west virginia department of environmental protection

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

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

June 02, 2016

**WELL WORK PERMIT**

**Horizontal 6A Well**

This permit, API Well Number: 47-8510280, issued to EQT PRODUCTION COMPANY, 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 all 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 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.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-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) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: 514041
Farm Name: TASCHLER, BRIAN ET AL
**API Well Number: 47-8510280**
**Permit Type: Horizontal 6A Well**
Date Issued: 06/02/2016

API Number: _____

# PERMIT CONDITIONS 4708510280

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

## CONDITIONS

1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.

2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.

3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.

4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.

5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations,* 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.

6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.

7. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.

8. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

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

4708510280

WW - 6B
(4/15)

API NO. 47 - 085 - 0
OPERATOR WELL NO. 514041
Well Pad Name: AUB54

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

1) Well Operator: EQT Production Company | 306686 Operator ID | 085 County | 4 District | 224 Quadrangle

2) Operator's Well Number: 514041 Well Pad Name: AUB54

3) Farm Name/Surface Owner : Brian Taschler et al Public Road Access: WV RT 47

4) Elevation, current ground: 1,216.0 Elevation, proposed post-construction: 1,200.0

5) Well Type: (a) Gas • Oil _____ Underground Storage _____

Other _____

(b) If Gas: Shallow • Deep _____

Horizontal •

4708510280

Michael Duff 2/19/16

6) Existing Pad? Yes or No: No

7) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):

Target formation is Marcellus at a depth of 6627 with the anticipated thickness to be 54 feet and anticipated target pressure of 2190 PSI

Top of Marcellus: 6603

8) Proposed Total Vertical Depth: 6627

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 12,622

11) Proposed Horizontal Leg Length: 4,736

12) Approximate Fresh Water Strata Depths: 130, 324

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

14) Approximate Saltwater Depths: 1,914

15) Approximate Coal Seam Depths: N/A

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

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

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

4708510280

WW - 6B
(4/15)

API NO. 47 - 085 - 0
OPERATOR WELL NO. 514041
Well Pad Name: AUB54

## CASING AND TUBING PROGRAM

18)

| TYPE | Size (in) | New or Used | Grade | Weight per ft. (lb/ft) | FOOTAGE: for Drilling | INTERVALS: Left in Well | CEMENT: Fill- up (Cu.Ft.) |
|---|---|---|---|---|---|---|---|
| Conductor | 20 | New | A-500 | 78.6 | 40 | 40 | 60 C.T.S. |
| Fresh Water | 13 3/8 | New | J-55 | 54.5 | 474 | 474 | 472 C.T.S. |
| Coal | – | – | – | – | – | – | |
| Intermediate | 9 5/8 | New | A-500 | 40 | 2,475 | 2,475 | 981 C.T.S. |
| Production | 5 1/2 | New | P-110 | 20 | 12,622 | 12,622 | See Note 1 |
| Tubing | 2 3/8 | | J-55 | 4.6 | | | May not be run, if run will be set 100' less than TD |
| Liners | | | | | | | |

MAG 8/19/16

| TYPE | Size (in) | Wellbore Diameter (in) | Wall Thickness (in) | Burst Pressure (psi) | Anticipated Max. Internal Pressure (psi) | Cement Type | Cement Yield (cu. ft./k) |
|---|---|---|---|---|---|---|---|
| Conductor | 20 | 26 | 0.375 | - | 18 | Construction | 1.18 |
| Fresh Water | 13 3/8 | 17 1/2 | 0.38 | 2,730 | 2,184 | * See Note 2 | 1.19 |
| Coal | | | | | | | |
| Intermediate | 9 5/8 | 12 3/8 | 0.395 | 3,950 | 3,160 | * See Note 2 | 1.19 |
| Production | 5 1/2 | 8 1/2 | 0.361 | 12,640 | 10,112 | - | 1.07/1.86 |
| Tubing | | | | | | | |
| Liners | | | | | | | |

**Packers**

| | | | | |
|---|---|---|---|---|
| Kind: | N/A | | | |
| Sizes: | N/A | | | |
| Depths Set: | N/A | | | |

**Note 1:** EQT plans to bring the TOC on the production casing cement job 500' above the top producing zone.

**Note 2:** Reference Variance 2014-17. (Attached)

WW - 6B
(10/14)

4708510280
API NO. 47 - 085 - 0
OPERATOR WELL NO. 514041
Well Pad Name: AUB54

MAC 2/19/16

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

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

The vertical drill to go down to an approximate depth of 3439'.

Kick off and drill curve, drill 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 0.3%) of chemicals (including 15% Hydrochloric acid, gelling agent, gel breaker, friction reducer, biocide, and scale inhibitor), referred to in the industry as a "slickwater" completion. Maximum anticipated internal casing pressure is expected to average approximately 8500 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 200,000 barrels of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 200,000 pounds of sand per stage.

21) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres): 19.1

22) Area to be disturbed for well pad only, less access road (acres): 14.3

23) Describe centralizer placement for each casing string.

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

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

**Surface (Type 1 Cement):** 0-3% Calcium Chloride Used to speed the setting of cement slurries. 0.25% flake. Loss Circulation Material (LCM) is used to combat the loss of the cement slurry to a thief zone.

**Intermediate (Type 1 Cement):** 0-3% Calcium Chloride. Salt is used in shallow, low temperature formations to speed the setting of cement slurries. 0.25% flake. Loss Circulation Material (LCM) is used to combat the loss of whole drilling fluid or cement slurry (not filtrate) to a thief zone.

Production:

**Lead (Type H Cement):** 0.2% CD-20 (dispersant makes cement easier to mix). .15% SuperFL-300 (fluid loss/lengthens thickening time) .15% SEC-10 (fluid loss) 50:50 POZ (extender)

**Tail (Type H Cement):** 0.2% Super CR-1 (Retarder). Lengthens thickening time. .3% Super FL-200 (fluid loss) .2% SEC-10 (Fluid loss). .2% SuperFL-350 (fluid loss) Reduces amount of water lost to formation. 60 % Calcuim Carbonate. Acid solubility.

25) Proposed borehole conditioning procedures.

**Surface:** Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating one full joint until cuttings diminish at surface. When cuttings returning to surface diminish, continue to circulate an additional 5 minutes. A constant rate of higher than expected cuttings volume likely indicates washouts that will not clean up.

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

**Production:** Pump marker sweep with nut plug to determine actual hole washout. Calculate a gauge holes bottoms up volume. Perform a cleanup cycle by pumping 3-5 bottoms up or until the shakers are clean. Check volume of cuttings coming across the shakers every 15 minutes.

*Note: Attach additional sheets as needed.

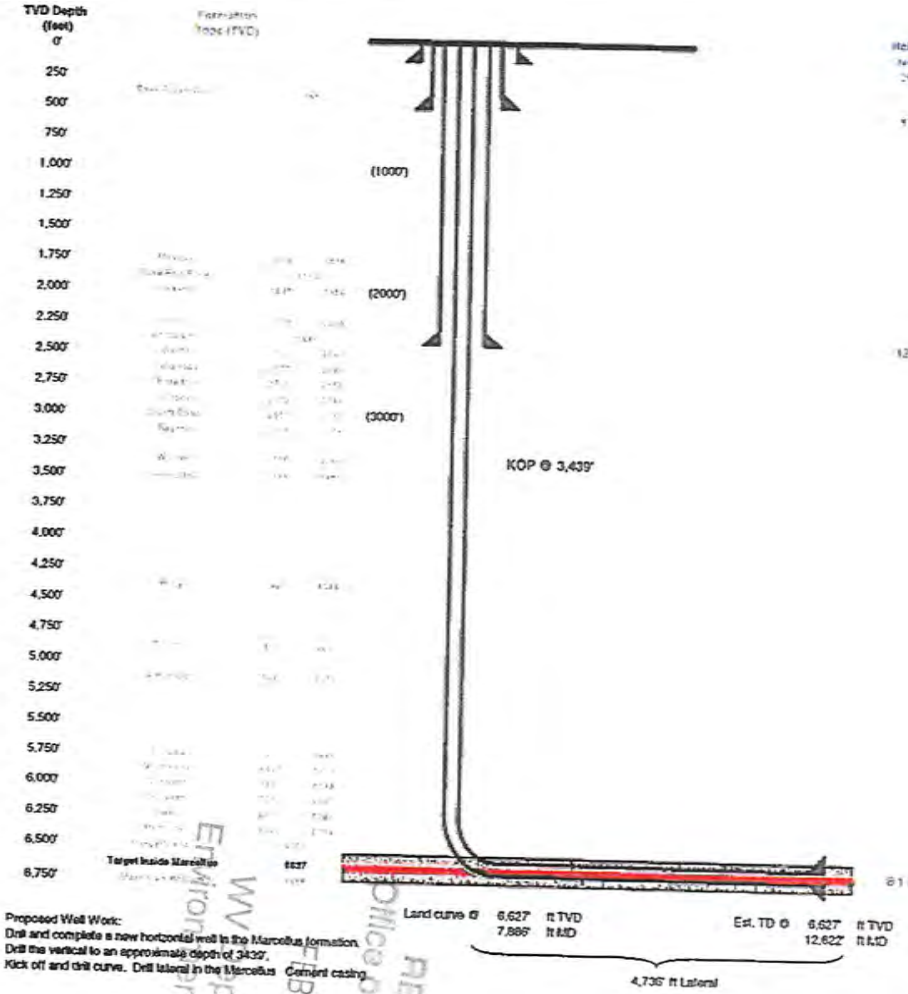
Well 514041 (AUB54H8) Pad Name

EQT Production

Auburn

Ritchie West Virginia Azimuth 162

Vertical Section 5100




| Hole Size | Type | Size (inches) | Wt (ppf) | Grade | Casing Wall Thickness | Depth (feet) | Top of Cement | Method |
|---|---|---|---|---|---|---|---|---|
| 26 | Conductor | 20 | 78.6 | A-500 | 0.375 | 40 | Surface | Displacement |
| 17 1/2 | Surface | 13 3/8 | 54.5 | J-55 | 0.38 | 474 | Surface | Displacement |
| 12 3/8 | Intermediate | 9 5/8 | 40 | A-500 | 0.395 | 2475 | Surface | Displacement |
| 8 1/2 | Production Casing | 5 1/2 | 20 | P-110 | 0.361 | 12622 | 500' above top Producing Zone | Displacement |

Proposed Well Work:
Drill and complete a new horizontal well in the Marcellus formation.
Drill the vertical to an approximate depth of 3439'.
Kick off and drill curve. Drill lateral in the Marcellus. Cement casing.

4708510200

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01/19/16

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

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

March 18, 2014

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

Re: Cement Variance Request

4708510229

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 by GCS

James Peterson
Environmental Resources Specialist / Permitting



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west virginia department of environmental protection

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

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

**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

4700510200

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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August 3, 2015

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

Re: Casing Plan on Wells (AUB54 513880, 513882, 513884, 514041)

Dear Mr. Smith,

EQT is requesting the 13-3/8" surface casing be set at 474' KB, 150' deepest freshwater show. We will set the 9-5/8" intermediate string at 2475' KB, 50' below the base of the Weir formation.

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

Sincerely,

Vicki Roark
Permitting Supervisor

Enc.

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

4708510280

WW-9
(2/15)

Page 1 of 2
API No. 47 - 085 - 0
Operator's Well No. 514041

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
Fluids/Cuttings Disposal & Reclamation Plan

4708510280

Operator Name EQT Production Company OP Code 306686
Watershed (HUC10) Left Fork & Brushy Fork of Bone Creek Quadrangle Auburn 7.5'
Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes x No ___
Will a pit be used ? Yes: X No: ___
If so please describe anticipated pit waste: flowback water & residual solids
Will a synthetic liner be used in the pit? Yes X No ___ If so, what ml.? 60
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 )

MAC
8/19/16

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

- If oil based, what type? Synthetic, petroleum, etc Synthetic mud

Additives to be used in drilling medium? Air - biodegradable oil lubricant , detergent, defoaming, water. Water based mud – Barite, viscosifier, alkalinity control, lime, filtration control, deflocculates, biodegradable oil lubricant , defoaming, walnut shell, salt, x-cide, carbonates. Oil based mud -- synthetic base oil, emulsifier, salt, lime, viscosifier, alkalinity control, filtration control, deflocculates, biodegradable oil lubricant , defoaming, carbonates.

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.

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WV Department of Environmental Protection

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

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

Notary Public

My commission expires 8-24-22

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

4708510280

Form WW-9

Operator's Well No. 514041

Proposed Revegetation Treatment: Acres Disturbed 19.1 Prevegetation pH 6.3

Lime 3 Tons/acre or to correct to pH 6.5

Fertilize type Granular 10-20-20

Fertilizer Amount 1/3 lbs/acre (500 lbs minimum)

Mulch 2 Tons/acre

47085

Seed Mixtures

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

Attach:
Drawing(s) of road, location,pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Michael Daff

Comments: Preseed & mulch any disturbed areas per WVDEP regulations. Maintain & Upgrade E-n-S as necessary

Title: Oil & Gas Inspector Date: 2/19/16

Field Reviewed? ( ✓ ) Yes ( ) No

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# EQT Production Water plan
# Offsite disposals for Marcellus wells

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

**LAD LIQUID ASSETS DISPOSAL INC.**
226 Rankin Road
Washington, PA 15301
724-350-2760
724-222-6080
724-229-7034 fax
Ohio County/Wheeling
Permit # USEPA WV 0014

**TRI COUNTY WASTE WATER MANAGEMENT, INC.**
1487 Toms Run Road
Holbrook, PA 15341
724-627-7178 Plant
724-499-5647 Office
Greene County/Waynesburg
Permit # TC-1009

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

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

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

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

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

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Form WW-9

# HALL LEASE AUB54 WELLS

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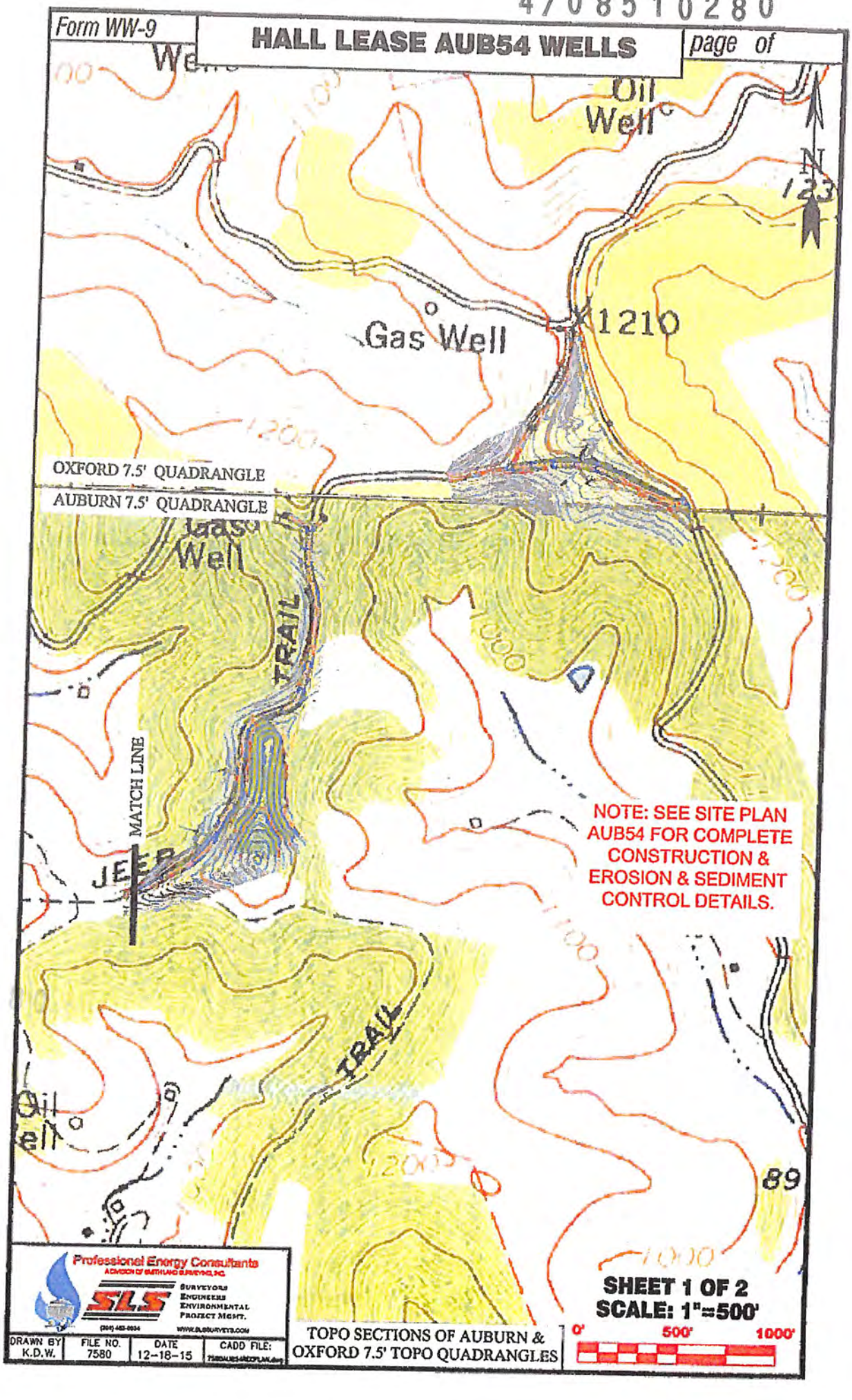



NOTE: SEE SITE PLAN AUB54 FOR COMPLETE CONSTRUCTION & EROSION & SEDIMENT CONTROL DETAILS.

4708510280

Professional Energy Consultants
A DIVISION OF SMITH LAND SURVEYING, P.C.
SLS
SURVEYORS ENGINEERS ENVIRONMENTAL PROJECT MGMT.
(304) 483-0634
WWW.SLSSURVEYS.COM

| DRAWN BY | FILE NO. | DATE | CADD FILE: |
|---|---|---|---|
| K.D.W. | 7580 | 12-18-15 | 7580AUB54RECPLAN.dwg |

TOPO SECTIONS OF AUBURN & OXFORD 7.5' TOPO QUADRANGLES

SHEET 1 OF 2
SCALE: 1"=500'

0' 500' 1000'

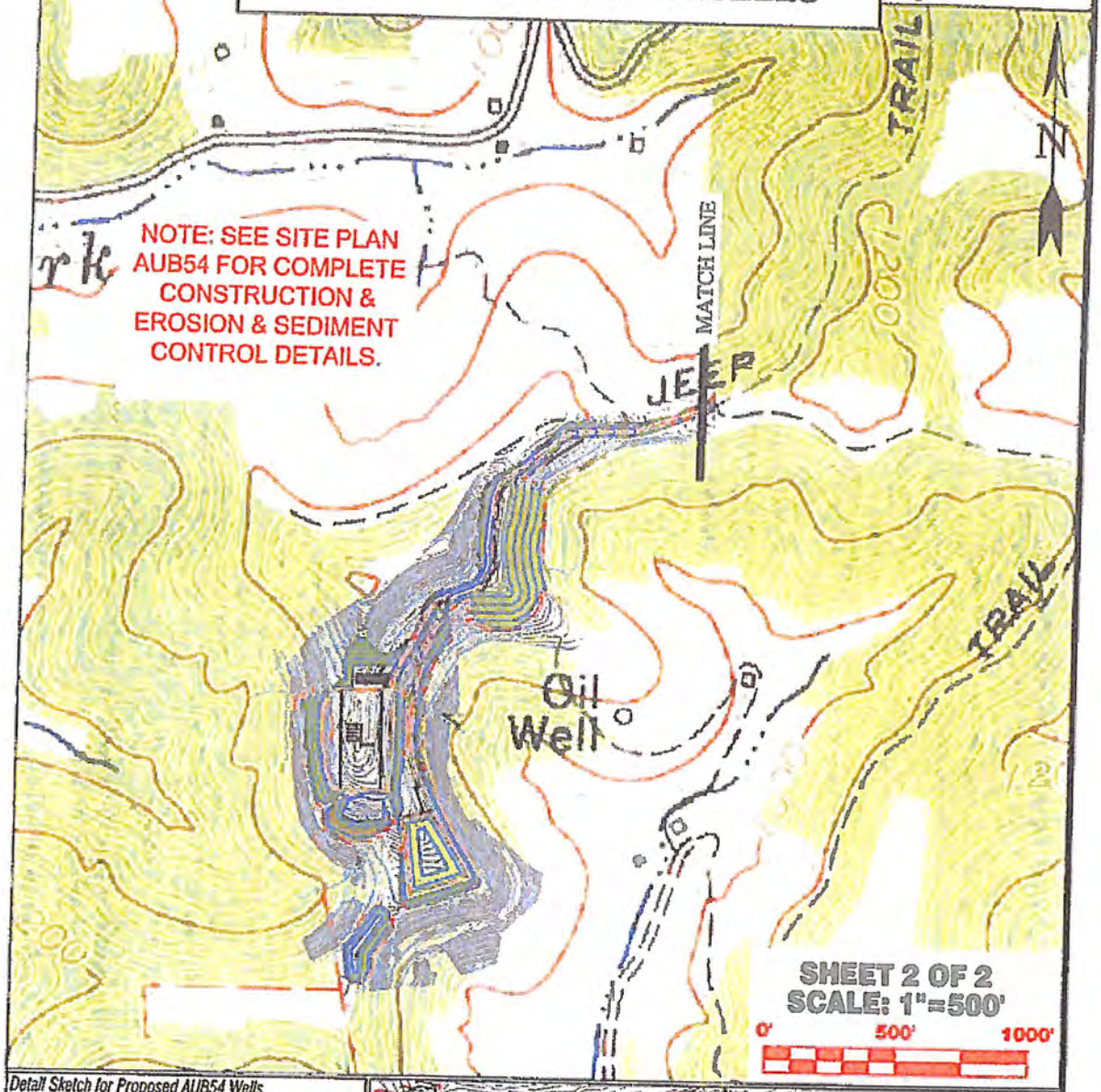
MAG
2/19/16

4708510280

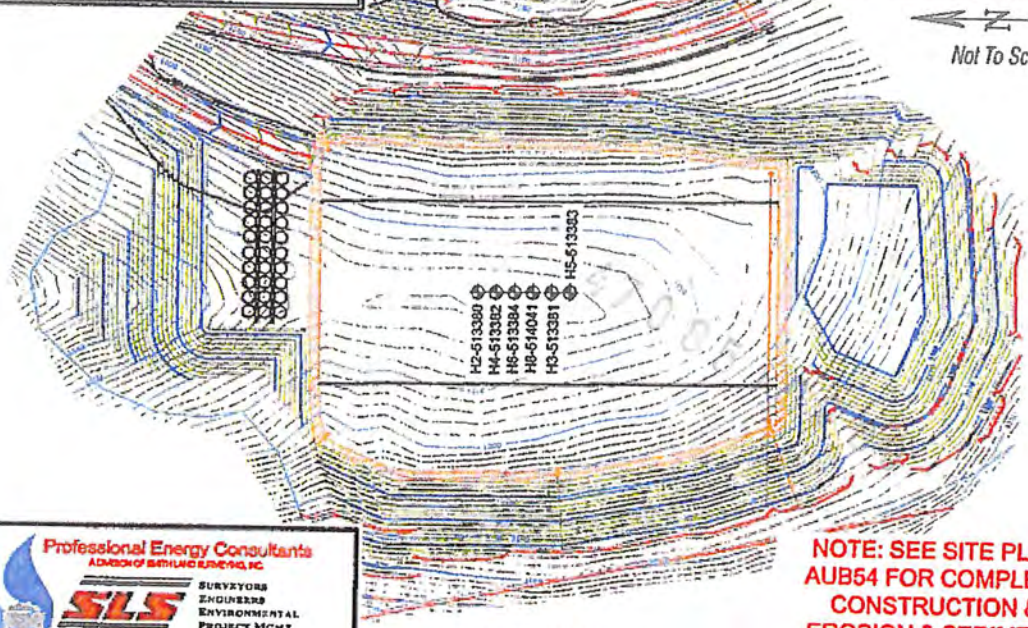
Form WW-9

# HALL LEASE AUB54 WELLS

page of




Detail Sketch for Proposed AUB54 Wells




MDG
2/19/16

Professional Energy Consultants
A DIVISION OF SOUTHLAND SURVEYING, INC.
SLS
SURVEYORS
ENGINEERS
ENVIRONMENTAL
PROJECT MGMT.
(304) 462-8634
WWW.SLSURVEYS.COM

| DRAWN BY | FILE NO. | DATE | CADD FILE: |
|---|---|---|---|
| K.D.W. | 7580 | 12-18-15 | 7580AUB54RECPLAN.dwg |

TOPO SECTION OF AUBURN 7.5' TOPO QUADRANGLE

NOTE: SEE SITE PLAN AUB54 FOR COMPLETE CONSTRUCTION & EROSION & SEDIMENT CONTROL DETAILS.

4708510280

Where energy meets innovation.℠

# Site Specific Safety Plan

# EQT AUB 54 Pad

# Auburn Quadrant

# Ritchie County, WV

For Wells:

_513380___ __513382__ __513384__ _514041___

4708510280

Date Prepared: **February 3, 2016**

RECEIVED
Office of Oil and Gas
FEB 23 2016
WV Department of
Environmental Protection

EQT Production

Title: Permitting Supervisor

Date: 2-12-16

WV Oil and Gas Inspector

Title

Date: 2/19/16

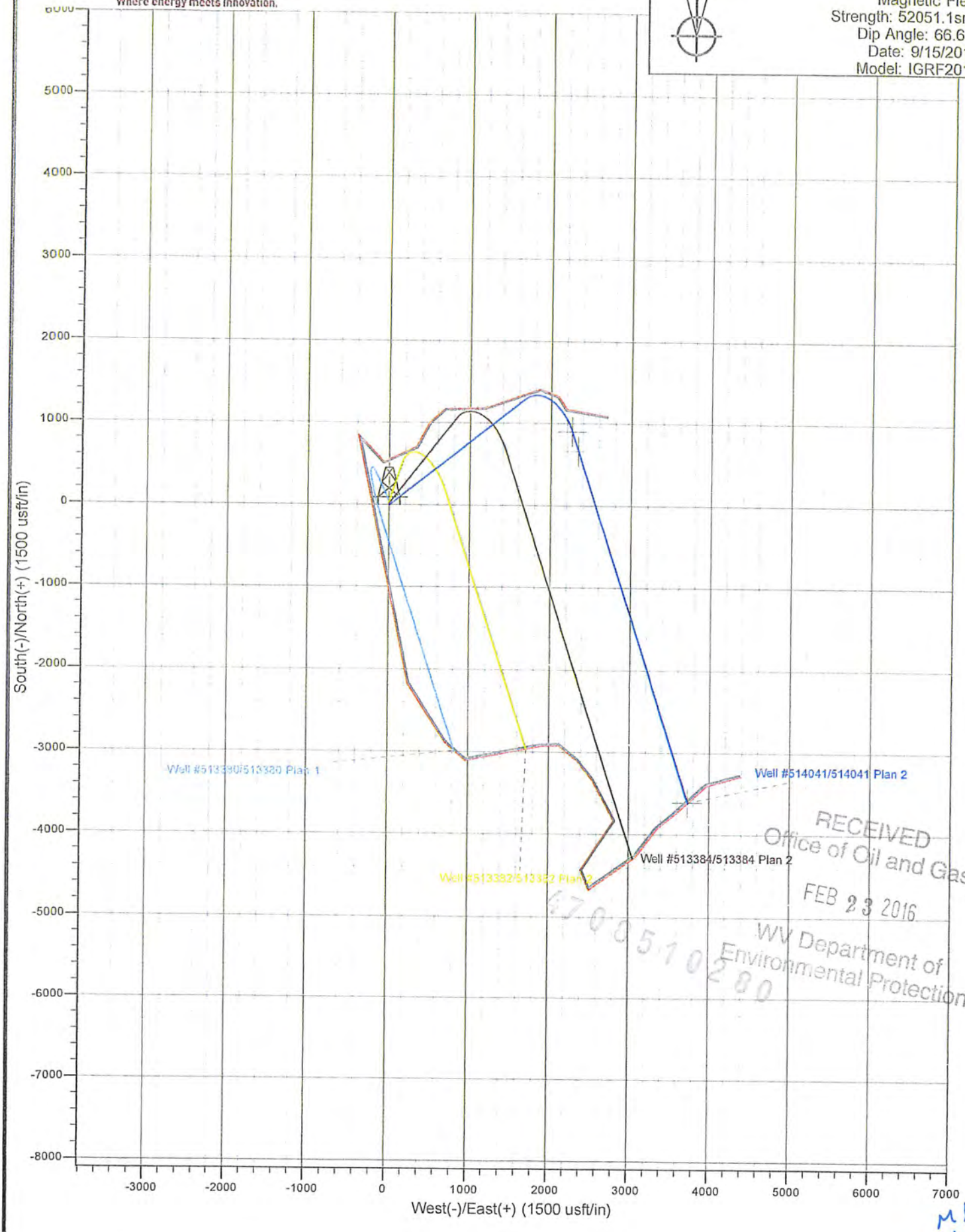
EQT

Where energy meets innovation.

4708510280

Azimuths to Grid North
True North: 0.86°
Magnetic North: -7.52°

Magnetic Field
Strength: 52051.1snT
Dip Angle: 66.60°
Date: 9/15/2015
Model: IGRF2015




RECEIVED
Office of Oil and Gas
FEB 23 2016
WV Department of
Environmental Protection
4708510280

MAC
2/19/16

SLS SMITH LAND SURVEYING, INC. P.O. BOX 150, GLENVILLE, WV 26351
(304) 462-5634 • FAX 462-5656

# WELL INFORMATION AND POTENTIAL WATER WELL SAMPLE DATA SHEET

4700510280

**OPERATOR:** *EQT Production Company*

**LEASE NAME AND NUMBER:** *AUB-54 Well Pad*

## COMMENTS

The initial field and/or mapping review of the area surrounding the proposed well site revealed the below listed surface owner(s) that were potentially utilizing groundwater (potable) for Human Consumption or other purposes within 2500' of the proposed well site. (For location of each site see attached area map.)

## INDIVIDUAL CONTACTED OR NOTIFIED

Site: *1* Spacing *2460'* Owner/Occupant: *Ralph Blankenship*
Address: *2051 Brushy fork Rd. Auburn, WV 26325* Ph: *(304)-349-2487*
Field Contact Date: *05/26/2015* Located: *Yes* Date Located: *05/26/2015* Source: *Water Well*
If No, declined by who _____ Letter/Notice Date: 1st *05/26/2015* 2nd *06/09/2015* Certified (3rd) *06/17/2015*
Comments: *Tax Map 32 Par 10 *Note Mr. Blankenship has called in and request an additional water source be tested it is listed as site 12 **
*Lat 39.122668*
*Long 80.856189*

Site: *2* Spacing *2260'* Owner/Occupant: *Ralph Blankenship*
Address: *2051 Brushy fork Rd. Auburn, WV 26325* Ph: *(304)-349-2487*
Field Contact Date: *05/26/2015* Located: *Yes* Date Located: *05/26/2015* Source: *Water Well*
If No, declined by who _____ Letter/Notice Date: 1st *05/26/2015* 2nd *06/09/2015* Certified (3rd) *06/17/2015*
Comments: *Tax Map 32 , Par.10*
*Lat: 39.122092*
*Long: 80.855927*

Site: *3* Spacing *2335'* Owner/Occupant: *Louis Kopf*
Address: *2220 Brushy fork Rd. Auburn, WV 26325* Ph: *(304)-349-4507*
Field Contact Date: *06/09/2015* Located: *Yes* Date Located: *06/09/2015* Source: *Water Well*
If No, declined by who _____ Letter/Notice Date: 1st *05/26/2015* 2nd *06/09/2015* Certified (3rd) *06/17/2015*
Comments: *Tax Map 32 , Par.11 *NOTE* Mr Kopf has informed there are two water wells at this location.*
*Lat: 39.122294*
*Long: 80.852869*

Site: *4* Spacing *2245'* Owner/Occupant: *Patrick Lacey*
Address: *2186 Brushy fork Rd. Auburn, WV 26325* Ph: *(304)-349-4507*
Field Contact Date: *06/09/2015* Located: *Yes* Date Located: *06/09/2015* Source: *Water Well*
If No, declined by who _____ Letter/Notice Date: 1st *05/26/2015* 2nd *06/09/2015* Certified (3rd) *06/17/2015*
Comments: *Tax Map 32 , Par. 11.1 *NOTE* Mr. Kopf was present while the Lacy's water well was located.*
*Lat: 39.122110*
*Long: 80.853336*

Site: 5 Spacing _____ Owner/Occupant: *Gregory Adams*
Address: *109 south marion Ave. Hopewell, VA 23860* Ph: _____
Field Contact Date: *N/A* Located: *No* Date Located: *N/A* Source: *Unknown*
If No, declined by who _____ Letter/Notice Date: 1st *05/26/2015* 2nd *06/09/2015* Certified (3rd) *06/17/2015*
Comments: *Tax Map 32, Parcel 16*
*No response to certified letter as of 06/30/2015*

Site: 6 Spacing _____ Owner/Occupant: *Adams family Heirs*
Address: *120 Marlboro Dr. McMurray, PA 15317* Ph: _____
Field Contact Date: *N/A* Located: *No* Date Located: *N/A* Source: *Unknown*
If No, declined by who _____ Letter/Notice Date: 1st *05/26/2015* 2nd *06/09/2015* Certified (3rd) *06/17/2015*
Comments: *Tax Map 32, Parcels 16 and 16.1*
*No response to certified letter as of 06/30/2015*

Site: 7 Spacing _____ Owner/Occupant: *Brad and Dean Taschler*
Address: *795 Towamensing Rd. Lehighton, PA 18235* Ph: _____
Field Contact Date: *N/A* Located: *No* Date Located: *N/A* Source: *Unknown*
If No, declined by who _____ Letter/Notice Date: 1st *05/26/2015* 2nd *06/09/2015* Certified (3rd) *06/17/2015*
Comments: *Tax Map 32, Parcel 17*
*No response to certified letter as of 06/30/2015*

Site: 8 Spacing _____ Owner/Occupant: *Piney Holdings, INC.*
Address: *P.O. Box 5026 Fairmont, WV 26555* Ph: _____
Field Contact Date: *N/A* Located: *No* Date Located: *N/A* Source: *Unknown*
If No, declined by who _____ Letter/Notice Date: 1st *05/26/2015* 2nd *06/09/2015* Certified (3rd) *06/17/2015*
Comments: *Tax Map 32, Parcel 17.1*
*No response to certified letter as of 06/30/2015*

Site: 9 Spacing _____ Owner/Occupant: *Donald and Tina Murphy*
Address: *289 Riddle Hill Rd. Auburn, WV 26325* Ph: _____
Field Contact Date: *N/A* Located: *No* Date Located: *N/A* Source: *Unknown*
If No, declined by who _____ Letter/Notice Date: 1st *05/26/2015* 2nd *06/09/2015* Certified (3rd) *06/17/2015*
Comments: *Tax Map 37, Par. 1*
*No response to certified letter as of 06/30/2015*

Site 10 Spacing _____ Owner/Occupant: *Allen Merriman*
Address: *925 Riddle Hill Rd. Auburn, WV 26325* Ph: _____
Field Contact Date: *N/A* Located: *No* Date Located: *N/A* Source: *Unknown*
If No, declined by who _____ Letter/Notice Date: 1st *05/26/2015* 2nd *06/09/2015* Certified (3rd) *06/17/2015*
Comments: *Tax Map 37, Par. 4*
*No response to certified letter as of 06/30/2015*
**NOTE* Mr. Merriman has phoned in and does not have any water sources within 2500'*

Site: 11 Spacing _____ Owner/Occupant: Kiedaisch and Summers Enterprises
Address: P.O. Box 254 Harrisville, WV 26362 Ph: _____
Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
If No, declined by who _____ Letter/Notice Date: 1st 05/26/2015 2nd 06/09/2015 Certified (3rd) 06/17/2015
Comments: Tax Map 32 , Par. 12
No response to certified letter as of 06/30/2015

Site: 12 Spacing _____ Owner/Occupant: Ralph Blankenship
Address: 2051 Brushy fork Rd. Auburn, WV 26325 Ph: (304)-349-2487
Field Contact Date: 05/26/2015 Located: Yes Date Located: 7/29/2015 Source: Water Well
If No, declined by who _____ Letter/Notice Date: 1st 05/26/2015 2nd 06/09/2015 Certified (3rd) 06/17/2015
Comments: Tax Map 32 , Par.10
Lat: 39.122391
Long: 80.856668

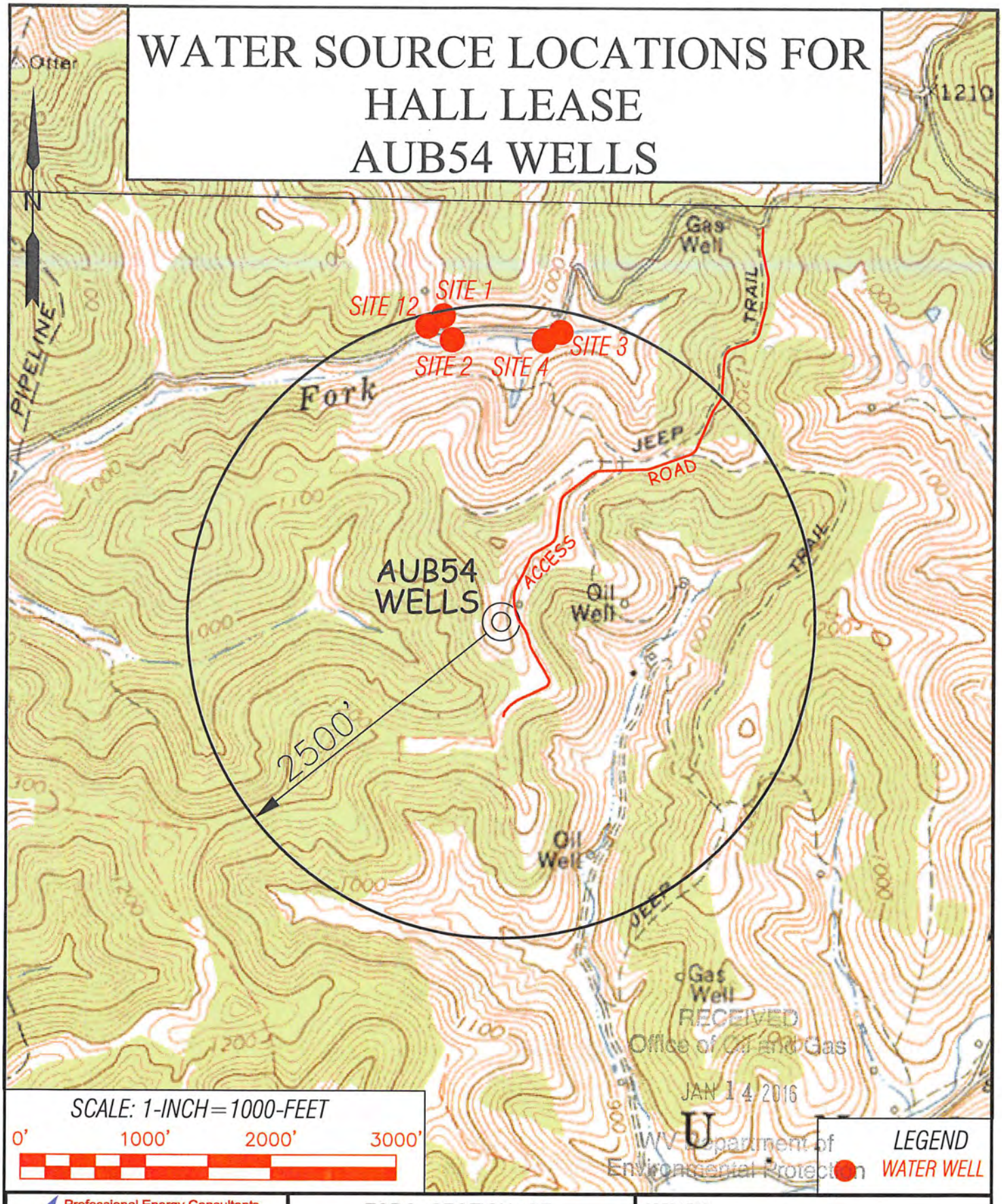
Site: _____ Spacing _____ Owner/Occupant: _____
Address: _____ Ph: _____
Field Contact Date: _____ Located: _____ Date Located: _____ Source: _____
If No, declined by who _____ Letter/Notice Date: 1st _____ 2nd _____ Certified (3rd) _____
Comments: _____

Site: _____ Spacing _____ Owner/Occupant: _____
Address: _____ Ph: _____
Field Contact Date: _____ Located: _____ Date Located: _____ Source: _____
If No, declined by who _____ Letter/Notice Date: 1st _____ 2nd _____ Certified (3rd) _____
Comments: _____

Site: _____ Spacing _____ Owner/Occupant: _____
Address: _____ Ph: _____
Field Contact Date: _____ Located: _____ Date Located: _____ Source: _____
If No, declined by who _____ Letter/Notice Date: 1st _____ 2nd _____ Certified (3rd) _____
Comments: _____

Site: _____ Spacing _____ Owner/Occupant: _____
Address: _____ Ph: _____
Field Contact Date: _____ Located: _____ Date Located: _____ Source: _____
If No, declined by who _____ Letter/Notice Date: 1st _____ 2nd _____ Certified (3rd) _____
Comments: _____

# WATER SOURCE LOCATIONS FOR HALL LEASE AUB54 WELLS




RECEIVED
Office of Oil and Gas
JAN 14 2016
WV Department of Environmental Protection

Professional Energy Consultants
A DIVISION OF SMITH LAND SURVEYING, INC.
SLS
SURVEYORS
ENGINEERS
ENVIRONMENTAL
PROJECT MGMT.
(304) 462-5634 WWW.SLSSURVEYS.COM

| DRAWN BY | FILE NO. | DATE | CADD FILE: |
|---|---|---|---|
| K.D.W. | 7580 | 08/12/15 | 7580AUB54WS.dwg |

TOPO SECTION OF:
AUBURN, WV 7.5' QUAD

| DISTRICT | COUNTY | TAX MAP–PARCEL NO. |
|---|---|---|
| UNION | RITCHIE | 32–17 |

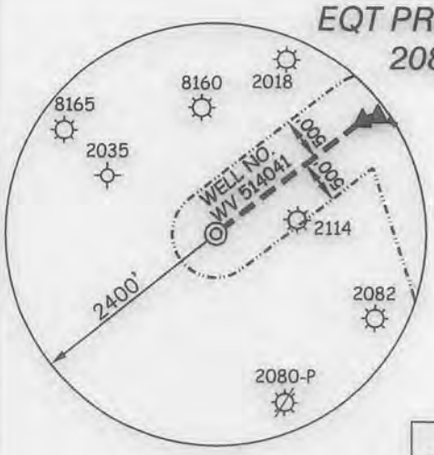
OPERATOR:
EQT PRODUCTION COMPANY
115 PROFESIONAL PLACE
P.O. BOX 280
BRIDGEPORT, WV 26330

FORM WW 6 SHEET 1 OF 2

6,044'

LATITUDE 39°07'30"

# EQT PRODUCTION COMPANY - HALL LEASE
## 208 ACRES±-WELL NO. WV 514041




LONGITUDE 80°50'00"

3,282'

### NOTES ON SURVEY

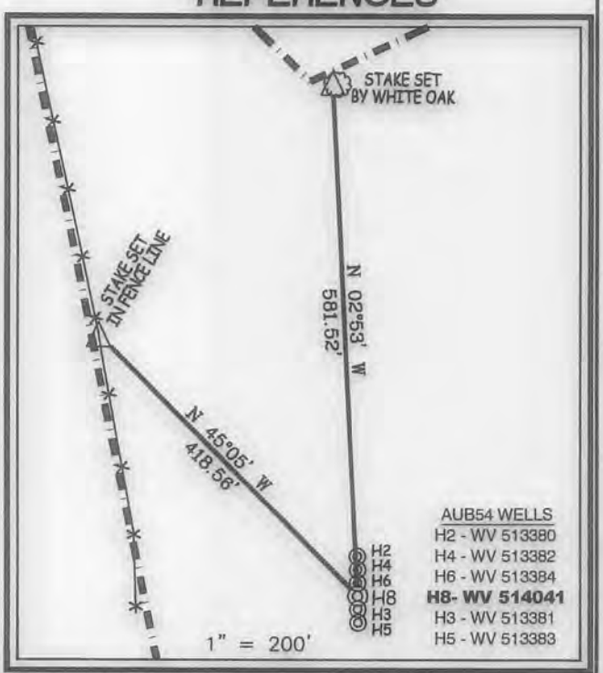
1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.

| ROYALTY OWNERS | | |
|---|---|---|
| DONALD SHEETS ET AL | 280 AC.± | LEASE NO. 988339 |

| (S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH) | | |
|---|---|---|
| NAD'27 S.P.C.(FT) | N. 227,255.04 | E. 1,615,645.18 |
| NAD'27 GEO. | LAT-(N) 39.115992 | LONG-(W) 80.854635 |
| NAD'83 UTM (M) | N. 4,329,668.07 | E. 512,581.72 |
| | *LANDING POINT* | |
| NAD'27 S.P.C.(FT) | N. 228,154.57 | E. 1,617,911.58 |
| NAD'27 GEO. | LAT-(N) 39.118555 | LONG-(W) 80.846696 |
| NAD'83 UTM (M) | N. 4,329,953.64 | E. 513,267.59 |
| | *BOTTOM HOLE* | |
| NAD'27 S.P.C.(FT) | N. 223,649.57 | E. 1,619,375.34 |
| NAD'27 GEO. | LAT-(N) 39.106248 | LONG-(W) 80.841301 |
| NAD'83 UTM (M) | N. 4,328,588.68 | E. 513,736.42 |

| | | | |
|---|---|---|---|
| A | BRIAN TASCHLER ET AL | 200.665 AC.± | TM 32-17 |
| B | BRIAN TASCHLER ET AL | 3.915 AC.± | TM 32-17.2 |
| C | BRIAN TASCHLER ET AL | 109.81 AC.± | TM 37-04.2 |
| D | ALLEN M. MERRIMAN | 12.962 AC.± | |
| E | KIEDASCH & SUMMERS ENTERPRISES | 40 AC.± | |
| F | JERRY A. RIDDLE ET AL | 130 AC.± | |
| G | GERALDINE LUSK | 82.21 AC.± | |
| H | DENSEL R. HALL ET AL | 2.41 AC.± | |
| I | RUSSEL S. & CLARA A. BLIZARD | 102.4 AC.± | |
| J | VIOLET HARDBARGER | 81.3 AC.± | |
| K | BRIAN TASCHLER ET AL | 110 AC.± | |
| L | GREGORY ADAMS ET AL | 100 AC.± | |
| M | LOUIS J. KOPF | 83.776 AC.± | |
| N | NATHANAEL & SHELLY MASON | 110.33 AC.± | |
| O | RICHARD E. BLIZARD JR ET AL | 43.092 AC.± | |
| P | JANET G. BLIZARD ET AL | 55.618 AC.± | TM 37-12 |
| Q | WV D.O.H. | 0.108 AC.± | |

## REFERENCES

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SLS
SURVEYORS
ENGINEERS
ENVIRONMENTAL
PROJECT MGMT.
(304) 462-5634
WWW.SLSSURVEYS.COM

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 DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 849 C. Victor Moyers

C. VICTOR MOYERS LICENSED No. 849 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

(+) DENOTES LOCATION OF WELL ON UNITED STATES 7.5' TOPOGRAPHIC MAPS.

DATE DECEMBER 17 , 20 15

REVISED _____ , 20 _____

OPERATORS WELL NO. WV 514041

API WELL NO. 47 — 085 — 10280 H6A
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 7580P514041

HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

WELL TYPE: OIL ____ GAS X LIQUID INJECTION ____ WASTE DISPOSAL ____ IF "GAS" PRODUCTION X STORAGE ____ DEEP ____ SHALLOW X

LOCATION : GROUND ELEVATION 1,216' PROPOSED 1,200' WATERSHED LEFT FORK & BRUSHY FORK OF BONE CREEK

DISTRICT UNION COUNTY RITCHIE QUADRANGLE AUBURN 7.5'

SURFACE OWNER BRIAN TASCHLER ET AL ACREAGE 200.665±

ROYALTY OWNER KAYRON HALL ET AL ACREAGE 208±

PROPOSED WORK : LEASE NO. 107848

DRILL X CONVERT ____ DRILL DEEPER ____ REDRILL ____ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ____ PERFORATE NEW FORMATION ____ PLUG AND ABANDON ____ CLEAN OUT AND REPLUG ____ OTHER ____

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS

_____ ESTIMATED DEPTH TVD 6,603'

COUNTY NAME

PERMIT

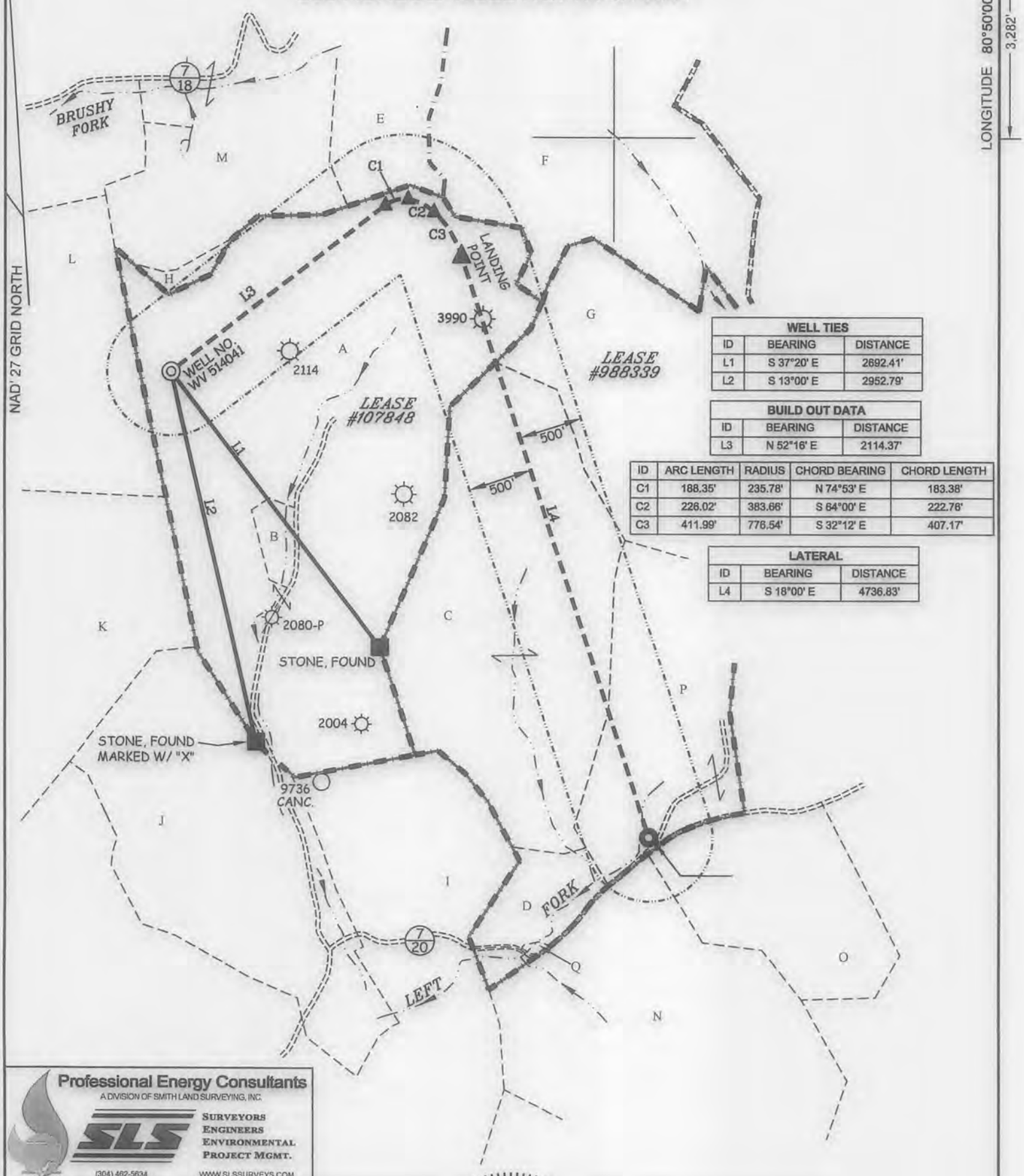
WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY

ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280

BRIDGEPORT, WV 26330 BRIDGEPORT, WV 26330

SLS

# EQT PRODUCTION COMPANY - HALL LEASE
## 208 ACRES±-WELL NO. WV 514041




| WELL TIES | | |
|---|---|---|
| ID | BEARING | DISTANCE |
| L1 | S 37°20' E | 2692.41' |
| L2 | S 13°00' E | 2952.79' |

| BUILD OUT DATA | | |
|---|---|---|
| ID | BEARING | DISTANCE |
| L3 | N 52°16' E | 2114.37' |

| ID | ARC LENGTH | RADIUS | CHORD BEARING | CHORD LENGTH |
|---|---|---|---|---|
| C1 | 188.35' | 235.78' | N 74°53' E | 183.38' |
| C2 | 226.02' | 383.66' | S 64°00' E | 222.76' |
| C3 | 411.99' | 776.54' | S 32°12' E | 407.17' |

| LATERAL | | |
|---|---|---|
| ID | BEARING | DISTANCE |
| L4 | S 18°00' E | 4736.83' |

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

| | | |
|---|---|---|
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| NAD'27 GEO. | LAT-(N) 39.115992 | LONG-(W) 80.854635 |
| NAD'83 UTM (M) | N. 4,329,668.07 | E. 512,581.72 |
| *LANDING POINT* | | |
| NAD'27 S.P.C.(FT) | N. 228,154.57 | E. 1,617,911.58 |
| NAD'27 GEO. | LAT-(N) 39.118555 | LONG-(W) 80.846696 |
| NAD'83 UTM (M) | N. 4,329,953.64 | E. 513,267.59 |
| *BOTTOM HOLE* | | |
| NAD'27 S.P.C.(FT) | N. 223,649.57 | E. 1,619,375.34 |
| NAD'27 GEO. | LAT-(N) 39.106248 | LONG-(W) 80.841301 |
| NAD'83 UTM (M) | N. 4,328,588.68 | E. 513,736.42 |

C. VICTOR MOYERS
LICENSED
No. 849
STATE OF
WEST VIRGINIA
PROFESSIONAL SURVEYOR
CVM 12-17-15

(+) DENOTES LOCATION OF WELL ON UNITED STATES 7.5' TOPOGRAPHIC MAPS.

*LEGEND*

LEASE LINE
SURFACE LINE
WELL LATERAL
OFFSET LINE
TIE LINE
CREEK
ROAD
FENCE LINE
STATE ROUTE
COUNTY ROUTE
PROPOSED WELL
EXISTING WELL
PERMITTED WELL
TAX MAP–PARCEL 00–00

SCALE 1" = 1000'

DATE DECEMBER 17 , 20 15

REVISED , 20

OPERATORS WELL NO. WV 514041

API WELL NO. 47 — 085 — 10280H6A
STATE COUNTY PERMIT

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

COUNTY NAME

PERMIT

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

**DESIGNATED AGENT** REX C. RAY
**ADDRESS** 115 PROFESSIONAL PLACE P.O. BOX 280
BRIDGEPORT, WV 26330

SLS
124568

WW-6A1
(5/13)

Operator's Well No. 514041

## 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 |
|---|---|---|---|---|
| 107848 | **Kayron Hall, et al (current royalty owner)** | | **Min 1/8 pd** | |
| | William H. Hall, et ux (original Lessor) | J.M. Basom | | LB29/430 |
| | J.M. Basom | James Gartlan | | LB57/540 |
| | James Gartlan | The Philadelphia Company of West Virginia | | LB57/542 |
| | The Philadelphia Company of West Virginia | Pittsburgh and West Virginia Gas Company | | LB55/359 |
| | Pittsburgh and West Virginia Gas Company | Equitable Gas Company | | DB126/473 |
| | Equitable Gas Company | Equitrans, Inc | | LB201/253 |
| | Equitrans, Inc | Equitrans, L.P. | | 433/777 recorded in Tyler Co. |
| | Equitrans, L.P. | Equitable Production-Eastern States Inc | | AB234/830 |
| | Equitable Production-Eastern States Inc | Equitable Production Company | | CB281/346 rec in Doddridge Co. |
| | Equitable Production Company | EQT Production Company | | CB281/346 rec in Doddridge Co. |
| 988339 | **Donald Sheets et al (current royalty owner)** | | **Min 1/8 pd** | |
| | Donald Sheets et al(original lessor) | EQT Production Company | | OG253/1008 |

4708390280

## Acknowledgement of Possible Permitting/Approval In Addition to the Office of Oil and Gas

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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

Well Operator: EQT Production Company

By:

Its: Permitting Supervisor

January 13, 2016

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

47085102

Re: AUB54 well pad, well number 514041
Union District, Ritchie County

Dear Mr. Martin,

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

Sincerely,

Vicki Roark
Permitting Supervisor-WV

WW-6AC
(1/12)

4708510280

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

Date of Notice Certification: 1-11-16

API No. 47 - 085 - 0
Operator's Well No. 514041
Well Pad Name: AUB54

**Notice has been given:**

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

| | | | |
|---|---|---|---|
| State: | WV | UTM NAD 83 Easting: | 512,581.72 |
| County: | Ritchie | UTM NAD 83 Northing: | 4,329,953.64 |
| District: | Union | Public Road Access: | WV RT 47 |
| Quadrangle: | Auburn 7.5' | Generally used farm name: | Brian Taschler et al |
| Watershed: | Left Fork & Brushy Fork of Bone Creek | | |

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

| Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: | OOG OFFICE USE ONLY |
|---|---|
| *PLEASE CHECK ALL THAT APPLY | |
| ☐ NOTICE OF SEISMIC ACTIVITY or ☑ NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED | ☐ RECEIVED/NOT REQUIRED |
| ☑ NOTICE OF ENTRY FOR PLAT SURVEY or ☐ NO PLAT SURVEY WAS CONDUCTED | ☐ RECEIVED |
| ☐ NOTICE OF INTENT TO DRILL or ☑ NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OR | ☐ RECEIVED/NOT REQUIRED |
| ☐ WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH) | |
| ☑ NOTICE OF PLANNED OPERATION | ☐ RECEIVED |
| ☑ PUBLIC NOTICE | ☐ RECEIVED |
| ☑ NOTICE OF APPLICATION | ☐ RECEIVED |

## Required Attachments:

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

WW-6AC
(1/12)

**Certification of Notice is hereby given:**

4709510265

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

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

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

Subscribed and sworn before me this 8 day of Jan 2016

_____ Notary Public

My Commission Expires 8-24-22

**Oil and Gas Privacy Notice:**

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

WW-6A
(9-13)

API NO. 47 - 085 - 0
OPERATOR WELL NO. 514041
Well Pad Name: AUB54

# 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: 1-11-16 Date Permit Application Filed: 1-11-16

**Notice of:**

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

4708910280

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

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

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

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

☑ SURFACE OWNER(s)
Name: See Attached
Address:

Name:
Address:

☑ SURFACE OWNERS(s) (Road and/or Other Disturbance)
Name: See Attached
Address:

Name:
Address:

☑ SURFACE OWNER(s) (Impoundments/Pits)
Name: See Attached
Address:

☑ COAL OWNER OR LESSEE
Name: See Attached
Address:

☐ COAL OPERATOR
Name:
Address:

☐ SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: None
Address:

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

*Please attach additional forms if necessary

WW6-A

**Surface Owners**

Brian Taschler et al
795 Towamensing Rd.
Leighton Pa 18235

**Surface Owners Access/ Other Disturbance**

Brian Taschler et al
795 Towamensing Rd.
Leighton Pa 18235

Jerry Riddle
2187 Riddle Hill Rd.
Auburn WV 26325

Betty Jean Nutter
2499 Glendale Road
Cairo WV 26337

Kiedaisch & Summers ENT., LLC
PO Box 254
Harrisville, WV 26362

Louis and Linda Kopf
2220 Brushy Fork Road
Auburn WV 26325

Craig & Amy Williams
6390 Rotherby Circle
Hudson OH 44236

**Surface Owners Pits or Impoundment**

Brian Taschler et al
795 Towamensing Rd.
Leighton Pa 18235

**Coal Owners:**

Piney Holdings Inc
PO Box 5026
Fairmont WV 26555

Eric Dean Goff
1661 Hazelgreen Rd
Harrisville WV 26362

Richard L Hall
PO Box 112
Kenna WV 25248

Danny Ray Hall
12052 Sheffield Rd
Jacksonville FL 32226

Michael L Hall
12052 Sheffield Rd
Jacksonville FL 32226

Byron G Hall
4005 Sayre Ave #8
Parkersburg WV 26104

Ella Jean Goff Reed
1661 Hazelgreen Rd
Harrisville WV 26362

Carla R Foster
35 Armin Rd
Tijeras NM 87059

Thomas Guy Hall
12052 Sheffield Rd
Jacksonville FL 32226

Gary Ronald Hall
12052 Sheffield Rd
Jacksonville FL 32226

Donna Kayron Porter
12052 Sheffield Rd
Jacksonville FL 32226

William Davis Hewitt
37 Willow Glen
Atlanta GA 30342

**Coal Owners:**

Union National Bank of West Virginia, Trustee
PO Box 659
Wichita Falls TX 76307

Haught Family Trust
210 E Main St
Harrisville WV 26362

Kayron B Hall
12052 Sheffield Rd
Jacksonville FL 32226

Susan Lee Hewitt
50 Lamsden Ln
Atlanta GA 30327

John Kerns Heirs Trust
Union Nat'l Bank of Clarksburg
PO Box 659
Wichita Falls TX 76307

Elizabeth Hewitt Taylor Ventures LLC
9925 Huntcliff Trace
Atlanta GA 30350

WW-6A
(8-13)

API NO. 47 - 085 - 0
OPERATOR WELL NO. 514041
Well Pad Name: AUB54

**Notice is hereby given:**

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

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

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

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

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

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

4708501203

**Well Location Restrictions**

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

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

**Water Well Testing:**

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

**Water Testing Laboratories:**

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

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

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

**Written Comment:**

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

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

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

WW-6A
(8-13)

API NO. 47 - 085 - 0
OPERATOR WELL NO. 514041
Well Pad Name: AUB54

**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.

4708501220

**Notice is hereby given by:**

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

**Oil and Gas Privacy Notice:**

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

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete.

By: Victoria Roark

Its: Permitting Supervisor

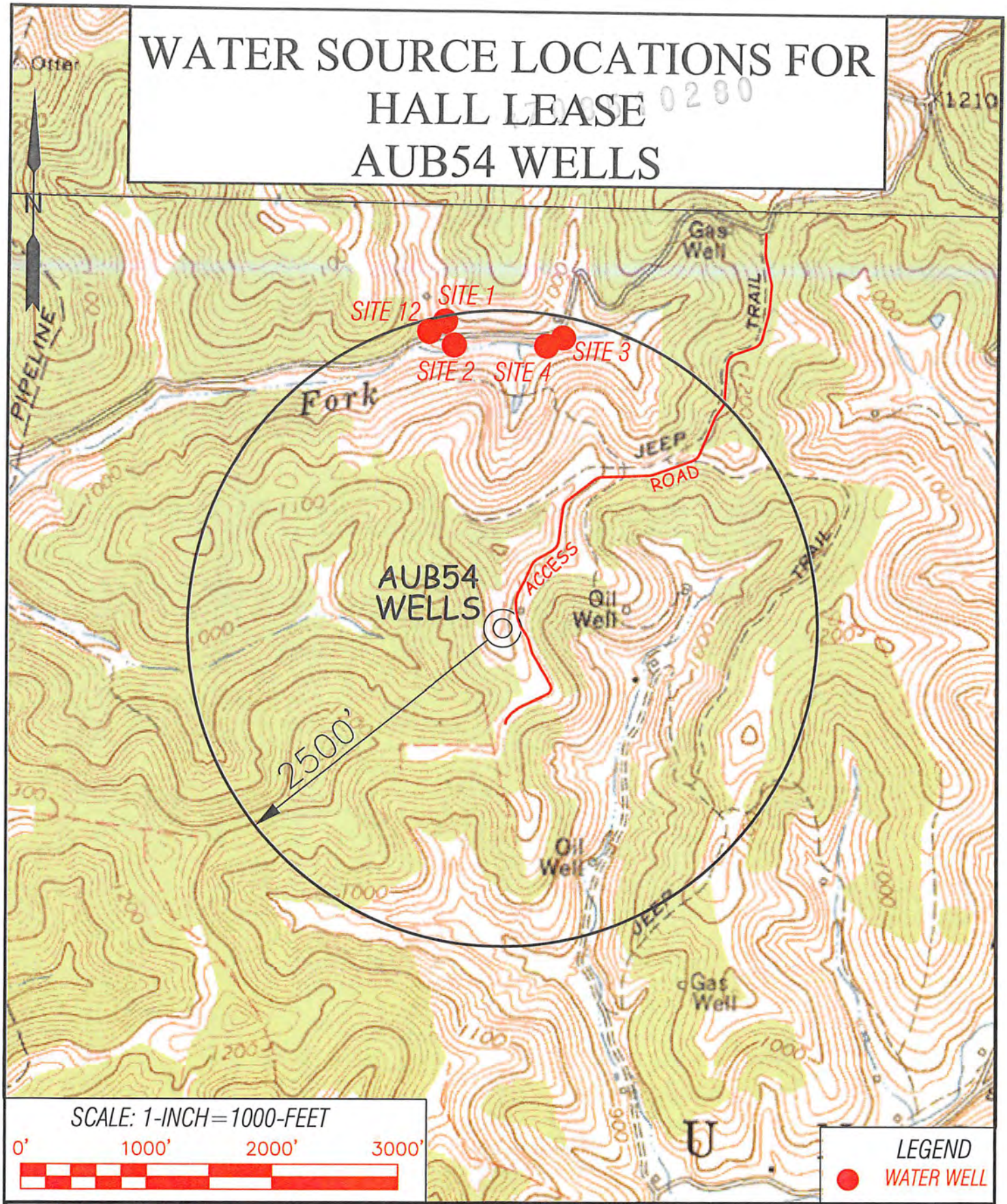
Subscribed and sworn before n 8 day of Jan 2016

Notary Public

My Commission Expi 8-24-22

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

# WATER SOURCE LOCATIONS FOR HALL LEASE AUB54 WELLS




Professional Energy Consultants
A DIVISION OF SMITH LAND SURVEYING, INC.
SLS SURVEYORS ENGINEERS ENVIRONMENTAL PROJECT MGMT.

| DRAWN BY | FILE NO. | DATE | CADD FILE: |
|---|---|---|---|
| K.D.W. | 7580 | 08/12/15 | 7580AUB54WS.dwg |

TOPO SECTION OF:
AUBURN, WV 7.5' QUAD

| DISTRICT | COUNTY | TAX MAP–PARCEL NO. |
|---|---|---|
| UNION | RITCHIE | 32–17 |

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

WW-6A3
(1/12)

Operator Well No. 107848 AUB54

# STATE OF WEST VIRGINIA
# DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
## NOTICE OF ENTRY FOR PLAT SURVEY

**Notice Time Requirement:** Notice shall be provided at least **SEVEN (7)** days but no more than **FORTY-FIVE (45)** days prior to entry.

**Date of Notice:** 2/5/2015 **Date of Planned Entry:** 2/13/2015

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

[ ] PERSONAL SERVICE [X] CERTIFIED MAIL [ ] METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to West Virginia Code § 22-6A-10(a), prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

**Notice is hereby provided to:**

[X] **SURFACE OWNER(S)**
Name: Brian Taschler & Rochelle M. Taschler
Address: 795 Towamensing Rd.
Lehighton, PA 18235-5931

[ ] **MINERAL OWNER(S)**
Name:
Address:

[X] **COAL OWNER(S) OR LESSEE(S)**
Coal Declaration pursuant to §22-6A-10 and §22-6-36 Not of Record

*Please attach additional forms if necessary

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

| | | | |
|---|---|---|---|
| State: | West Virginia | Approx. Latitude & Longitude: | 39.11613/-80.85453 |
| County: | Ritchie | Public Road Access: | CR 7/18 |
| Dist/Map/Par: | Union / Map 32 / Parcel 17 | Watershed: | Little Kanawha |
| Quadrangle: | Auburn | Generally Used Farm Name: | Hall Lease |

Copies of the state Erosion and Sediment Control Manual and the statues and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

**Notice is hereby given by:**

| | | | |
|---|---|---|---|
| Well Operator: | EQT Production Company | Address: | 115 Professional Place, Bridgeport, WV 26330 |
| Telephone: | 304-848-0099 | EQT Representative: | Kathy Kugel |
| Facsimile: | 304-848-0040 | | |
| Email: | eqtlandentrynotice@eqt.com | Signature: | Kathy Kugel |

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

WW-6A5
(1/12)

Operator Well No. 514041

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

**Notice Time Requirement:** notice shall be provided no later than the filing date of permit application.
**Date of Notice:** 1-11-16 **Date Permit Application Filed:** 1-11-16

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

☑ CERTIFIED MAIL RETURN RECEIPT REQUESTED ☐ HAND DELIVERY

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

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

Name: See Attached
Address:

Name:
Address:

**Notice is hereby given:**
Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

| | | | | |
|---|---|---|---|---|
| State: | WV | UTM NAD 83 | Easting: | 512,581.720000 |
| County: | Ritchie | | Northing: | 4,329,953.640000 |
| District: | Union | Public Road Access: | | WV RT 47 |
| Quadrangle: | Auburn 7.5' | Generally used farm name: | | Brian Taschler et al |
| Watershed: | Left Fork & Brushy Fork of Bone Creek | | | |

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


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


**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.

WW6-A

**Surface Owner**

Brian Taschler
795 Towamensing Rd.
Leighton Pa 18235

**Surface Owner Access/ Other Disturbance**

Brian Taschler
795 Towamensing Rd.
Leighton Pa 18235

Jerry Riddle
2187 Riddle Hill Rd.
Auburn WV 26325

Betty Jean Nutter
2499 Glendale Road
Cairo WV 26337

Kiedaisch & Summers ENT., LLC
Po Box 254
Harrisville, WV 26362

Louis and Linda Kopf
2220 Brushy Fork Road
Auburn WV 26325

Craig & Amy Williams
6390 Rotherby Circle
Hudson OH 44236

**Surface Owner Pits or Impoundment**

Brian Taschler
795 Towamensing Rd.
Leighton Pa 18235

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
**Division of Highways**
1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin
Governor

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

January 4, 2016

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

Subject: DOH Permit for the AUB 54 Pad Site, Ritchie County

| | | |
|---|---|---|
| 513379 AUB54 H1 | 513380 AUB54 H2 | 513381 AUB54 H3 |
| 513382 AUB54 H4 | 513383 AUB54 H5 | 513384 AUB54 H6 |
| 514040 AUB54 H7 | 514041 AUB54 H8 | 514042 AUB54 H9 |
| 514043 AUB54 H10 | | |

Dear Mr. Martin,

This well site will be accessed from Permit #03-2015-0567 issued to EQT Production Company for access to the State Road. The well site is located off of Ritchie County Route 7/13 SLS. Approved permit must be received before the start of construction.

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

Very Truly Yours,

Gary K. Clayton

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

Cc: Nick Bumgardner
EQT Production Company
CH, OM, D-3, File

# Anticipated Frac Additives
## Chemical Names and CAS numbers

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

**EQT Production**

**Hydraulic Fracturing Monitoring Plan**

**Pad ID: AUB54**

**Ritchie County, WV**

**1/4/2016**

4700510200

## Purpose

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to establish a joint effort between EQT, the West Virginia Office of Oil and Gas (OOG), and local conventional well operators in the Ritchie County area. This plan applies to proposed wells on this pad: 513380, 513382, 513384 and 514041.

Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communication, via natural gas, water, or both, may occur between hydraulically fractured wells in the Marcellus formation (approximately 6,600' TVD) and existing conventional natural gas wells in the partially-depleted, relatively high permeability Alexander formation (approximately 5,200' TVD).

The plan is being implemented as an additional safety measure to be utilized in conjunction with existing best management practices and emergency action plans for the site. The plan will further enable the participants to obtain data and information for a root cause analysis in the event communication between zones does occur during hydraulic fracturing.

These additional measures include pre-notification of conventional well operators of the timing and location of the hydraulic fracturing, establishment of measures conventional well operators should implement, and assurance that the OOG is notified of the timeline, as well as any issues that may arise during fracturing.

## 1. Communications with Conventional Well Operators

EQT, using available data (WV Geological Survey, WVDEP website, and IHS data service), has identified all known conventional wells and well operators within 1,500 feet of this pad and the lateral sections. A map showing these wells along with a list of the wells and operators is included in **Attachment A**.

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

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

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

1. Inspect their surface equipment prior to fracturing to establish integrity and establish pre-frac well conditions
2. Observe wells closely during and after fracturing and monitor for abnormal increases in water, gas or pressure
3. Inspect or install master valves rated to 3,000 psi or other necessary equipment for wellhead integrity
4. Notify the OOG and EQT if any changes in water, gas production, pressure, or other anomalies are identified

## 2. Monitoring

EQT will conduct pressure monitoring on select conventional wells before, during, and after hydraulic fracturing of this pad. EQT has selected conventional wells which are directly above its lateral section and completed within the Alexander formation, at approximately 1,000' intervals. EQT will also monitor select conventional wells that lie within the 1500' area identified above. EQT will monitor the wells prior to, during and post fracturing. Wells selected for monitoring are identified in **Attachment A**.

The wells to be monitored are conventional wells operated by Energy Corporation of America (ECA) or EQT. EQT will install pressure transducers and Eagle Research RTU's to obtain real-time pressure readings on these conventional wells. These units will allow continuous sampling of pressure throughout the fracturing operations.

EQT will also utilize chemical tracers during our hydraulic fracturing. Each well will have two different tracers. Should communication occur, these different tracers may allow us to identify which well(s), and which part of the horizontal well may have communicated with the monitored conventional wells. These tracers will be placed into the fracturing fluid.

EQT will closely monitor drilling and hydraulic fracturing activities to identify any abnormalities related to geology such as loss of fluid circulation during drilling or pressure anomalies noted during fracturing.

This pad will be drilled and hydraulically fractured by EQT without any other modifications to our normal practices, unless communication is observed. These include casing and cementing practices, hydraulic fracturing volumes, pumping rates, drillout , and flowback timeframes. This will assist in establishing a baseline for future monitoring of activities in this area. Should communication be observed, EQT may vary the completion design on fracturing stages completed after the communication is observed.

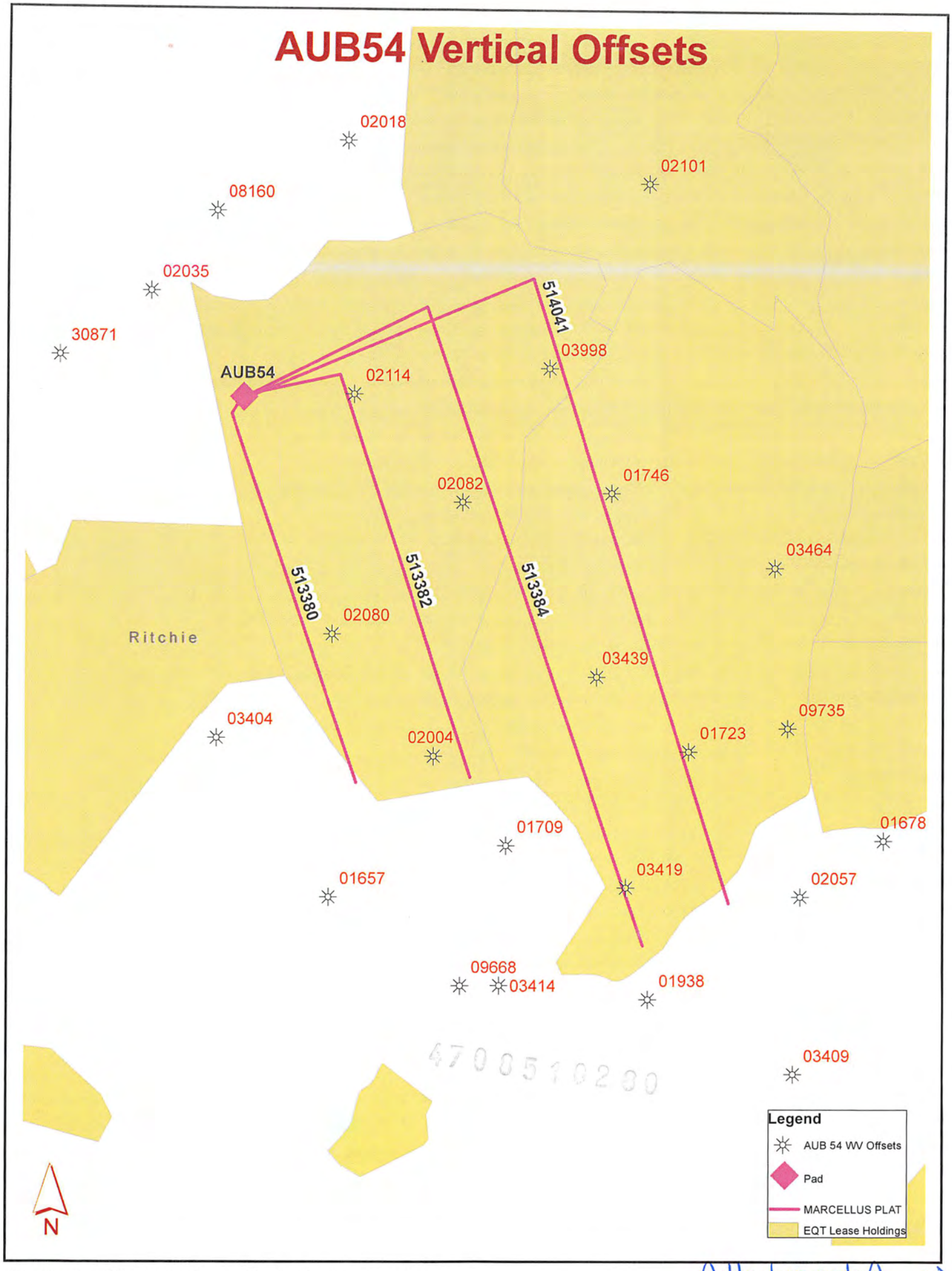
### 3. Reporting

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

Upon completion of the hydraulic fracturing and monitoring, EQT will provide a written report documenting the monitoring activities identified in this plan.

| WellID | Permit | Operator GGX | Operator DEP | Latitude | Longitude | Status | DatumEleva | TD SS | TD | Lateral Map Distance (ft) | SS Horiz | horiz - TD | Hypot Dist | Measured from well# |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4708501657 | 01657 | B E TALKINGTON | ROSS AND WHARTON GAS COMPANY, INC. | 39.10540000000 | -80.85230000000 | GAS | 870.0000 | -985.0000 | 1855.0000 | 907.5600 | -5445 | 7300 | 7356.199097 | 513380 |
| 4708501678 | 01678 | J F DEEM O&G | DEEM, J. F. OIL & GAS, LLC | 39.10660000000 | -80.83700000000 | DRY | 905.0000 | -966.0000 | 1871.0000 | 1311.6700 | -5445 | 7316 | 7432.65324 | 514041 |
| 4708501709 | 01709 | B E TALKINGTON | ROSS AND WHARTON GAS COMPANY, INC. | 39.10650000000 | -80.84740000000 | GAS | 1020.0000 | -913.0000 | 1933.0000 | 599.8500 | -5445 | 7378 | 7402.344495 | 513382 |
| 4708501723 | 01723 | B E TALKINGTON | ROSS AND WHARTON GAS COMPANY, INC. | 39.10850000000 | -80.84240000000 | GAS | 1050.0000 | -965.0000 | 2015.0000 | 66.5900 | -5445 | 7460 | 7460.297194 | 514041 |
| 4708501746 | 01746 | B E TALKINGTON | ROSS AND WHARTON GAS COMPANY, INC. | 39.11400000000 | -80.84450000000 | GAS | 930.0000 | -916.0000 | 1846.0000 | 94.3900 | -5445 | 7291 | 7291.610965 | 514041 |
| 4708501938 | 01938 | B E TALKINGTON | POSTROCK EASTERN PRODUCTION LLC | 39.10320000000 | -80.84350000000 | GAS | 900.0000 | -965.0000 | 1865.0000 | 418.5400 | -5445 | 7310 | 7321.97212 | 513384 |
| 4708502004 | 02004 | WILLARD E FERRELL | RITCHIE PETROLEUM CORP. | 39.10840000000 | -80.84940000000 | GAS | 1009.0000 | -938.0000 | 1947.0000 | 209.8600 | -5445 | 7392 | 7394.978379 | 513382 |
| 4708502018 | 02018 | ALAMCO | TARGA DEVELOPMENT INC | 39.12150000000 | -80.85180000000 | GAS | 990.0000 | -1116.0000 | 2106.0000 | 1432.2100 | -5445 | 7551 | 7685.624665 | 513384 |
| 4708502035 | 02035 | ALAMCO | ALAMCO INC | 39.11830000000 | -80.85720000000 | DRY | 1095.0000 | -945.0000 | 2040.0000 | 1089.8800 | -5445 | 7485 | 7563.931743 | 513380 |
| 4708502057 | 02057 | B E TALKINGTON | OPERATOR UNKNOWN | 39.10540000000 | -80.83930000000 | DRY | 926.0000 | -1006.0000 | 1932.0000 | 570.3200 | -5445 | 7377 | 7399.013036 | 514041 |
| 4708502080 | 02080 | WV DEPT OF O & G | UNKNOWN - DEP PAID PLUGGING CONTRACT | 39.11100000000 | -80.85220000000 | GAS-P | 1000.0000 | -1815.0000 | 2815.0000 | 205.1300 | -5445 | 8260 | 8262.546721 | 513380 |
| 4708502082 | 02082 | WILLARD E FERRELL | OPERATOR UNKNOWN | 39.11380000000 | -80.84860000000 | GAS | 1191.0000 | -934.0000 | 2125.0000 | 213.5500 | -5445 | 7570 | 7573.011528 | 513384 |
| 4708502101 | 02101 | PURSLEYS PULLING | RITCHIE PETROLEUM CORP. | 39.12060000000 | -80.84350000000 | GAS | 950.0000 | -977.0000 | 1927.0000 | 1172.9900 | -5445 | 7372 | 7464.736401 | 514041 |
| 4708502114 | 02114 | WILLARD E FERRELL | OPERATOR UNKNOWN | 39.11610000000 | -80.85160000000 | GAS | 1070.0000 | -1160.0000 | 2230.0000 | 67.5400 | -5445 | 7675 | 7675.29717 | 51382 |
| 4708503404 | 03404 | TROY A BRADY | ROSS AND WHARTON GAS COMPANY, INC. | 39.10880000000 | -80.85540000000 | GAS | 967.0000 | -967.0000 | 1934.0000 | 912.8700 | -5445 | 7379 | 7435.252022 | 513380 |
| 4708503409 | 03409 | TROY A BRADY | POSTROCK EASTERN PRODUCTION LLC | 39.10160000000 | -80.83950000000 | GAS | 953.0000 | -3957.0000 | 4910.0000 | 1423.0900 | -5445 | 10355 | 10452.33037 | 514041 |
| 4708503414 | 03414 | TROY A BRADY | ROSS AND WHARTON GAS COMPANY, INC. | 39.10350000000 | -80.84760000000 | GAS | 852.0000 | -1009.0000 | 1861.0000 | 1157.2400 | -5445 | 7306 | 7397.083237 | 513384 |
| 4708503419 | 03419 | TROY A BRADY | ROSS AND WHARTON GAS COMPANY, INC. | 39.10560000000 | -80.84410000000 | GAS | 897.0000 | -635.0000 | 1532.0000 | 29.8200 | -5445 | 6977 | 6977.063726 | 513384 |
| 4708503439 | 03439 | TROY A BRADY | ROSS AND WHARTON GAS COMPANY, INC. | 39.11010000000 | -80.84490000000 | GAS | 917.0000 | -974.0000 | 1891.0000 | 344.4000 | -5445 | 7336 | 7344.079749 | 513384 |
| 4708503464 | 03464 | TROY A BRADY | ROSS AND WHARTON GAS COMPANY, INC. | 39.11240000000 | -80.84000000000 | GAS | 936.0000 | -968.0000 | 1904.0000 | 1136.1900 | -5445 | 7349 | 7436.311499 | 514041 |
| 4708503998 | 03998 | EPC | EQT PRODUCTION COMPANY | 39.11660000000 | -80.84620000000 | GAS | 0.0000 | -2057.0000 | 2057.0000 | 80.2200 | -5445 | 7502 | 7502.42889 | 514041 |
| 4708508160 | 08160 | ALAMCO | SWN PRODUCTION COMPANY, LLC | 39.12000000000 | -80.85540000000 | GAS | 1103.0000 | -1458.0000 | 2561.0000 | 1391.8500 | -5445 | 8006 | 8126.086538 | 513384 |
| 4708509668 | 09668 | ROSS & WHARTON | ROSS AND WHARTON GAS COMPANY, INC. | 39.10350000000 | -80.84870000000 | GAS | 846.0000 | -4156.0000 | 5002.0000 | 1445.5400 | -5445 | 10447 | 10546.53473 | 513384 |
| 4708509735 | 09735 | ROSS MIKE | ROSS AND WHARTON GAS COMPANY, INC. | 39.10900000000 | -80.83960000000 | TA | 872.0000 | -5118.0000 | 5990.0000 | 860.2600 | -5445 | 11435 | 11467.31321 | 514041 |
| 4708530871 | 30871 | PGH & WV GAS | | 39.11690000000 | -80.85970000000 | GAS | 0.0000 | -1982.0000 | 1982.0000 | 1412.1100 | -5445 | 7427 | 7560.051829 | 513380 |

Attachment A (1)




Map Produced by: Ryan Mears, Geotechincian Geosciences

Attachment A (2)

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

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

John Centofanti
Corporate Director,
Environmental Affairs

(date)

[Conventional Well Operator]
[address]
[state]

**RE: Ritchie County Hydraulic Fracturing Notice**

Dear Sir/Madam,

EQT has developed a Marcellus pad (Auburn 54 pad) located in Ritchie County, WV. As an owner or operator of conventional natural gas wells in this area, we are requesting your assistance in this matter.

Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communication, via natural gas, water, or both, may occur between hydraulically fractured wells in the Marcellus formation (approximately 6,600' TVD) and existing conventional natural gas wells in the partially-depleted, relatively high permeability, Alexander formation (approximately 5,200' TVD).

EQT anticipates conducting hydraulic fracturing at the Pennsboro 40 pad during the [first,second, third,fourth] quarter of [year]. We have identified conventional natural gas wells operated by your company within 1,500' (lateral distance) of our new/planned laterals. Plats for each well on this pad are attached.

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

1. Inspect surface equipment, prior to fracturing, to establish integrity and establish well conditions.
2. Observe wells closely during and after fracturing and monitor for abnormal increases in water, gas, or pressure.
3. Inspect or install master valves rated to 3,000 psi or other necessary equipment for wellhead integrity.
4. Notify the OOG and EQT if any changes in water, gas production, pressure, or other anomalies are identified.

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

Sincerely,
**EQT Production**

John Centofanti
Corporate Director, Environmental Affairs

cc: James Martin, WV Office of Oil and Gas

Attachment B

# AUB-54 FINAL SITE PLAN
# EQT PRODUCTION COMPANY
## PROPOSED WELL NUMBERS: H2-WV513380, H3-WV513381, H4-WV513382, H5-WV513383, H6-WV513384, AND H8-WV514041

*SITUATE ON LEFT FORK & BRUSHY FORK OF BONE CREEK IN UNION DISTRICT, RITCHIE COUNTY*

### PROJECT INFORMATION

PROJECT NAME: AUB-54

TAX PARCEL:

UNION DISTRICT
MAP 10-32

SURFACE OWNER:

BRIAN TASCHLER ET AL
UNION DISTRICT
RITCHIE COUNTY, WV
TOTAL PROPERTY AREA: 204.58 +/- ACRES

OIL AND GAS ROYALTY OWNER:

DENSEL HALL, ET AL
UNION DISTRICT
RITCHIE COUNTY, WV
LEASE AREA: 208 +/- ACRES
LEASE AREA NO.: 107948

SITE LOCATION:
THE AUB-54 SITE IS LOCATED ON THE RIDGE SOUTH OF CO. RT. 7/18 APPROXIMATELY 1.13 MILES SOUTHEAST OF THE CO. RT. 7/18 AND CO. RT 7/13 INTERSECTION

### SURFACE OWNER DISTURBANCE

| SURFACE OWNER | LIMIT OF DISTURBANCE |
|---|---|
| BRIAN TASCHLER ET AL | 17.6 ACRES |
| KIEDAISCH & SUMMERS ENTERPRISES | 8.6 ACRES |
| LOUIS J. KOPF | 0.6 ACRES |
| JERRY A. RIDDLE ET AL | 2.3 ACRES |

### LOCATION COORDINATES

AUB-54 SITE ENTRANCE
LATITUDE: 39.124831 LONGITUDE: -80.847288 (NAD 83)

AUB-54 CENTER OF WELL PAD
LATITUDE: 39.116949 LONGITUDE: -80.854494 (NAD 83)

AUB-54 FLOW CENTER OF FLOW BACK PIT
LATITUDE: 39.114875 LONGITUDE: -80.853486 (NAD 83)

### SITE DISTURBANCE COMPUTATIONS

WELL PAD AREA & TANK BATTERY PAD= 5.8 ± ACRES
MAIN ACCESS AREA = 9.6 ± ACRES
STOCKPILE AREA = 8.4 ± ACRES
FLOW BACK PIT & MANIFOLD AREA = 3.0 ± ACRES
CUT THRU AREA = 2.3 ± ACRES

TOTAL SITE DISTURBANCE = 29.1 ± ACRES

### ENTRANCE PERMIT

EQT PRODUCTION COMPANY WILL OBTAIN AN ENCROACHMENT PERMIT (FORM MM-109) FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

### MISS UTILITY STATEMENT

MISS UTILITY OF WEST VIRGINIA WAS NOTIFIED FOR THE LOCATING OF UTILITIES PRIOR TO THIS PROJECT DESIGN, TICKET #1527270999. IN ADDITION, MISS UTILITY WILL BE CONTACTED PRIOR TO START OF THE PROJECT.

### FLOODPLAIN NOTE

THE PROPOSED LIMITS OF DISTURBANCE FOR THIS PROJECT IS LOCATED IN AN AREA THAT IS NOTED AS 'Other Areas' and could be designated either Zone D or Zone X on Flood Insurance Rate Maps 54085C0035C & 54085C0250C dated February 2, 2012.

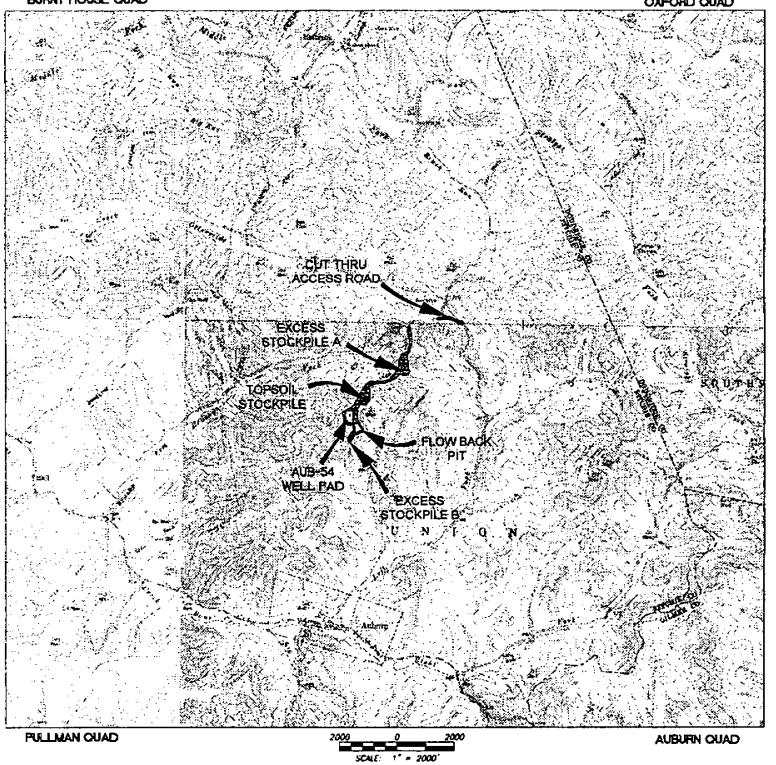
### ENVIRONMENTAL NOTES

A WETLAND DELINEATION WAS PERFORMED ON 4-16-2015, 8-6-2015, AND 8-7-2015 BY POTESTA & ASSOCIATES, INC. TO REVIEW THE SITE FOR WATERS AND WETLANDS THAT ARE MOST LIKELY WITHIN THE REGULATORY PURVIEW OF THE U.S. ARMY CORPS OF ENGINEERS (USACE) AND/OR THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (WVDEP). THE 8-17-2015 REPORT WAS PREPARED BY POTESTA & ASSOCIATES, INC. SUMMARIZES THE RESULTS OF THE FIELD DELINEATION. THE REPORT DOES NOT, IN ANY WAY, REPRESENT A JURISDICTIONAL DETERMINATION OF THE LANDWARD LIMITS OF WATERS AND WETLANDS WHICH MAY BE REGULATED BY THE USACE OR THE WVDEP. IT IS STRONGLY RECOMMENDED THAT THE AFOREMENTIONED AGENCIES BE CONSULTED IN AN EFFORT TO GAIN WRITTEN CONFIRMATION OF THE DELINEATION DESCRIBED BY THIS REPORT PRIOR TO ENGAGING CONSTRUCTION ON THE PROPERTY DESCRIBED HEREIN. THE DEVELOPER SHALL OBTAIN THE APPROPRIATE PERMITS FROM THE FEDERAL AND/OR STATE REGULATORY AGENCIES PRIOR TO ANY PROPOSED IMPACTS TO WATERS OF THE U.S., INCLUDING WETLAND FILLS AND STREAM CROSSINGS.

### GENERAL DESCRIPTION

THE AUB-54 PAD AND PITS ARE BEING CONSTRUCTED TO AID IN THE DEVELOPMENT OF INDIVIDUAL MARCELLUS SHALE GAS WELLS.

GRID NORTH AND ELEVATIONS SHOWN HEREON WERE ESTABLISHED BY SURVEY GRADE GPS




### LIST OF DRAWINGS


1 - COVER SHEET
2 - NOTES
3 - OVERALL SHEET INDEX & VOLUMES
4 - PRELIMINARY SITE PLAN
5 - PRELIMINARY SITE PLAN
6 - PRELIMINARY SITE PLAN
7 - PRELIMINARY SITE PLAN
8 - PRELIMINARY SITE PLAN
9 - ACCESS ROAD PROFILES
10 - MAIN ACCESS CROSS SECTIONS
11 - FLOW BACK PIT AND CUT THRU ACCESS ROAD PROFILES
12 - STREAM IMPACTS
13 - MAIN ROAD CROSS SECTION
14 - MAIN ROAD CROSS SECTION
15 - FLOW BACK PIT AND CUT THRU CROSS-SECTIONS
16 - PAD AND PIT CROSS SECTIONS
17 - STOCKPILE CROSS SECTIONS
18 - PRELIMINARY RECLAMATION PLAN
19 - CONSTRUCTION DETAILS
20 - CONSTRUCTION DETAILS
21 - CONSTRUCTION DETAILS
22 - CONSTRUCTION DETAILS


### LEGEND

| | |
|---|---|
| EX. INDEX CONTOUR | PROP. INDEX CONTOUR |
| EX. INTERMEDIATE CONTOUR | PROP. INTERMEDIATE CONTOUR |
| EX. BOUNDARY LINE | PROP. GRADING LIMITS |
| EX. ROAD EDGE OF GRAVEL/DIRT | PROP. LIMITS OF DISTURBANCE |
| EX. ROAD EDGE OF PAVEMENT | PROP. WELL PAD |
| EX. ROAD CENTERLINE | PROP. WELL HEAD |
| EX. DITCHLINE | PROP. 4" PVC DRAIN PIPE |
| EX. CULVERT | PROP. SUMP DRAIN |
| EX. GUARDRAIL | PROP. CONTAINMENT BERM |
| EX. FENCELINE | PROP. PIT/IMPOUNDMENT CL |
| EX. GATE | PROP. PERIMETER SAFETY FENCE |
| EX. OVERHEAD UTILITY | PROP. ACCESS GATE WITH EMERGENCY LIFELINE |
| EX. OVERHEAD UTILITY R/W | |
| EX. POWER POLE | |
| EX. GUY WIRE | |
| EX. TELEPHONE LINE | |
| EX. GASLINE | |
| EX. GASLINE R/W | PROP. ROCK CONSTRUCTION ENTRANCE |
| EX. WATERLINE | |
| EX. WATER WELL | |
| EX. GAS WELL | |
| EX. TREELINE | |
| EX. REFERENCE TREE | PROP. ROAD EDGE OF GRAVEL |
| EX. DELINEATED STREAM | PROP. ROAD CENTERLINE |
| EX. DELINEATED WETLAND | PROP. V-DITCH W/ CHECK DAMS |
| EX. BUILDING | PROP. DITCH RELIEF CULVERT (DRC) |
| EX. BRIDGE | PROP. RIP-RAP OUTLET PROTECTION |
| 100' WETLAND/STREAM BUFFER | PROP. GUARDRAIL |
| | PROP. COMPOST FILTER SOCK |
| | SECTION LINE "A" 0+00 "A" 0+00 |
| | MATCHLINE |
| | X-SECTION GRID INDEX |
| | X-SECTION GRID INTERMEDIATE |
| | X-SECTION PROPOSED GRADE |
| | X-SECTION EXISTING GRADE |
| | X-SECTION WATER SURFACE |
| | SPOT ELEVATION 1000' |
| | CENTER OF PAD |

### RESTRICTIONS NOTES:

1. THERE ARE NO PERENNIAL STREAMS/WETLANDS/OTHER WATER BODIES WITHIN 100 FEET OF THE WELL PAD LOD.
2. THERE ARE NO NATURALLY PRODUCING TROUT STREAMS WITHIN 300 FEET OF THE PAD AND LOD.
3. THERE ARE NO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY FACILITIES WITHIN 1000 FEET OF THE PAD AND LOD.
4. THERE ARE NO KNOWN EXISTING WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEETS OF THE WELL(S) BEING DRILLED.
5. THERE ARE NO OCCUPIED DWELLING STRUCTURES WITHIN 625 FEET OF THE CENTER OF THE PAD.
6. THERE ARE NO AGRICULTURAL BUILDINGS LARGER THAN 2,500 SQUARE FEET WITHIN 625 FEET OF THE CENTER OF THE PAD.

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

APPROVED
WVDEP OOG
6/2/2016


**OPERATOR**

EQT PRODUCTION COMPANY
OPERATOR ID: 306686
115 PROFESSIONAL PLACE
P.O. BOX 280
BRIDGEPORT, WV 26330
PHONE: (304) 348-3870

**ENGINEER/SURVEYOR**

SMITH LAND SURVEYING, INC.
12 VANHORN DRIVE
P.O. BOX 150
GLENVILLE, WV 26351
PHONE: (304) 462-5634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Surveying | GIS | Mapping

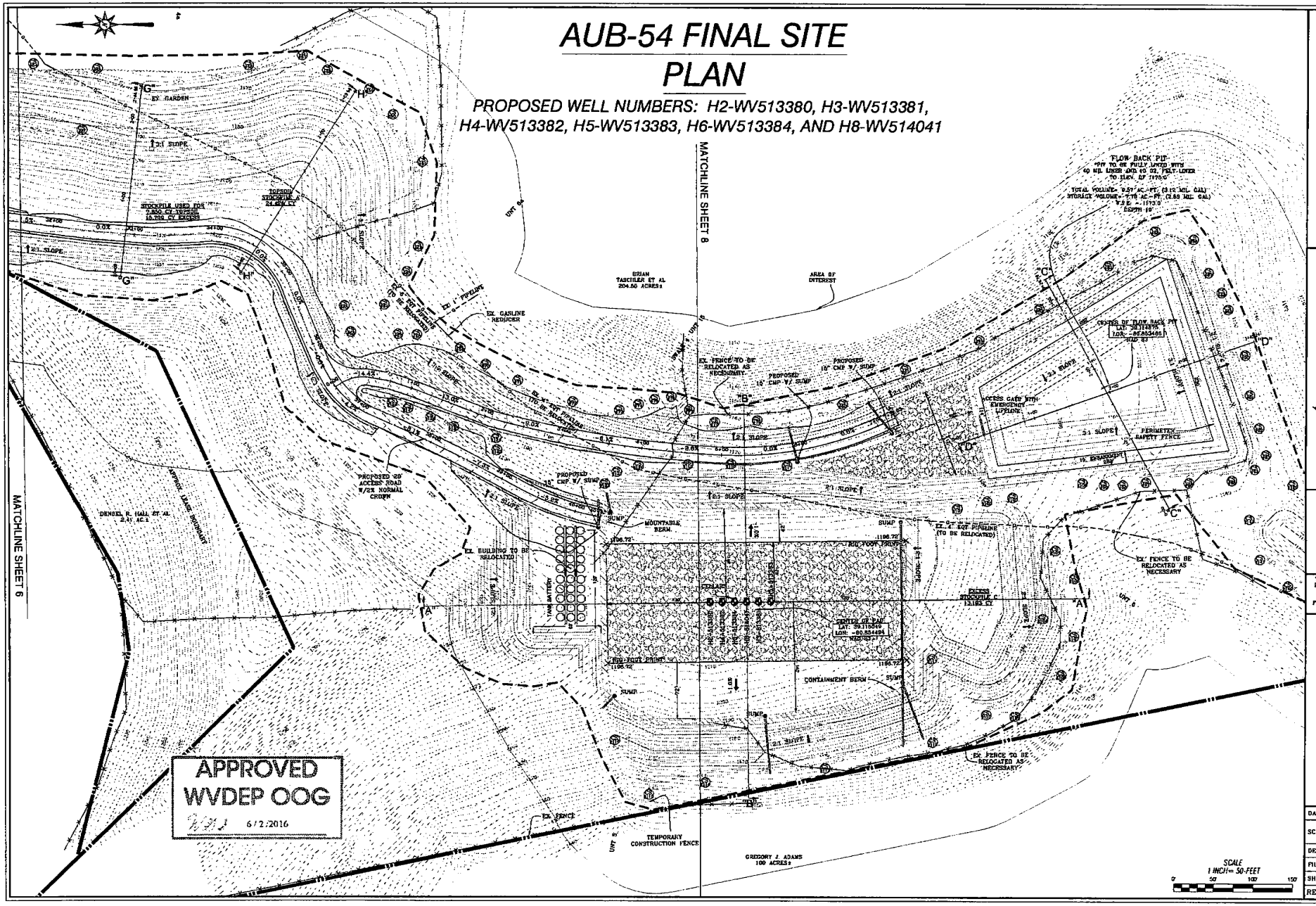
THIS DOCUMENT WAS PREPARED BY: SMITH LAND SURVEYING
FOR: EQT PRODUCTION COMPANY

COVER SHEET
AUB-54 FINAL
SITE PLAN
UNION DISTRICT
RITCHIE COUNTY, WV

DATE: 11-6-15
SCALE: 1" = 2000'
DESIGNED BY: KLH
FILE NO. 7580
SHEET 1 OF 22
REV: 02-11-2016

# AUB-54 FINAL SITE PLAN

*PROPOSED WELL NUMBERS: H2-WV513380, H3-WV513381, H4-WV513382, H5-WV513383, H6-WV513384, AND H8-WV514041*

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THIS DOCUMENT WAS PREPARED BY: SMITH LAND SURVEYING
FOR: EQT PRODUCTION COMPANY

**AUB-54 FINAL**
SITE PLAN
UNION DISTRICT
RITCHIE COUNTY, WV

| | |
|---|---|
| DATE | 11-6-15 |
| SCALE | 1" = 50' |
| DESIGNED BY | KLH |
| FILE NO. | 7580 |
| SHEET | 7 OF 22 |
| REV: | 02-10-2016 |

# AUB-54 FINAL SITE PLAN
# EQT PRODUCTION COMPANY

## PROPOSED WELL NUMBERS: H2-WV513380, H3-WV513381, H4-WV513382, H5-WV513383, H6-WV513384, AND H8-WV514041

### SITUATE ON LEFT FORK & BRUSHY FORK OF BONE CREEK IN UNION DISTRICT, RITCHIE COUNTY

### PROJECT INFORMATION

PROJECT NAME: AUB-54

TAX PARCEL:

UNION DISTRICT
MAP 10-32

SURFACE OWNER:

SUSAN TASCHLER ET AL
UNION DISTRICT
RITCHIE COUNTY, WV
TOTAL PROPERTY AREA: 204.58 +/- ACRES

OIL AND GAS ROYALTY OWNER:

DENZEL HALL, ET AL
UNION DISTRICT
RITCHIE COUNTY, WV
LEASE AREA: 208 +/- ACRES
LEASE AREA NO. 107868

SITE LOCATION:
THE AUB-54 SITE IS LOCATED ON THE RIDGE SOUTH OF CO. RT 7/18 APPROXIMATELY 1.13 MILES SOUTHEAST OF THE CO. RT 7/18 AND CO. RT 7/13 INTERSECTION

### SURFACE OWNER DISTURBANCE

| SURFACE OWNER | LIMIT OF DISTURBANCE |
|---|---|
| SUSAN TASCHLER ET AL | 17.6 ACRES |
| EKEDAHL'S & SUMMERS ENTERPRISES | 8.6 ACRES |
| LOUIS J. KOPF | 0.6 ACRES |
| JERRY A. RIDDLE ET AL | 2.3 ACRES |

### LOCATION COORDINATES

AUB-54 SITE ENTRANCE
LATITUDE: 39.124631 LONGITUDE: -80.847288 (NAD 83)

AUB-54 CENTER OF WELL PAD
LATITUDE: 39.116948 LONGITUDE: -80.854494 (NAD 83)

AUB-54 FLOW CENTER OF FLOW BACK PIT
LATITUDE: 39.114675 LONGITUDE: -80.853468 (NAD 83)

### SITE DISTURBANCE COMPUTATIONS

WELL PAD AREA & TANK BATTERY PAD= 5.6 ± ACRES
MAIN ACCESS AREA = 9.6 ± ACRES
STOCKPILE AREA = 8.4 ± ACRES
FLOW BACK PIT & MANIFOLD AREA = 3.0 ± ACRES
CUT THRU AREA = 2.3 ± ACRES

TOTAL SITE DISTURBANCE = 29.1 ± ACRES

### ENTRANCE PERMIT

EQT PRODUCTION COMPANY WILL OBTAIN A[illegible]ENT PERMIT (FORM MW-109) FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

### MISS UTILITY STATEMENT

MISS UTILITY OF WEST VIRGINIA WAS NOTIFIED FOR THE LOCATING OF UTILITIES PRIOR TO THIS PROJECT DESIGN, TICKET #152727999. IN ADDITION, MISS UTILITY WILL BE CONTACTED PRIOR TO START OF THE PROJECT.

### FLOODPLAIN NOTE

THE PROPOSED LIMITS OF DISTURBANCE FOR THIS PROJECT IS LOCATED IN AN AREA THAT IS NOTED AS 'Other Areas' and could be designated either Zone D or Zone X on Flood Insurance Rate Maps 54085C0325C & 54085C0250C dated February 2, 2012.

### ENVIRONMENTAL NOTES

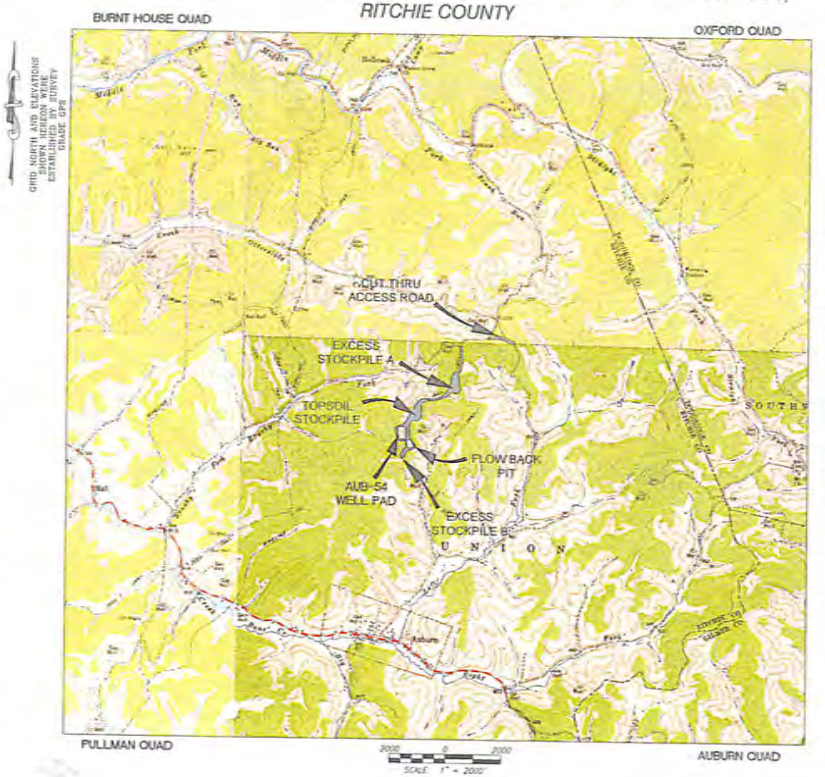
A WETLAND DELINEATION WAS PERFORMED ON 4-16-2015, 8-6-2015, AND 8-7-2015 BY POTESTA & ASSOCIATES, INC. TO REVIEW THE SITE FOR WATERS AND WETLANDS THAT ARE MOST LIKELY WITHIN THE REGULATORY PURVIEW OF THE U.S. ARMY CORPS OF ENGINEERS (USACE) AND/OR THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (WVDEP). THE 8-17-2015 REPORT WAS PREPARED BY POTESTA & ASSOCIATES, INC. SUMMARIZES THE RESULTS OF THE FIELD DELINEATION. THE REPORT DOES NOT, IN ANY WAY, REPRESENT A JURISDICTIONAL DETERMINATION OF THE LANDWARD LIMITS OF WATERS AND WETLANDS WHICH MAY BE REGULATED BY THE USACE OR THE WVDEP. IT IS STRONGLY RECOMMENDED THAT THE AFOREMENTIONED AGENCIES BE CONSULTED IN AN EFFORT TO GAIN WRITTEN CONFIRMATION OF THE DELINEATION DESCRIBED BY THIS REPORT PRIOR TO ENGAGING CONSTRUCTION ON THE PROPERTY DESCRIBED HEREIN. THE DEVELOPER SHALL OBTAIN THE APPROPRIATE PERMITS FROM THE FEDERAL AND/OR STATE REGULATORY AGENCIES PRIOR TO ANY PROPOSED IMPACTS TO WATERS OF THE U.S., INCLUDING WETLAND FILLS AND STREAM CROSSINGS.

### GENERAL DESCRIPTION

THE AUB-54 PAD AND PITS ARE BEING CONSTRUCTED TO AID IN THE DEVELOPMENT OF INDIVIDUAL MARCELLUS SHALE GAS WELLS.

### RESTRICTIONS NOTES:

1. THERE ARE NO PERENNIAL STREAMS/WETLANDS/OTHER WATER BODIES WITHIN 100 FEET OF THE WELL PAD LOD.
2. THERE ARE NO NATURALLY PRODUCING TROUT STREAMS WITHIN 300 FEET OF THE PAD AND LOD.
3. THERE ARE NO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY FACILITIES WITHIN 1000 FEET OF THE PAD AND LOD.
4. THERE ARE NO KNOWN EXISTING WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEETS OF THE WELL(S) BEING DRILLED.
5. THERE ARE NO OCCUPIED DWELLING STRUCTURES WITHIN 625 FEET OF THE CENTER OF THE PAD.
6. THERE ARE NO AGRICULTURAL BUILDINGS LARGER THAN 2,500 SQUARE FEET WITHIN 625 FEET OF THE CENTER OF THE PAD.




### LIST OF DRAWINGS


1 – COVER SHEET
2 – NOTES
3 – OVERALL SHEET INDEX & VOLUMES
4 – PRELIMINARY SITE PLAN
5 – PRELIMINARY SITE PLAN
6 – PRELIMINARY SITE PLAN
7 – PRELIMINARY SITE PLAN
8 – PRELIMINARY SITE PLAN
9 – ACCESS ROAD PROFILES
10 – MAIN ACCESS CROSS SECTIONS
10 – FLOW BACK PIT AND CUT THRU ACCESS ROAD PROFILES
11 – STREAM IMPACTS
12 – MAIN ROAD CROSS SECTION
13 – MAIN ROAD CROSS SECTION
14 – FLOW BACK PIT AND CUT THRU CROSS-SECTIONS
15 – PAD AND PIT CROSS SECTIONS
16 – STOCKPILE CROSS SECTIONS
17 – PRELIMINARY RECLAMATION PLAN
18 – CONSTRUCTION DETAILS
19 – CONSTRUCTION DETAILS
20 – CONSTRUCTION DETAILS
21 – CONSTRUCTION DETAILS
22 – CONSTRUCTION DETAILS


### LEGEND

| | |
|---|---|
| EX. INDEX CONTOUR | PROP. INDEX CONTOUR |
| EX. INTERMEDIATE CONTOUR | PROP. INTERMEDIATE CONTOUR |
| EX. BOUNDARY LINE | PROP. GRADING LIMITS |
| EX. ROAD EDGE OF GRAVEL/DIRT | PROP. LIMITS OF DISTURBANCE |
| EX. ROAD EDGE OF PAVEMENT | PROP. WELL PAD |
| EX. ROAD CENTERLINE | PROP. WELL HEAD |
| EX. DITCHLINE | PROP. 4" PVC DRAIN PIPE |
| EX. CULVERT | PROP. SUMP DRAIN |
| EX. GUARDRAIL | PROP. CONTAINMENT BERM |
| EX. FENCELINE | PROP. PIT/IMPOUNDMENT CL |
| EX. GATE | PROP. PERIMETER SAFETY FENCE |
| EX. OVERHEAD UTILITY | PROP. ACCESS GATE WITH EMERGENCY LIFELINE |
| EX. OVERHEAD UTILITY R/W | |
| EX. POWER POLE | |
| EX. CUT WIRE | |
| EX. TELEPHONE LINE | |
| EX. CABLINE | PROP. ROCK CONSTRUCTION ENTRANCE |
| EX. CABLINE R/W | |
| EX. WATERLINE | |
| EX. WATER WELL | PROP. ROAD EDGE OF GRAVEL |
| EX. GAS WELL | PROP. ROAD CENTERLINE |
| EX. TREELINE | PROP. V-DITCH W/ CHECK DAMS |
| EX. REFERENCE TREE | PROP. DITCH RELIEF CULVERT (DRC) |
| EX. DELINEATED STREAM | PROP. RIP-RAP OUTLET PROTECTION |
| EX. DELINEATED WETLAND | PROP. GUARDRAIL |
| EX. BUILDING | PROP. COMPOST FILTER SOCK CFS |
| EX. BRIDGE | SECTION LINE "A" 0+00 "A" 0+50 |
| 100' WETLAND/STREAM BUFFER | MATCHLINE |
| | X-SECTION GRID INDEX |
| | X-SECTION GRID INTERMEDIATE |
| | X-SECTION PROPOSED GRADE |
| | X-SECTION EXISTING GRADE |
| | X-SECTION WATER SURFACE |
| | SPOT ELEVATION 1000.0' |
| | CENTER OF PAD |

MISS Utility of West Virginia
1-800-245-4848
West Virginia State Law
(Section XIV: Chapter 24-C)
Requires that you call two business days before you dig in the state of West Virginia.
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Michael Doff
2/19/16

### OPERATOR

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OPERATOR ID 306686
115 PROFESSIONAL PLACE
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BRIDGEPORT, WV 26330
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DENZEL R. HALL
REGISTERED
PROFESSIONAL
LAND SURVEYOR
15172
STATE OF
WEST VIRGINIA

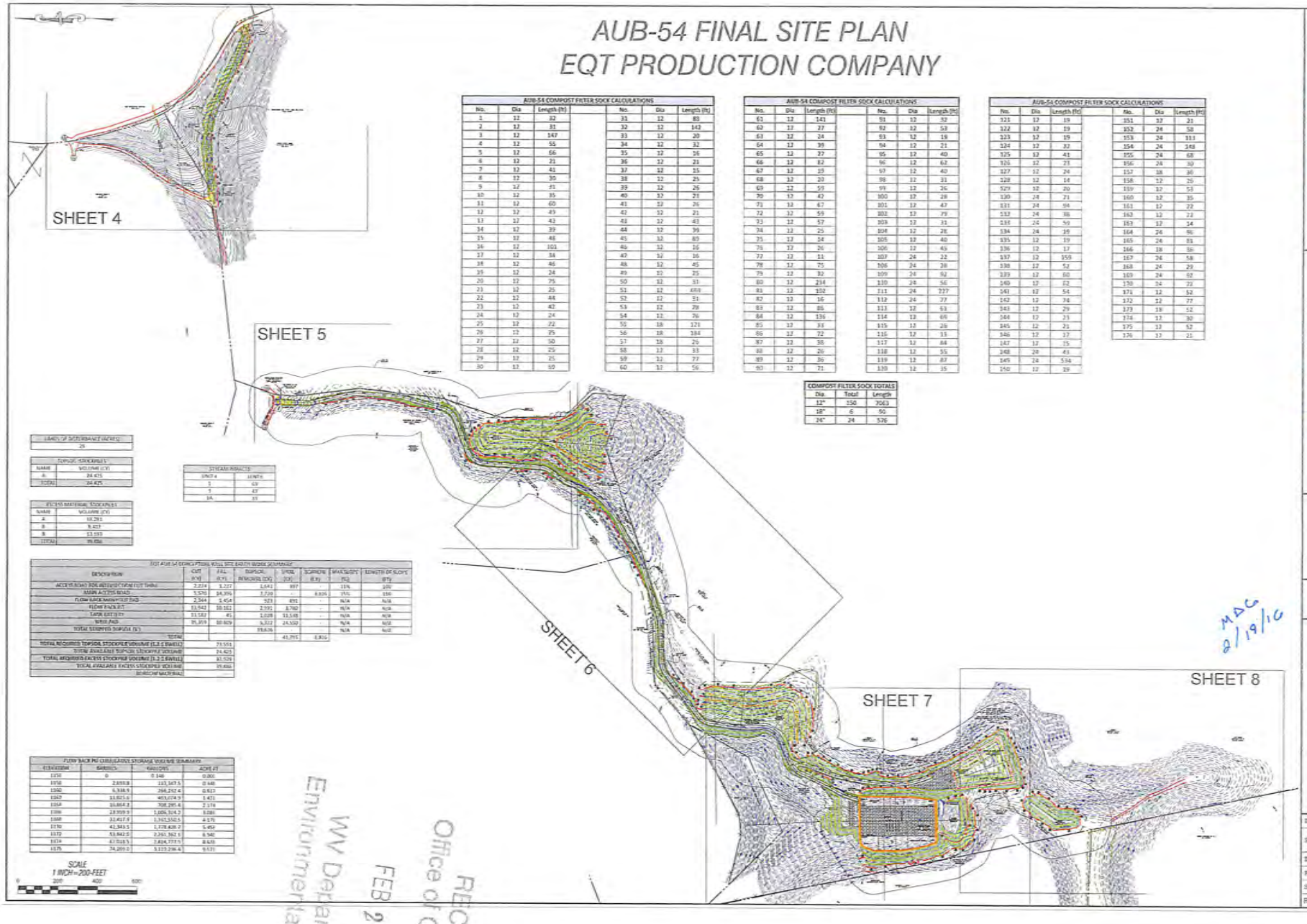
THIS DOCUMENT WAS PREPARED BY: SMITH LAND SURVEYING
FOR: EQT PRODUCTION COMPANY

COVER SHEET
AUB-54 FINAL
SITE PLAN
UNION DISTRICT
RITCHIE COUNTY, WV

DATE: 11-6-15
SCALE: 1" = 2000'
DESIGNED BY: KLH
FILE NO: 7580
SHEET 1 OF 22
REV: 02-11-2016

4708510280

# AUB-54 FINAL SITE PLAN
# EQT PRODUCTION COMPANY




**AUB-54 COMPOST FILTER SOCK CALCULATIONS**

| No. | Dia | Length (ft) | No. | Dia | Length (ft) |
|---|---|---|---|---|---|
| 1 | 12 | 82 | 31 | 12 | 83 |
| 2 | 12 | 31 | 32 | 12 | 142 |
| 3 | 12 | 147 | 33 | 12 | 20 |
| 4 | 12 | 55 | 34 | 12 | 32 |
| 5 | 12 | 66 | 35 | 12 | 26 |
| 6 | 12 | 21 | 36 | 12 | 21 |
| 7 | 12 | 41 | 37 | 12 | 15 |
| 8 | 12 | 30 | 38 | 12 | 25 |
| 9 | 12 | 31 | 39 | 12 | 26 |
| 10 | 12 | 35 | 40 | 12 | 23 |
| 11 | 12 | 60 | 41 | 12 | 26 |
| 12 | 12 | 49 | 42 | 12 | 21 |
| 13 | 12 | 43 | 43 | 12 | 43 |
| 14 | 12 | 39 | 44 | 12 | 36 |
| 15 | 12 | 48 | 45 | 12 | 89 |
| 16 | 12 | 101 | 46 | 12 | 16 |
| 17 | 12 | 34 | 47 | 12 | 16 |
| 18 | 12 | 46 | 48 | 12 | 45 |
| 19 | 12 | 24 | 49 | 12 | 25 |
| 20 | 12 | 75 | 50 | 12 | 31 |
| 21 | 12 | 25 | 51 | 12 | 488 |
| 22 | 12 | 48 | 52 | 12 | 31 |
| 23 | 12 | 42 | 53 | 12 | 29 |
| 24 | 12 | 24 | 54 | 12 | 76 |
| 25 | 12 | 22 | 55 | 18 | 121 |
| 26 | 12 | 25 | 56 | 18 | 184 |
| 27 | 12 | 50 | 57 | 18 | 26 |
| 28 | 12 | 25 | 58 | 12 | 33 |
| 29 | 12 | 25 | 59 | 12 | 77 |
| 30 | 12 | 59 | 60 | 12 | 56 |

**AUB-54 COMPOST FILTER SOCK CALCULATIONS**

| No. | Dia | Length (ft) | No. | Dia | Length (ft) |
|---|---|---|---|---|---|
| 61 | 12 | 141 | 91 | 12 | 32 |
| 62 | 12 | 27 | 92 | 12 | 53 |
| 63 | 12 | 24 | 93 | 12 | 19 |
| 64 | 12 | 39 | 94 | 12 | 21 |
| 65 | 12 | 37 | 95 | 12 | 40 |
| 66 | 12 | 82 | 96 | 12 | 62 |
| 67 | 12 | 39 | 97 | 12 | 40 |
| 68 | 12 | 53 | 98 | 12 | 31 |
| 69 | 12 | 59 | 99 | 12 | 36 |
| 70 | 12 | 42 | 100 | 12 | 28 |
| 71 | 12 | 67 | 101 | 12 | 47 |
| 72 | 12 | 59 | 102 | 12 | 79 |
| 73 | 12 | 57 | 103 | 12 | 31 |
| 74 | 12 | 25 | 104 | 12 | 28 |
| 75 | 12 | 24 | 105 | 12 | 40 |
| 76 | 12 | 26 | 106 | 12 | 45 |
| 77 | 12 | 51 | 107 | 24 | 32 |
| 78 | 12 | 75 | 108 | 24 | 28 |
| 79 | 12 | 32 | 109 | 24 | 92 |
| 80 | 12 | 234 | 110 | 24 | 56 |
| 81 | 12 | 102 | 111 | 24 | 227 |
| 82 | 12 | 16 | 112 | 24 | 77 |
| 83 | 12 | 86 | 113 | 12 | 53 |
| 84 | 12 | 136 | 114 | 12 | 66 |
| 85 | 12 | 33 | 115 | 12 | 26 |
| 86 | 12 | 72 | 116 | 12 | 13 |
| 87 | 12 | 36 | 117 | 12 | 84 |
| 88 | 12 | 26 | 118 | 12 | 55 |
| 89 | 12 | 26 | 119 | 12 | 87 |
| 90 | 12 | 71 | 120 | 12 | 35 |

**AUB-54 COMPOST FILTER SOCK CALCULATIONS**

| No. | Dia | Length (ft) | No. | Dia | Length (ft) |
|---|---|---|---|---|---|
| 121 | 12 | 19 | 151 | 12 | 21 |
| 122 | 12 | 19 | 152 | 24 | 58 |
| 123 | 12 | 19 | 153 | 24 | 113 |
| 124 | 12 | 32 | 154 | 24 | 148 |
| 125 | 12 | 41 | 155 | 24 | 68 |
| 126 | 12 | 23 | 156 | 24 | 39 |
| 127 | 12 | 24 | 157 | 18 | 36 |
| 128 | 12 | 14 | 158 | 12 | 29 |
| 129 | 12 | 20 | 159 | 12 | 53 |
| 130 | 24 | 21 | 160 | 12 | 35 |
| 131 | 24 | 94 | 161 | 12 | 22 |
| 132 | 24 | 36 | 162 | 12 | 22 |
| 133 | 24 | 59 | 163 | 12 | 14 |
| 134 | 24 | 39 | 164 | 24 | 96 |
| 135 | 12 | 19 | 165 | 24 | 83 |
| 136 | 12 | 17 | 166 | 18 | 36 |
| 137 | 12 | 359 | 167 | 24 | 58 |
| 138 | 12 | 52 | 168 | 24 | 29 |
| 139 | 12 | 60 | 169 | 24 | 62 |
| 140 | 12 | 62 | 170 | 24 | 72 |
| 141 | 12 | 54 | 171 | 12 | 52 |
| 142 | 12 | 74 | 172 | 12 | 77 |
| 143 | 12 | 29 | 173 | 18 | 52 |
| 144 | 12 | 23 | 174 | 12 | 30 |
| 145 | 12 | 21 | 175 | 12 | 52 |
| 146 | 12 | 17 | 176 | 12 | 21 |
| 147 | 12 | 75 | | | |
| 148 | 24 | 43 | | | |
| 149 | 24 | 534 | | | |
| 150 | 12 | 29 | | | |

**COMPOST FILTER SOCK TOTALS**

| Dia | Total | Length |
|---|---|---|
| 12" | 150 | 7063 |
| 18" | 6 | 50 |
| 24" | 24 | 576 |

| LEGEND OF DETERMINANT VALUES |
|---|
| 29 |

| TOPSOIL STOCKPILES | |
|---|---|
| NAME | VOLUME (CY) |
| A | 24,425 |
| TOTAL | 24,425 |

| EXCESS MATERIAL STOCKPILES | |
|---|---|
| NAME | VOLUME (CY) |
| A | 68,281 |
| B | 9,403 |
| B | 13,593 |
| TOTAL | 91,856 |

| STREAM IMPACTS | |
|---|---|
| UNIT # | LENGTH |
| 1 | 69 |
| 3 | 47 |
| 3A | 33 |

**FOR AUB-54 CONVENTIONAL WELL SITE EARTH WORK SUMMARY**

| DESCRIPTION | CUT (CY) | FILL (CY) | TOPSOIL REMOVAL (CY) | SPOIL (CY) | SCARIFY (CY) | MAX SLOPE (%) | LENGTH OF SLOPE (FT) |
|---|---|---|---|---|---|---|---|
| ACCESS ROAD FOR ASSOCIATION PLOT THRU | 2,014 | 1,227 | 1,641 | 897 | - | 15% | 100 |
| MAIN ACCESS ROAD | 5,570 | 34,395 | 2,720 | - | 6,826 | 15% | 150 |
| FLOW BACK MANIFOLD PAD | 2,944 | 1,454 | 523 | 491 | - | N/A | N/A |
| FLOW BACK JET | 11,942 | 10,162 | 2,591 | 8,760 | - | N/A | N/A |
| TANK JET (E) | 11,582 | 45 | 1,028 | 11,548 | - | N/A | N/A |
| WELL PAD | 35,373 | 10,829 | 5,312 | 24,550 | - | N/A | N/A |
| TOTAL SEDIMENT DISPOSAL (E) | | | 59,636 | | | N/A | N/A |
| TOTAL | | | | 41,291 | 6,826 | | |
| TOTAL REQUIRED TOPSOIL STOCKPILE VOLUME (1.2-1 SWELL) | | 71,551 | | | | | |
| TOTAL AVAILABLE TOPSOIL STOCKPILE VOLUME | | 24,425 | | | | | |
| TOTAL REQUIRED EXCESS STOCKPILE VOLUME (1.2-1 SWELL) | | 81,529 | | | | | |
| TOTAL AVAILABLE EXCESS STOCKPILE VOLUME | | 91,856 | | | | | |
| BORROW MATERIAL | | | | | | | |

**FLOW BACK PIT CUMULATIVE STORAGE VOLUME SUMMARY**

| ELEVATION | AREA (SF) | VOLUME (CF) | ACRE-FT |
|---|---|---|---|
| 1150 | 0 | 0.146 | 0.000 |
| 1158 | 2,693.8 | 112,347.5 | 0.258 |
| 1160 | 6,338.9 | 268,232.4 | 0.615 |
| 1162 | 11,825.6 | 463,074.9 | 1.421 |
| 1164 | 16,864.3 | 708,295.4 | 2.174 |
| 1166 | 21,939.9 | 1,005,314.7 | 3.086 |
| 1168 | 31,417.8 | 1,345,532.5 | 4.170 |
| 1170 | 41,343.5 | 1,778,428.7 | 5.459 |
| 1172 | 51,942.0 | 2,291,362.5 | 6.940 |
| 1174 | 67,918.5 | 2,814,777.5 | 8.630 |
| 1175 | 74,209.0 | 3,123,296.4 | 9.571 |

SCALE
1 INCH = 200 FEET
0 200 400 600

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FEB 23 2016
WV Department of
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MAC 2/19/16

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FOR: EQT PRODUCTION COMPANY

AUB-54 FINAL
SITE PLAN
UNION DISTRICT
RITCHIE COUNTY, WV

DATE 11-6-15
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FILE NO 7580
SHEET 3 OF 22
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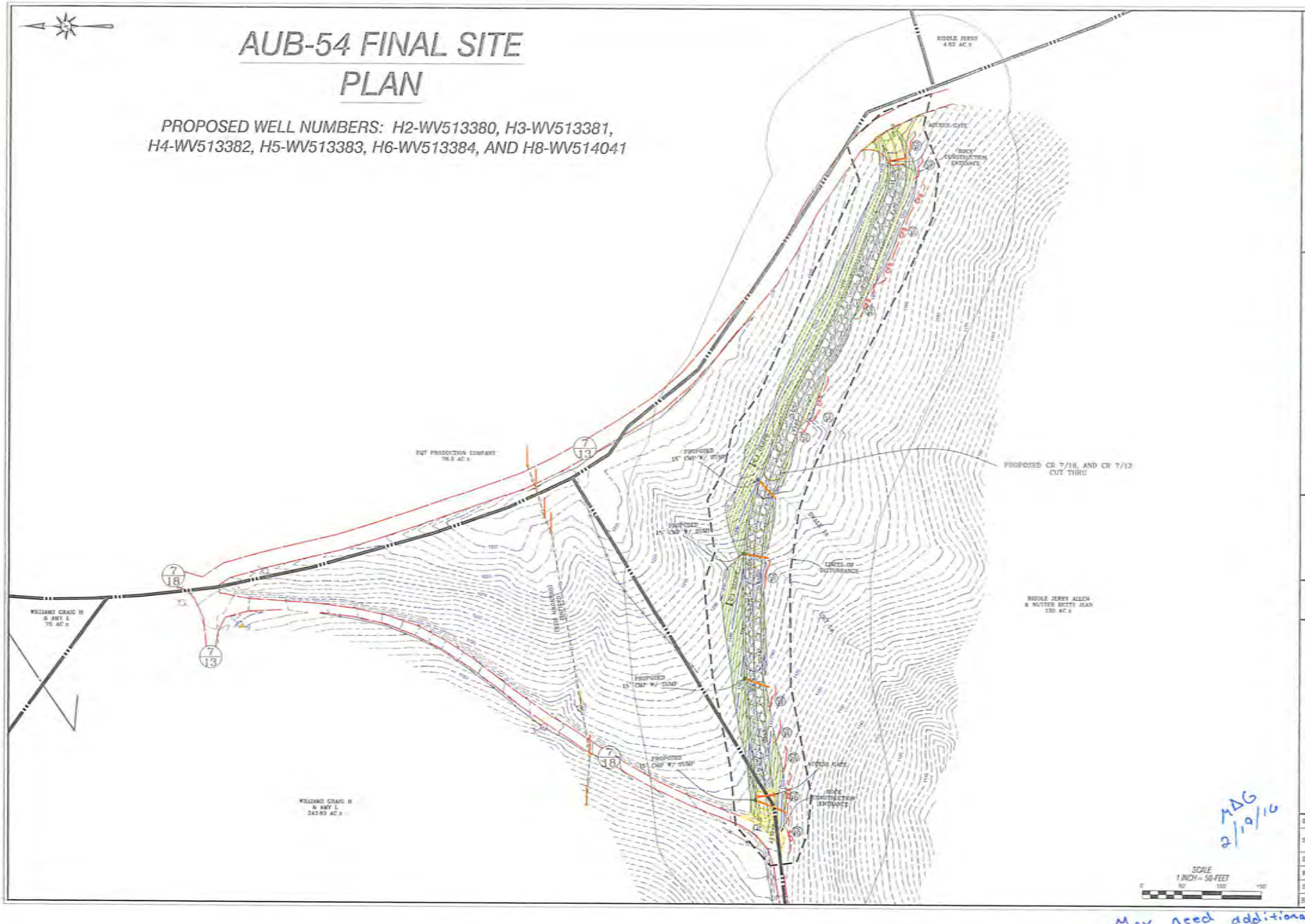
4708510280

# AUB-54 FINAL SITE PLAN

PROPOSED WELL NUMBERS: H2-WV513380, H3-WV513381, H4-WV513382, H5-WV513383, H6-WV513384, AND H8-WV514041

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UNION DISTRICT
RITCHIE COUNTY, WV

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| DATE: | 10-6-15 |
| SCALE: | 1" = 50' |
| DESIGNED BY: | KLH |
| FILE NO: | 7586 |
| SHEET: | 4 OF 22 |
| REV: | 02-10-2016 |

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May need additional

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| REV. | 02-10-2016 |

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FEB 23 2016
WV Department of
Environmental Protection

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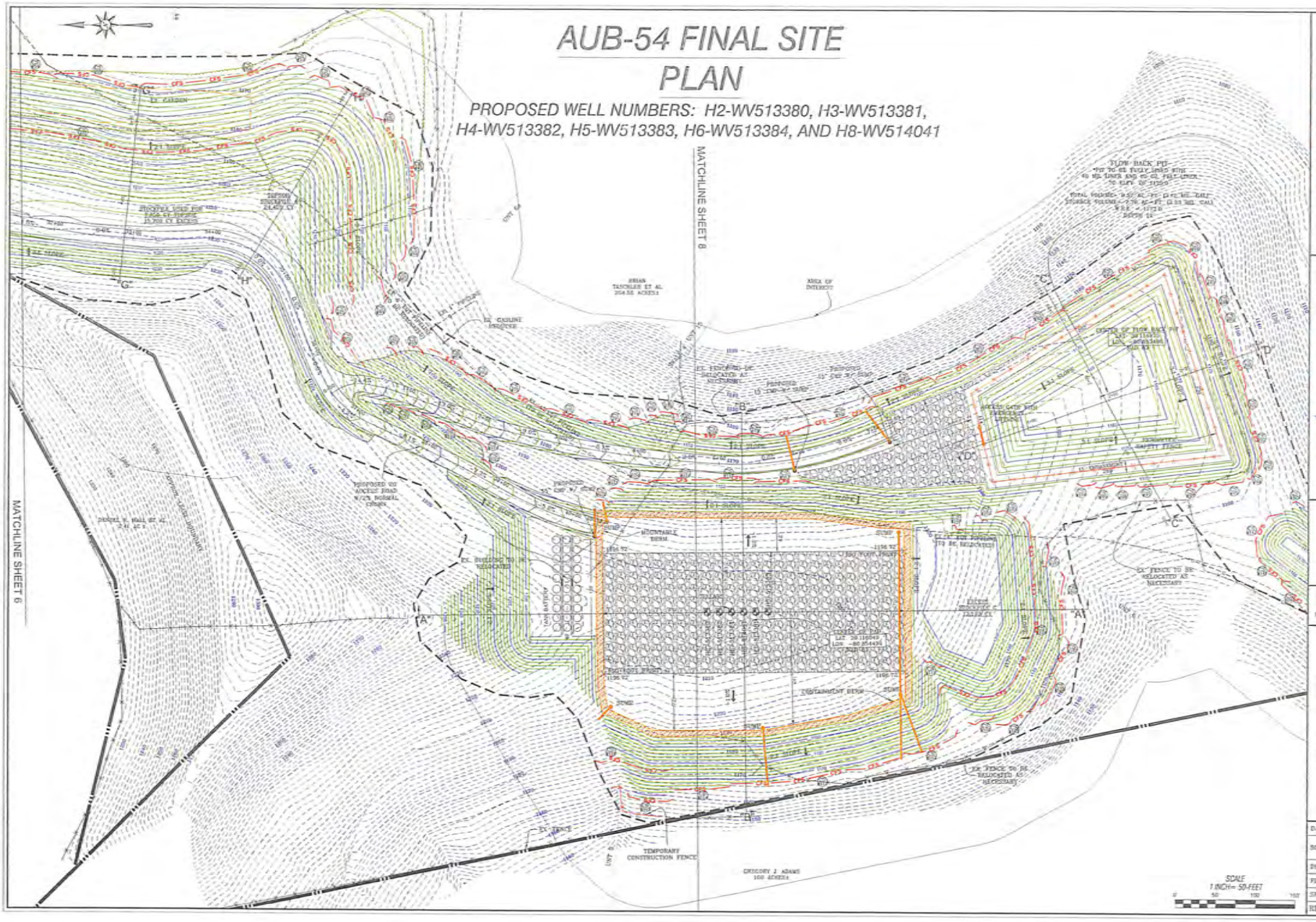


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MAG 2/19/16

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# AUB-54
# RECLAMATION
# LAYOUT

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AUB-54 RECLAMATION
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RITCHIE COUNTY WV

| | |
|---|---|
| DATE | 11-6-15 |
| SCALE | 1" = 50' |
| DESIGNED BY | KLH |
| FILE NO. | 7580 |
| SHEET | 17 OF 22 |
| REV: | 02-10-2016 |

SCALE
1 INCH = 50 FEET
0 50 100 150

NOTE:
ANY AREAS BACKFILLED DURING RECLAMATION WILL BE COMPLETED USING A MAXIMUM 24" LIFT THICKNESS AND WILL BE COMPACTED TO AT LEAST 90% OF THE STANDARD PROCTOR (ASTM D-698)

SITE RECLAMATION NARRATIVE:
WITHIN SIX MONTHS OF THE EXPIRATION OF APPROVAL OF THE WELL PAD, THIS SITE SHALL BE CLOSED AND RESTORED TO A PRE-CONSTRUCTION CONDITION. THE AST PAD AND ALL PIPING FOR THE GROUNDWATER DEWATERING SYSTEM, ALL EXISTING BMPS SHOWN SHALL BE INSPECTED FOR DAMAGE AND REPLACED AS NECESSARY BEFORE RECLAMATION CAN BEGIN. THE SITE SHALL BE REGRADED AS INDICATED ON THE PLAN TO PRE-CONSTRUCTION GRADES. UPON COMPLETION OF GRADING, THE SITE SHALL BE SEEDED AND MULCHED PER THE REVEGETATION DETAILS ON SHEET 14

RECEIVED
Office of Oil & Gas
WV Department of
Environmental Protection

MAG 2/19/16

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