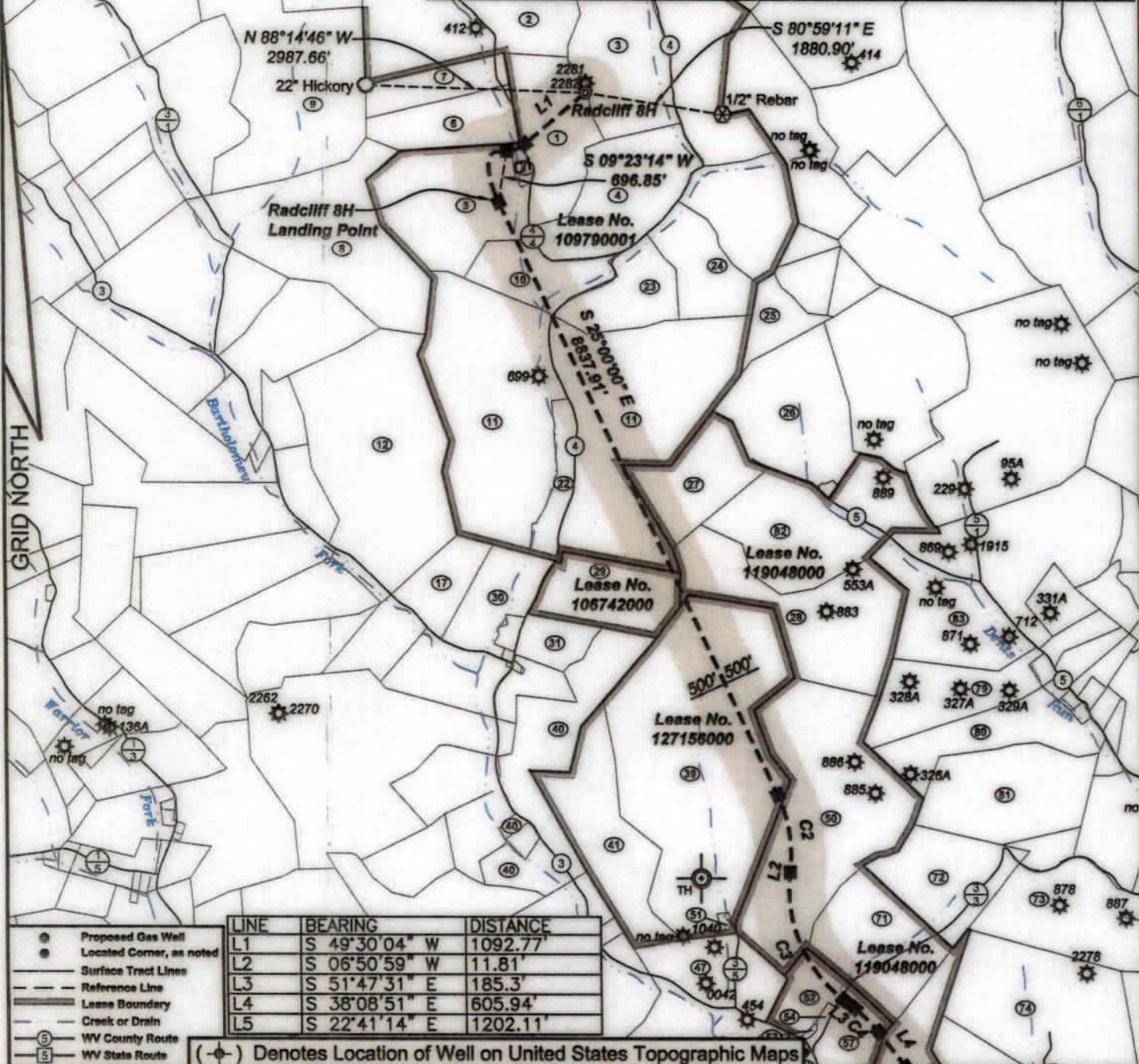
09/29/2023



TH: 6018' LAT: 39-37-30

**Radcliff 8H**  
**Radcliff**  
**EQT Production Company**

CURVE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	400.02'	267.79'	S 68°40'45" W	262.82'
C2	1908.93'	1061.14'	S 09°04'30" E	1047.53'
C3	1906.58'	1951.37'	S 22°28'16" E	1867.3'
C4	1906.64'	454.05'	S 44°58'11" E	452.98'
C5	1909.25'	515.18'	S 30°25'03" E	513.62'



LINE	BEARING	DISTANCE
L1	S 49°30'04" W	1092.77'
L2	S 06°50'59" W	11.81'
L3	S 51°47'31" E	185.3'
L4	S 38°08'51" E	605.94'
L5	S 22°41'14" E	1202.11'



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

*Ben R. Singleton*

P.S. 2092



SEAL

FILE NO: 113-21  
DRAWING NO: Radcliff 8H  
SCALE: 1" = 2000'  
MINIMUM DEGREE OF ACCURACY: 1:2500  
PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

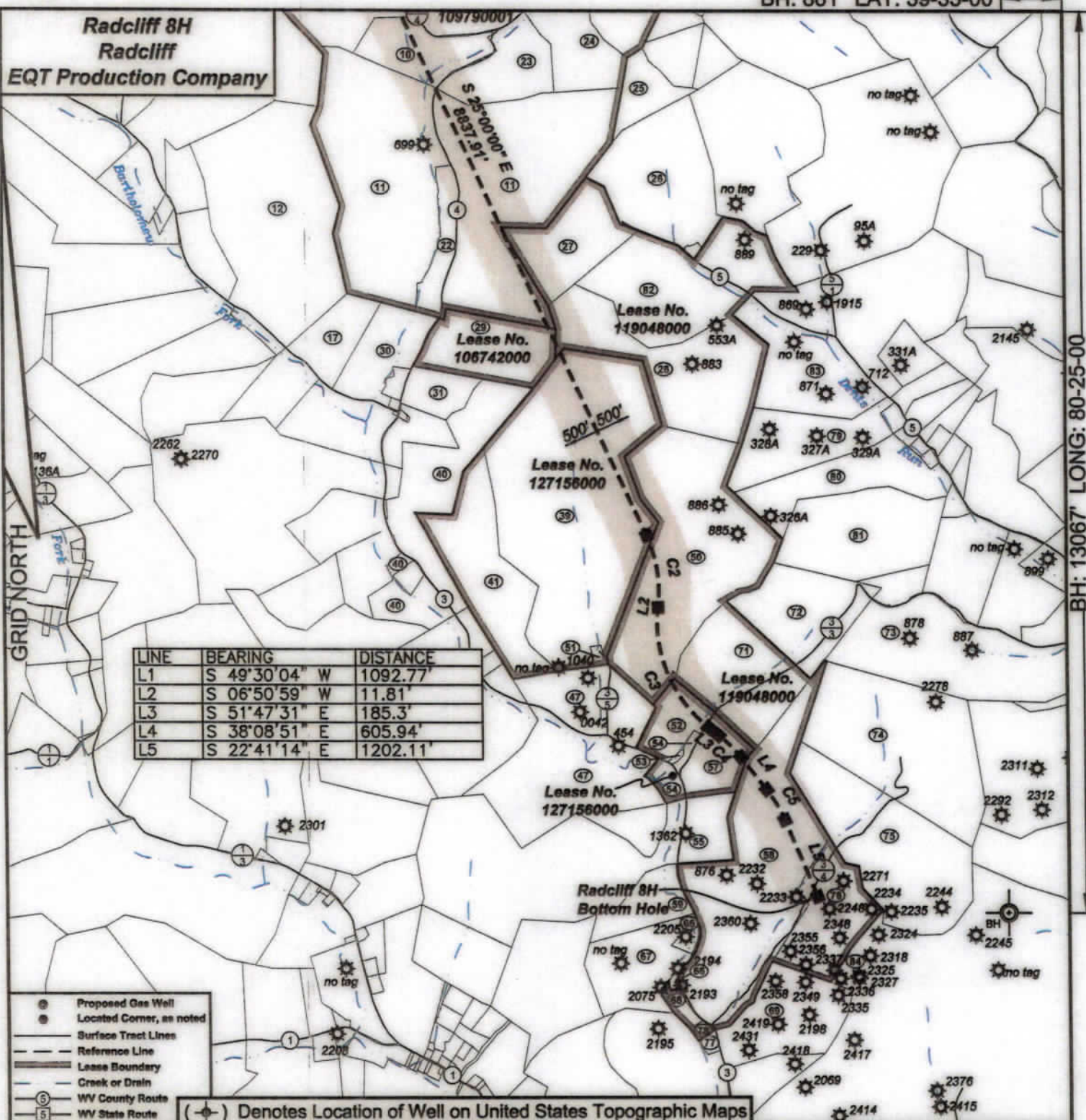
DATE: August 15 20 23  
OPERATOR'S WELL NO.: Radcliff 8H  
API WELL NO  
47 - 049 - 02518  
STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
(IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
LOCATION: ELEVATION: 1493' WATERSHED Bartholomew Fork QUADRANGLE: Glover Gap  
DISTRICT: Mannington COUNTY: Marion  
SURFACE OWNER: Jackie D. & Shella L. Radcliff ACREAGE: 48.05  
ROYALTY OWNER: Rebecca R. Shuttlesworth, et al. LEASE NO: 109790001 ACREAGE: 1090  
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: 7916'

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

09/29/2023





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OIL AND GAS DIVISION

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47 - 049 - 01518  
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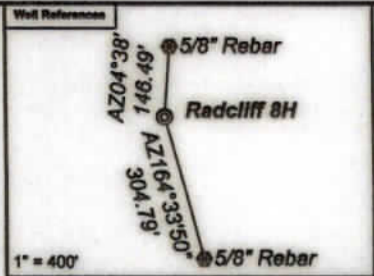
09/29/2023



**Radcliff 8H**  
**Radcliff**  
**EQT Production Company**

Tract ID	Tax Map No.	Parcel No.	County	District
1	40	10.1	Marion	Mannington
2	40	10	Marion	Mannington
3	40	3	Marion	Mannington
4	40	2	Marion	Mannington
5	40	11	Marion	Mannington
6	40	12	Marion	Mannington
7	40	13	Marion	Mannington
8	40	16	Marion	Mannington
9	40	17	Marion	Mannington
10	40	23	Marion	Mannington
11	39	4	Marion	Mannington
12	40	22	Marion	Mannington
17	44	14	Marion	Mannington
22	39	4.1	Marion	Mannington
23	40	2.2	Marion	Mannington
24	40	2.3	Marion	Mannington
25	39	3	Marion	Mannington
26	39	5	Marion	Mannington
27	39	21.3	Marion	Mannington
28	39	21	Marion	Mannington
29	39	1	Marion	Mannington
30	44	11	Marion	Mannington
31	39	2	Marion	Mannington
39	39	10	Marion	Mannington
40	39	8	Marion	Mannington
41	39	9	Marion	Mannington
47	44	1	Marion	Mannington
50	39	11	Marion	Mannington
51	39	10.1	Marion	Mannington
52	39	13.3	Marion	Mannington
53	39	13	Marion	Mannington
54	39	13.2	Marion	Mannington
55	37	21	Marion	Mannington
57	39	13.1	Marion	Mannington
58	37	22	Marion	Mannington
59	37	20	Marion	Mannington
66	37	19	Marion	Mannington
67	37	18	Marion	Mannington
68	37	22.1	Marion	Mannington
69	37	17	Marion	Mannington
71	39	14	Marion	Mannington
72	39	14.1	Marion	Mannington
73	37	34	Marion	Mannington
74	37	23	Marion	Mannington
75	37	24	Marion	Mannington
76	37	25	Marion	Mannington
77	37	17.1	Marion	Mannington
78	37	22.2	Marion	Mannington
79	39	19	Marion	Mannington
80	39	19.4	Marion	Mannington
81	39	15	Marion	Mannington
82	39	21.1	Marion	Mannington
83	39	20	Marion	Mannington
84	37	28	Marion	Mannington

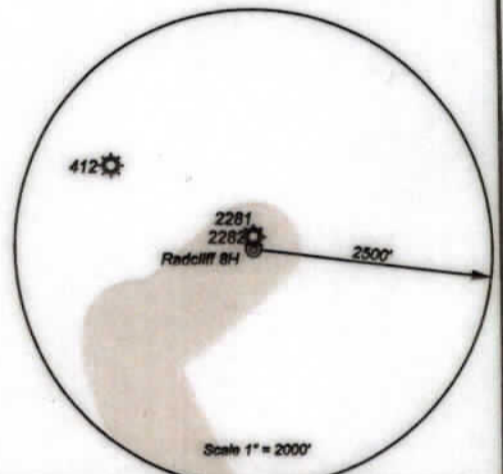
Surface Tract Owner	Acres
Jackie D. & Sheila L. Radcliff	48.08
Shelly L. Nelson	43.03
Jason G. & Heather R. Stout	99.75
Lulu B. Knight	56.32
Clarence W. Sweeney	63
Jackie D. & Sheila L. Radcliff	27.35
Shelly L. Nelson	13.75
Winford Cole	92.12
Steven S. Newbraugh	108.7
Sara M. Parson, et al.	26.41
Coastal Forest Resources Company	85.722
James B. Notable Kerns	113.25
Charles D. & June Shaver	22.7
Thomas R. & Joann McSorley	14.9
James W. Boore	29.52
Jasen G. & Heather R. Stout	29.58
Thomas G. & Theresa A. Jones	10.25
Thomas G. & Theresa A. Jones	81.85
David Muffield	37.252
Dennis G. & Louise M. Hayes	74.895
Cathy B. & Jennifer J. Allender	37.25
Charles D. & June Shaver	57.75
Justin B. Kendra Davis	13.05
Thomas E. & Andrea G. Ryan	176.15
John D. & Raj K. Carson	64.55
Thomas E. & Andrea G. Ryan	62
Edna Marie Cain	107.5
Yule H. Haskins	115
Michael E. & Laura A. Gorbey	1.15
Christine L. Fragale, et al.	15.87
Cindy Slaton, et al.	0.54
Christine L. Fragale, et al.	7
Justin H. Cain	129.85
Christine L. Fragale, et al.	16.36
Jeffrey H. Michael	105.83
Justin H. Cain	18
Gary E. Snodgrass	3.61
Tommy L. & Terri A. Snodgrass	31.05
Ronald C. & Betty L. Michael, et al.	5.17
Jeffrey H. Michael	96.04
Nancy M. Rigg	52
John A. Mayhew, Jr.	48
James D. Adkinson	112.5
Christine L. Fragale, et al.	95
Jeffrey H. Michael	79
Jeffrey H. Michael	33.75
Ronald C. & Betty L. Michael	1.46
Ronald C. & Betty L. Michael	1.5
Dorothy D. Hendershot	36.348
William E. Hendershot	39.702
Michael S. Julia A. Billie	58.67
Douglas E. & Debora J. Muffield	54.609
Dennis G. & Louise M. Hayes	59.24
Harrison County Coal Resources Inc.	91



**Notes:**  
 Radcliff 8H coordinates are  
 NAD 83 N: 397,580.06 E: 1,704,148.58  
 NAD 83 Lat: 39.587778 Long: -80.438020  
 NAD 83 UTM N: 4,382,157.11 E: 548,257.83  
 Radcliff 8H Landing Point coordinates are  
 NAD 83 N: 396,087.30 E: 1,702,959.13  
 NAD 83 Lat: 39.583646 Long: -80.442184  
 NAD 83 UTM N: 4,381,896.27 E: 547,903.04  
 Radcliff 8H Bottom Hole coordinates are  
 NAD 83 N: 382,841.91 E: 1,709,135.55  
 NAD 83 Lat: 39.547459 Long: -80.419790  
 NAD 83 UTM N: 4,377,892.30 E: 549,852.12  
 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.

- Radcliff**
- Radcliff 18H
  - Radcliff 16H
  - Radcliff 14H
  - Radcliff 12H
  - Radcliff 10H
  - Radcliff 8H
  - Radcliff 6H
  - Radcliff 4H

Lease No.	Owner	Acres
109790001	Rebecca R. Shuttlesworth, et al.	1090
119048000	Lee and Hall Royalties, et al.	809
106742000	The Sheila Lightfoot Revocable Trust, et al.	37.25
127156000	EQT Production Company, et al.	240
127156000	EQT Production Company, et al.	41



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

*Ben R. Singleton*  
P.S. 2092



FILE NO: 113-21  
 DRAWING NO: Radcliff 8H  
 SCALE: 1" = 2000'  
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 47 - 049 - 02518  
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WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Joseph C. Mallow  
 ADDRESS: 400 Woodcliff Drive ADDRESS: 427 Midstate Drive  
 Canonsburg, PA 15317 Clarksburg, WV 26301

09/29/2023

**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

RECEIVED  
Office of Oil and Gas

**AUG 22 2023**

WV Department of  
Environmental Protection

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: EQT Production Company *John F. Zavatchan Jr.*  
 By: John Zavatchan  
 Its: Project Specialist - Permitting

Lease No.	Grantor, Lessor, etc.	Acres	Grantee, Lessee, etc.	Royalty	Book/Page
109790001	<u>Rebecca R. Shuttlesworth, et al.</u> Rebecca R. Shuttlesworth, Power of Attorney for Robert Lee Gwinn, Sr., Widower American Shale Development, Inc. Republic Partners VIII, LLC Republic Energy Ventures, LLC American Shale Development, Inc.	1090 ac	American Shale Development, Inc.	*at least 1/8th per WW Code 22-6-8"	DB 1117/329
			Republic Energy Ventures, LLC		AB 47/469
			Republic Partners VIII, LLC		
			EQT Production Company		AB 51/525
			EQT Production Company		DB 1228/1
					Confirmatory Deed
119048000	<u>Lee and Hall Royalties, et al.</u> J.L. Hays and A.J. Hays Delmar Oil Company E. H. Jennings Bros. Company  Quaker State Oil Refining Corporation  B-C Oil and Gas Company, Inc. Clarence W. Mutschelknaus, Sr. Clarence W. Mutschelknaus, Jr. Jacklyn A. Rominger William R. Johnson Cobham Gas Industries, Inc. Prima Oil Company, et al. Trans Energy, Inc. Prima Oil Company, Inc. Trans Energy, Inc. Prima Oil Company Trans Energy, Inc. American Shale Development, Inc. Republic Partners VIII, LLC Republic Energy Ventures, LLC, et al. American Shale Development, Inc., et al.	809 ac	Delmar Oil Company	*at least 1/8th per WW Code 22-6-8"	DB 88/427
			E. H. Jennings Bros. Company		DB 354/341
			Quaker State Oil Refining Corporation		DB 467/61
					DB 754/403
					AB 6/132
			B-C Oil and Gas Company, Inc.		
			Clarence W. Mutschelknaus, Sr.		
			Clarence W. Mutschelknaus, Jr.		
			Jacklyn A. Rominger		
			William R. Johnson		AB 12/293
			Cobham Gas Industries, Inc.		AB 15/339
			Prima Oil Company		AB 27/258
			Trans Energy, Inc.		AB 30/165
			Republic Energy Ventures, LLC		AB 39/953
			Republic Energy Ventures, LLC		AB 41/325
Trans Energy, Inc.	DB 1113/756				
Prima Oil Company	AB 43/420				
Trans Energy, Inc.	AB 47/469				
American Shale Development, Inc.					
Republic Partners VIII, LLC					
Republic Energy Ventures, LLC, et al.					
American Shale Development, Inc., et al.					
106742000	<u>The Sheila Lightfoot Revocable Trust</u> Sheila Lightfoot, single, individually and Tina Fischer, single, by Sheila Lightfoot acting in her capacity as Attorney-In-Fact for Tina Fischer American Shale Development, Inc. Republic Energy Ventures, LLC Republic Partners VIII, LLC Republic Energy Ventures, LLC, et al. American Shale Development, Inc., et al.	37.25 ac	American Shale Development, Inc.	*at least 1/8th per WW Code 22-6-8"	DB 1136/481
			Republic Energy Ventures, LLC		AB 47/469
			Republic Partners VIII, LLC		AB 51/393
			American Shale Development, Inc.		
			EQT Production Company		AB 51/525
EQT Production Company	DB 1228/1				

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127156000  
EQT Production Company, et al.  
Republic Energy Ventures, LLC  
Republic Partners VIII, LLC

240 ac EQT Production Company

"at least 1/8th per WV  
Code 22-6-8"

DB 1200/1

127156000  
EQT Production Company, et al.  
Republic Energy Ventures, LLC  
Republic Partners VIII, LLC

41 ac EQT Production Company

"at least 1/8th per WV  
Code 22-6-8"

DB 1200/1

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EQT PRODUCTION COMPANY  
400 Woodcliff Drive | Canonsburg, PA 15317

June 27, 2023

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

Re: Radcliff 8H Gas Well  
Mannington District, Marion County, WV

Dear Mr. Brewer,

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

Sincerely,

A handwritten signature in blue ink, appearing to read 'J. Zavatchan'.

John Zavatchan  
Project Specialist - Permitting

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

Date of Notice Certification: 8/18/2023

API No. 47- \_\_\_\_\_  
Operator's Well No. 8H  
Well Pad Name: Radcliff

**Notice has been given:**

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

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>548,257.828</u>
County: <u>Marion</u>		Northing: <u>4,382,157.107</u>
District: <u>Mannington</u>	Public Road Access: <u>CR 4</u>	
Quadrangle: <u>Glover Gap</u>	Generally used farm name: <u>Jackie D. Radcliff and Sheila L. Radcliff</u>	
Watershed: <u>Bartholomew Fork</u>		

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

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

**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.

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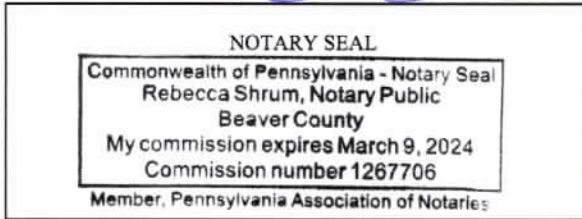
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**Certification of Notice is hereby given:**

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

Well Operator:	<u>EQT Production Company</u>	Address:	<u>400 Woodcliff Drive</u>
By:	<u>Todd Klaner</u>		<u>Canonsburg, PA 15317</u>
Its:	<u>Director - Permitting</u>	Facsimile:	<u>412-395-2974</u>
Telephone:	<u>724-746-9023</u>	Email:	<u>tklaner@eqt.com</u>



Subscribed and sworn before me this 18<sup>th</sup> day of August 2023.  
Rebecca Shrum Notary Public  
 My Commission Expires March 9, 2023

**Oil and Gas Privacy Notice:**

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

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**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:** 8/18/2023 **Date Permit Application Filed:** 8/21/2023

Notice of:

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

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

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

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

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

SURFACE OWNER(s)

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

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Road and/or Other Disturbance)

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

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Impoundments or Pits)

Name: N/A  
Address: \_\_\_\_\_

COAL OWNER OR LESSEE

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

COAL OPERATOR

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER OF WATER WELL

AND/OR WATER PURVEYOR(s)  
Name: See Attached List  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

\*Please attach additional forms if necessary

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**Notice is hereby given:**

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

**This Notice Shall Include:**

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

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

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

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

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

**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 of spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

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

**Water Well Testing:**

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

**Water Testing Laboratories:**

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

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

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

**Written Comment:**

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

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

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

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

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

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

**Comment Requirements**

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

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

**Permit Denial or Condition**

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

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

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

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

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WW-6A  
(8-13)

API NO. 47- \_\_\_\_\_ - \_\_\_\_\_  
OPERATOR WELL NO. 8H  
Well Pad Name: Radcliff

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**Notice is hereby given by:**

Well Operator: EQT Production Company  
Telephone: 724-746-9023  
Email: tklaner@eqt.com

Address: 400 Woodcliff Drive  
Canonsburg, PA 15317  
Facsimile: 412-395-2974

**Oil and Gas Privacy Notice:**

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

Commonwealth of Pennsylvania - Notary Seal  
Rebecca Shrum, Notary Public  
Beaver County  
My commission expires March 9, 2024  
Commission number 1267706  
Member, Pennsylvania Association of Notaries

Subscribed and sworn before me this 18<sup>th</sup> day of August 2023.

Rebecca Shrum Notary Public

My Commission Expires March 9, 2024

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**Surface Owners:**

Jackie D. Radcliff and Sheila L. Radcliff ✓  
161 Cabin Creek Rd.  
Mannington, WV 26582

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

Jason G. Stout ✓  
637 Upper Murray Rd.  
Mannington, WV 26582

Heather R. Stout ✓  
546 Upper Murray Rd.  
Mannington, WV 26582

Lula B. Knight ✓  
638 Upper Murray Rd.  
Mannington, WV 26582

Clarence W. Sweeney, et. al. ✓  
PO Box 219  
Fairmont, WV 26555

**Coal Owners:**

Consol Mining Company ✓  
1000 Consol Energy Drive  
Canonsburg, PA 15317

Douglas A. Gwinn ✓  
95 Sabraton Avenue  
Fairmont, WV 26554

Rebecca Shuttlesworth ✓  
468 Katy Road  
Fairmont, WV 26554

Cathie L. Ebert ✓  
506 Katy Road  
Fairmont, WV 26554

Mike Ross, Inc. ✓  
PO Box 219  
Coalton, WV 26257

I.L. Morris ✓  
PO Box 397  
Glenville, WV 26351

Cynthia Ann Garner ✓  
314 Woodridge Drive  
Locust Grove, GA 3024

Amy Renee Russell ✓  
141 Lossie Lane  
McDonough, GA 30253

Charles Stewart ✓  
181 East Chestnut Street  
Blairsville, PA 15717

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James R. Batson ✓  
3 Red Sky Drive  
Morgantown, WV 26508

Sandra F. Hulsey ✓  
PO Box 238  
Worthington, WV 26591

Sharon D. Wright ✓  
209 Jefferson Street  
Mannington, WV 26582

William Williamson ✓  
21811 Aquasco Road  
Aquasco, MD 20608

**Water Supply Owners within 1,500':**

Jason and Michelle Stout ✓  
637 Upper Murray Rd.  
Mannington WV 26582

Jackie D. Radcliff and Sheila L. Radcliff ✓  
161 Cabin Creek Rd.  
Mannington, WV 26582

Shelly Nelson ✓  
325 Cabin Creek Rd.  
Mannington WV 26582

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Topo Quad: Glover Gap

Scale: 1" = 1000'

County: Marion

Date: September 29, 2021

District: Mannington

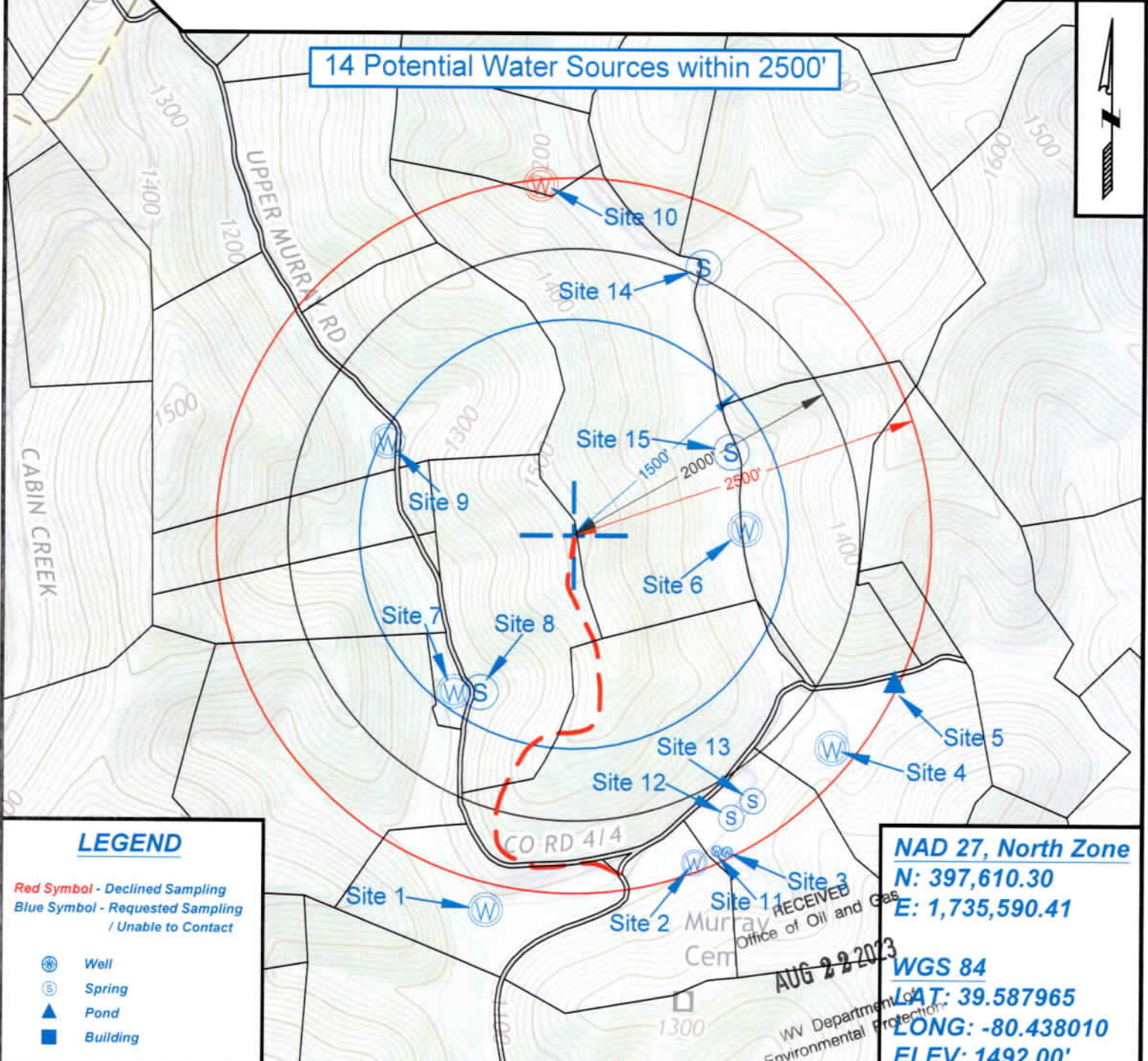
Project No: 113-18-M-21

Water

# Radcliff South Well Pad

47 0 4 9 0 2 5 1 8

14 Potential Water Sources within 2500'



### LEGEND

Red Symbol - Declined Sampling  
 Blue Symbol - Requested Sampling  
 / Unable to Contact

- Well
- Spring
- Pond
- Building

NAD 27, North Zone

N: 397,610.30

E: 1,735,590.41

WGS 84

LAT: 39.587965

LONG: -80.438010

ELEV: 1492.00'



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

400 Woodcliff Drive  
 Canonsburg, PA 15317

09/29/2023



**Table 1 – Water Source Identification**

EQT Well Pad Name: **Radcliff South**

Submittal Date: **7/14/2023**

EQT Well Number: \_\_\_\_\_

Survey / Engineering Company: **Allegheny Surveys, Inc.**

Site Number: **1** Distance from Gas Well (feet): **2690.72**

Surface Owner / Occupant: **Richard Beaty** (formerly Sweeney)

Address: **481 Upper Murray Rd. Mannington WV 26582** Phone #: **304-986-2878**

Field Located Date: **9/27/2018** Owner home during survey (yes/no): **Yes**

Coordinates: **39.345062, -80.262371** (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: **9/26/2018** 2<sup>nd</sup>: **9/29/2021** Door Hanger Left: \_\_\_\_\_

Comments: **Water well located behind mobile home next to outbuilding. Very nice man.**

<input checked="" type="checkbox"/> Landowner Requested Sampling <input type="checkbox"/> Landowner Decline Sampling <input type="checkbox"/> Unable to Contact <small>(Further contact attempts to be made by EQT's third party pre-drill sampling lab)</small>
---

Site Number: **2** Distance from Gas Well (feet): **2460.96**

Surface Owner / Occupant: **James and Jonella Boore**

Address: **468 Upper Murray Rd. Mannington WV 26582** Phone #: **304-986-1517**

Field Located Date: **9/27/2018** Owner home during survey (yes/no): **Yes**

Coordinates: **39.345410, -80.260514** (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: **9/26/2018** 2<sup>nd</sup>: **9/30/2021** Door Hanger Left: \_\_\_\_\_

Comments: **Water well located on NE side of house. Very friendly.**

<input checked="" type="checkbox"/> Landowner Requested Sampling <input type="checkbox"/> Landowner Decline Sampling <input type="checkbox"/> Unable to Contact <small>(Further contact attempts to be made by EQT's third party pre-drill sampling lab)</small>
---

Site Number: **3** Distance from Gas Well (feet): **2485.91**

Surface Owner / Occupant: **Heather Stout**

Address: **546 Upper Murray Rd. Mannington WV 26582** Phone #: **304-986-1577**

Field Located Date: **9/27/2018** Owner home during survey (yes/no): **No**

Coordinates: **39.345487, -80.260221** (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: **9/26/2018** 2<sup>nd</sup>: **9/30/2021** Door Hanger Left: **Yes**

Comments: **Spoke to friend there. Said she would ask and be in touch. Water well located behind house.**

<input checked="" type="checkbox"/> Landowner Requested Sampling <input type="checkbox"/> Landowner Decline Sampling <input type="checkbox"/> Unable to Contact <small>(Further contact attempts to be made by EQT's third party pre-drill sampling lab)</small>
---

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(Insert additional pages as needed)



Site Number: **4** Distance from Gas Well (feet): **2376.91**

Surface Owner / Occupant: **Winford Knight**

Address: **638 Upper Murray Rd. Mannington WV 26582** Phone #: **304-986-1807**

Field Located Date: **9/27/2018** Owner home during survey (yes/no): **Yes**

Coordinates: **39.350209, -80.255303** (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: **9/26/2018** 2<sup>nd</sup>: **9/30/2021** Door Hanger Left: \_\_\_\_\_

Comments: **Water well located beside aluminum wheelchair ramp. Unable to see water well. Nice elderly couple.**

<input checked="" type="checkbox"/>	Landowner Requested Sampling
<input type="checkbox"/>	Landowner Decline Sampling
<input type="checkbox"/>	Unable to Contact (Further contact attempts to be made by EQT's third party pre-drill sampling lab)

Site Number: **5** Distance from Gas Well (feet): **2461.76**

Surface Owner / Occupant: **Winford Knight**

Address: **638 Upper Murray Rd. Mannington WV 26582** Phone #: **304-986-1807**

Field Located Date: **9/27/2018** Owner home during survey (yes/no): **Yes**

Coordinates: **39.350687, -80.254806** (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: **9/26/2018** 2<sup>nd</sup>: **9/30/2021** Door Hanger Left: \_\_\_\_\_

Comments: **Pond located.**

<input checked="" type="checkbox"/>	Landowner Requested Sampling
<input type="checkbox"/>	Landowner Decline Sampling
<input type="checkbox"/>	Unable to Contact (Further contact attempts to be made by EQT's third party pre-drill sampling lab)

Site Number: **6** Distance from Gas Well (feet): **1231.83**

Surface Owner / Occupant: **Jason and Michelle Stout**

Address: **637 Upper Murray Rd. Mannington WV 26582** Phone #: **304-986-1087**

Field Located Date: **10/08/2018** Owner home during survey (yes/no): **Yes**

Coordinates: **39.351716, -80.260111** (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: **9/26/2018** 2<sup>nd</sup>: **9/30/2021** Door Hanger Left: **Yes**

Comments: **Spoke to Michelle. Said she would ask and be in touch. Located water well on 10/08/2018.**

<input checked="" type="checkbox"/>	Landowner Requested Sampling
<input type="checkbox"/>	Landowner Decline Sampling
<input type="checkbox"/>	Unable to Contact (Further contact attempts to be made by EQT's third party pre-drill sampling lab)

Site Number: **7** Distance from Gas Well (feet): **1367.33**

Surface Owner / Occupant: **Jackie Radcliff**

Address: **161 Cabin Creek Rd. Mannington WV 26582** Phone #: **304-986-3968**

Field Located Date: **9/27/2018** Owner home during survey (yes/no): **Yes**

Coordinates: **39.351716, -80.260111** (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: **9/26/2018** 2<sup>nd</sup>: **9/30/2021** Door Hanger Left: **Yes**

Comments: **Water well located 9/27/2018 on upper end of house.**

<input checked="" type="checkbox"/>	Landowner Requested Sampling
<input type="checkbox"/>	Landowner Decline Sampling
<input type="checkbox"/>	Unable to Contact (Further contact attempts to be made by EQT's third party pre-drill sampling lab)

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Site Number: **8** Distance from Gas Well (feet): **1318.14**

Surface Owner / Occupant: **Jackie Radcliff**

Address: **161 Cabin Creek Rd. Mannington WV 26582** Phone #: **304-986-3968**

Field Located Date: **9/27/2018** Owner home during survey (yes/no): **Yes**

Coordinates: **39.350548, -80.262547** (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: **9/26/2018** 2<sup>nd</sup>: **9/30/2021** Door Hanger Left: \_\_\_\_\_

Comments: **Spring located next to road coming off hill.**

<input checked="" type="checkbox"/>	Landowner Requested Sampling
<input type="checkbox"/>	Landowner Decline Sampling
<input type="checkbox"/>	Unable to Contact <small>(Further contact attempts to be made by EQT's third party pre-drill sampling lab)</small>

Site Number: **9** Distance from Gas Well (feet): **1416.84**

Surface Owner / Occupant: **Shelly Nelson (Formerly Sandor Frecska)**

Address: **325 Cabin Creek Rd. Mannington WV 26582** Phone #: **304-986-1807**

Field Located Date: **9/27/2018** Owner home during survey (yes/no): **Yes**

Coordinates: **39.350687, -80.254806** (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: **9/26/2018** 2<sup>nd</sup>: **9/30/2021** Door Hanger Left: \_\_\_\_\_

Comments: **Water well located next to driveway beside garage.**

<input checked="" type="checkbox"/>	Landowner Requested Sampling
<input type="checkbox"/>	Landowner Decline Sampling
<input type="checkbox"/>	Unable to Contact <small>(Further contact attempts to be made by EQT's third party pre-drill sampling lab)</small>

Site Number: **10** Distance from Gas Well (feet): **2429**

Surface Owner / Occupant: **EBX-EM LLC**

Address: **6575 W Loop S Ste 300, Bellaire TX 77401** Phone #: \_\_\_\_\_

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: **39.354067, -80.261879** (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: \_\_\_\_\_ 2<sup>nd</sup>: \_\_\_\_\_ Door Hanger Left: \_\_\_\_\_

Comments: **Property behind gate. Has water well. Formerly Henry Deem - called on 10/4/2021 & said he had sold property. Signature page received 10/11/2021 declining sampling. Property was granted to EBX-EM LLC on 9/15/2021 (DB 1289/894).**

<input type="checkbox"/>	Landowner Requested Sampling
<input type="checkbox"/>	Landowner Decline Sampling
<input type="checkbox"/>	Unable to Contact <small>(Further contact attempts to be made by EQT's third party pre-drill sampling lab)</small>

Site Number: **11** Distance from Gas Well (feet): **2448.09**

Surface Owner / Occupant: **Heather Stout**

Address: **546 Upper Murray Rd. Mannington WV 26582** Phone #: **304-986-1577**

Field Located Date: **10/15/2018** Owner home during survey (yes/no): **No**

Coordinates: **39.345492, -80.260315** (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: **9/26/2018** 2<sup>nd</sup>: **9/30/2021** Door Hanger Left: **Yes**

Comments: **Stout's second water well located at end of house.**

<input checked="" type="checkbox"/>	Landowner Requested Sampling
<input type="checkbox"/>	Landowner Decline Sampling
<input type="checkbox"/>	Unable to Contact <small>(Further contact attempts to be made by EQT's third party pre-drill sampling lab)</small>

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Site Number: 12 Distance from Gas Well (feet): 2290.16

Surface Owner / Occupant: Heather Stout

Address: 546 Upper Murray Rd. Mannington WV 26582 Phone #: 304-986-1577

Field Located Date: 10/15/2018 Owner home during survey (yes/no): No

Coordinates: 39.345721, -80.260191 (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: 9/26/2018 2<sup>nd</sup>: 9/30/2021 Door Hanger Left: Yes

Comments: Spring located near garage in fence line.

<input checked="" type="checkbox"/>	Landowner Requested Sampling
<input type="checkbox"/>	Landowner Decline Sampling
<input type="checkbox"/>	Unable to Contact (Further contact attempts to be made by EQT's third party pre-drill sampling lab)

Site Number: 13 Distance from Gas Well (feet): 2272

Surface Owner / Occupant: Heather Stout

Address: 546 Upper Murray Rd. Mannington WV 26582 Phone #: 304-986-1577

Field Located Date: 10/15/2018 Owner home during survey (yes/no): No

Coordinates: 39.345838, -80.260001 (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: 9/26/2018 2<sup>nd</sup>: 9/30/2021 Door Hanger Left: Yes

Comments: Spring in tree line next to barn. Must go through electric fence. Very muddy.

<input checked="" type="checkbox"/>	Landowner Requested Sampling
<input type="checkbox"/>	Landowner Decline Sampling
<input type="checkbox"/>	Unable to Contact (Further contact attempts to be made by EQT's third party pre-drill sampling lab)

Site Number: 14 Distance from Gas Well (feet): 2078.98

Surface Owner / Occupant: Jason and Michelle Stout

Address: 637 Upper Murray Rd. Mannington WV 26582 Phone #: 304-986-1087

Field Located Date: 10/08/2018 Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: 39.353512, -80.260514 (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: 9/26/2018 2<sup>nd</sup>: 9/30/2021 Door Hanger Left: Yes

Comments: Stream located on upper end of Stout's property. Very rough and muddy road.

<input checked="" type="checkbox"/>	Landowner Requested Sampling
<input type="checkbox"/>	Landowner Decline Sampling
<input type="checkbox"/>	Unable to Contact (Further contact attempts to be made by EQT's third party pre-drill sampling lab)

Site Number: 15 Distance from Gas Well (feet): 1270.14

Surface Owner / Occupant: Jason and Michelle Stout

Address: 637 Upper Murray Rd. Mannington WV 26582 Phone #: 304-986-1087

Field Located Date: 10/08/2018 Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: 39.352244, -80.260243 (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: 9/26/2018 2<sup>nd</sup>: 9/30/2021 Door Hanger Left: Yes

Comments: Stream located closer to Stout's house.

<input checked="" type="checkbox"/>	Landowner Requested Sampling
<input type="checkbox"/>	Landowner Decline Sampling
<input type="checkbox"/>	Unable to Contact (Further contact attempts to be made by EQT's third party pre-drill sampling lab)

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**Surface Owners:**

Jackie D. Radcliff and Sheila L. Radcliff ✓  
161 Cabin Creek Rd.  
Mannington, WV 26582

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

Jason G. Stout ✓  
637 Upper Murray Rd.  
Mannington, WV 26582

Heather R. Stout  
546 Upper Murray Rd.  
Mannington, WV 26582

Lula B. Knight ✓  
638 Upper Murray Rd.  
Mannington, WV 26582

Clarence W. Sweeney, et. al. ✓  
PO Box 219  
Fairmont, WV 26555

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**Surface Owners:**

Jackie D. Radcliff and Sheila L. Radcliff ✓  
161 Cabin Creek Rd.  
Mannington, WV 26582

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

Jason G. Stout ✓  
637 Upper Murray Rd.  
Mannington, WV 26582

Heather R. Stout ✓  
546 Upper Murray Rd.  
Mannington, WV 26582

Lula B. Knight ✓  
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PO Box 219  
Fairmont, WV 26555

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## WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

## Division of Highways

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

Gregory L. Bailey, P.E.  
Interim  
State Highway Engineer

Jimmy Wriston, P. E.  
Secretary of Transportation  
Commissioner of Highways

April 24, 2023

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

Subject: DOH Permit for the Radcliff Pad, Marion County  
Radcliff 8H Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #04-2021-0390 which has been issued to EQT Production for access to the State Road for a well site located off Marion County Route 4/4 SLS MP 0.15.

This operator is in compliance with §22-6A-20 of the WV Code. 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 revised March 06, 2023. This letter is valid for permitting purposes for one year from the date of this letter.

Very Truly Yours,

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

Cc: Becky Shrum  
EQT Production  
CH, OM, D-4  
File

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**Anticipated Frac Additives  
Chemical Names and CAS Numbers**

<u>Material</u>	<u>Ingredient</u>	<u>CAS Number</u>
Sand (Proppant)	Silica Substrate	14808-60-7
Water	Water	7732-18-5
Hydrochloric Acid (HCl)	Hydrogen Chloride	7647-01-0
Friction Reducer	Copolymer of 2-propenamide	Proprietary
	Petroleum Distillate	64742-47-8
	Oleic Acid Diethanolamide	93-83-4
	Alcohols, C12-16, ethoxylated	68551-12-2
	Ammonium chloride ((NH4)Cl)	12125-02-9
Biocide	Glutaraldehyde	111-30-8
	Alkyl dimethyl benzyl ammonium chloride	68391-01-5
	Didecyl dimethyl ammonium chloride	7173-51-5
	Non-hazardous substances	Proprietary
Scale Control	Bis(HexaMethylene Triamine Penta(Methylene Phosphonic Acid)(BHMT)	34690-00-1
	Non-hazardous substances	Proprietary
Acid Chelating Agent	Citric Acid	77-92-9
Corrosion Inhibitor	Methanol	67-56-1
	pyridinium, 1-(phenylmethyl)-, ethyl methyl derivs., chlorides	68909-18-2
	Nonoxynol-9	127087-87-0
	2-ethyl-1-hexanol	104-76-7
	4-nonylphenyl, ethoxylated	26027-38-3

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WW-6A7  
(6-12)

OPERATOR: EQT Production Company WELL NO: 8H

PAD NAME: Radcliff

REVIEWED BY: John Zavatchan

SIGNATURE: 

### WELL RESTRICTIONS CHECKLIST

#### HORIZONTAL 6A WELL

#### Well Restrictions

- At Least 100 Feet from Pad and LOD (including any E&S Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland; OR
  - DEP Waiver and Permit Conditions
- At Least 300 Feet from Pad and LOD (including any E&S Control Feature) to any Naturally Producing Trout Stream; OR
  - DEP Waiver and Permit Conditions
- At Least 1000 Feet from Pad and LOD (including any E&S Control Feature) to any Groundwater Intake or Public Water Supply; OR
  - DEP Waiver and Permit Conditions
- At Least 250 Feet from an Existing Water Well or Developed Spring to Well Being Drilled; OR
  - Surface Owner Waiver and Recorded with County Clerk, OR
  - DEP Variance and Permit Conditions
- At Least 625 Feet from an Occupied Dwelling Structure to Center of the Pad; OR
  - Surface Owner Waiver and Recorded with County Clerk, OR
  - DEP Variance and Permit Conditions
- At Least 625 Feet from Agricultural Buildings Larger than 2500 Square Feet to the Center of the Pad; OR
  - Surface Owner Waiver and Recorded with County Clerk, OR
  - DEP Variance and Permit Conditions

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