



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

April 11, 2016

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-1706767, issued to ANTERO RESOURCES CORPORATION, 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: DOAK UNIT 2H

Farm Name: ALVADORE MCCLOY JR ET UX

API Well Number: 47-1706767

Permit Type: Horizontal 6A Well

Date Issued: 04/11/2016

Promoting a healthy environment.

04/15/2016

PERMIT CONDITIONS

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

CONDITIONS

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

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
VOLUNTARY STATEMENT OF NO OBJECTION

Instructions to Persons Named on Page WW-6A

The well operator named on page WW-6A is applying for a permit from the State of West Virginia to conduct oil or gas well work. Well work permits are valid for twenty-four (24) months. Please contact the listed well operator and the Office of Oil and Gas if you do not own any interest in the listed surface tract.

Comment and Waiver Provisions

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

Pursuant to West Virginia Code § 22-6A-8(b) No permit may be issued less than thirty days after the filing date of the application for any well work except plugging or replugging; and no permit for plugging or replugging may be issued less than five days after the filing date of the application except a permit for plugging or replugging a dry hole: *Provided*, That if the applicant certifies that all persons entitled to notice of the application under the provisions of subsection (b), section ten of this article have been served in person or by certified mail, return receipt requested, with a copy of the well work application, including the erosion and sediment control plan, if required, and the well plat, and further files written statements of no objection by all such persons, the secretary may issue the well work permit at any time.

VOLUNTARY STATEMENT OF NO OBJECTION

I, _____, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through _____, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State:	<u>West Virginia</u>	UTM NAD 83 Easting:	<u>510121m</u>
County:	<u>Doddridge</u>	Northing:	<u>4347120m</u>
District:	<u>Central</u>	Public Road Access:	<u>CR 50/31</u>
Quadrangle:	<u>Pennsboro 7.5'</u>	Generally used farm name:	<u>McCloy, Alvadore, Jr., et ux</u>
Watershed:	<u>North Fork Hughes River</u>		

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

<p>*Please check the box that applies</p> <p><input type="checkbox"/> SURFACE OWNER</p> <p><input type="checkbox"/> SURFACE OWNER (Road and/or Other Disturbance)</p> <p><input type="checkbox"/> SURFACE OWNER (Impoundments/Pits)</p> <p><input type="checkbox"/> COAL OWNER OR LESSEE</p> <p><input type="checkbox"/> COAL OPERATOR</p> <p><input type="checkbox"/> WATER PURVEYOR</p> <p><input type="checkbox"/> OPERATOR OF ANY NATURAL GAS STORAGE FIELD</p>	<p style="text-align: right; font-weight: bold;">470 17876</p> <p style="text-align: center;">FOR EXECUTION BY A NATURAL PERSON</p> <p>Signature: _____</p> <p>Print Name: _____</p> <p>Date: _____</p> <p style="text-align: center;">FOR EXECUTION BY A CORPORATION, ETC.</p> <p>Company: _____</p> <p>By: _____</p> <p>Its: _____</p> <p>Signature: _____</p> <p>Date: _____</p>
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Oil and Gas Privacy Notice:

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

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Office of Oil and Gas
FEB 28 2016
WV Department of
Environmental Protection

04/15/2016

WW-6B
(04/15)

API NO. 47-017 -
OPERATOR WELL NO. Doak Unit 2H
Well Pad Name: Alvadore Pad

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

1) Well Operator: Antero Resources Corpora 494488557 017-Doddrid Central Pennsboro 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Doak Unit 2H Well Pad Name: Alvadore Pad

3) Farm Name/Surface Owner: McCloy, Alvadore, Jr., et ux Public Road Access: CR 50/31

4) Elevation, current ground: 1057' Elevation, proposed post-construction: 1057'

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

*Super Heavy
3-9-16
Jul 7*

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 6700' TVD, Anticipated Thickness- 60 feet, Associated Pressure- 3100#

8) Proposed Total Vertical Depth: 6700' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 15600' MD

11) Proposed Horizontal Leg Length: 7969'

12) Approximate Fresh Water Strata Depths: 332'

13) Method to Determine Fresh Water Depths: Hudkins Unit 2H (API #47-017-06436) on same pad.

14) Approximate Saltwater Depths: 1571'

15) Approximate Coal Seam Depths: None Identified

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

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

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

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WW-6B
(04/15)

API NO. 47- 017 -
OPERATOR WELL NO. Doak Unit 2H
Well Pad Name: Alvadore Pad

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18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	H-40	94#	40'	40'	CTS, 38 Cu. Ft.
Fresh Water	13-3/8"	New	J-55/H-40	54.5#/48#	390' *see #19	390' *see #19	CTS, 542 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2475'	2475'	CTS, 1008 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	15600'	15600'	CTS, 3890 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

Super Heavy
3-9-16
Paul J...

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	30"	24"	0.438"	1530	50	Class A	1.18
Fresh Water	13-3/8"	17-1/2"	0.38"/0.33"	2730/1730	1000	Class A	1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A	1.18
Intermediate							
Production	5-1/2"	8-3/4" & 8-1/2"	0.361"	12,630	2500	Lead-H/POZ & Tail - H	H/POZ-1.44 & H-1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

PACKERS

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

WW-6B
(10/14)

4701706767
API NO. 47-017 -
OPERATOR WELL NO. Doak Unit 2H
Well Pad Name: Alvadore Pad

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

Drill, perforate, fracture a new horizontal shallow well and complete Marcellus Shale.

*Antero will be air drilling the fresh water string which makes it difficult to determine when fresh water is encountered. Therefore, we have built in a buffer for the casing setting depth which helps to ensure that all fresh water zones are covered.

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

Antero plans to pump Slickwater into the Marcellus Shale formation in order to ready the well for production. The fluid will be comprised of approximately 99 percent water and sand, with less than 1 percent special-purpose additives as shown in the attached "List of Anticipated Additives Used for Fracturing or Stimulating Well."

Anticipated Max Pressure - 9300 lbs
Anticipated Max Rate - 80 bpm

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21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 33.17 Existing Acres (Shared with Dotson Holland Pad)

22) Area to be disturbed for well pad only, less access road (acres): 4.35 Existing Acres

23) Describe centralizer placement for each casing string:

Conductor: no centralizers

Surface Casing: one centralizer 10' above the float shoe, one on the insert float collar and one every 4th joint spaced up the hole to surface.

Intermediate Casing: one centralizer above float joint, one centralizer 5' above float collar and one every 4th collar to surface.

Production Casing: one centralizer at shoe joint and one every 3 joints to top of cement in intermediate casing.

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

Conductor: no additives, Class A cement.

Surface: Class A cement with 2-3% calcium chloride and 1/4 lb of flake

Intermediate: Class A cement with 1/4 lb of flake, 5 gallons of clay treat

Production: Lead cement- 50/50 Class H/Poz + 1.5% salt + 1% C-45 + 0.5% C-16a + 0.2% C-12 + 0.45% C-20 + 0.05% C-51

Production: Tail cement- Class H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20

25) Proposed borehole conditioning procedures:

Conductor: blowhole clean with air, run casing, 10 bbls fresh water.

Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.

Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.

Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls barite pill, pump 10 bbls fresh water followed by 48 bbls mud flush and 10 bbls water.

*Note: Attach additional sheets as needed.

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WW-9
(2/15)

API Number 47 - 017 - _____
Operator's Well No. Doak Unit 2H

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

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FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Antero Resources Corporation OP Code 494488557

Watershed (HUC 10) North Fork Hughes River Quadrangle Pennsboro 7.5'

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: No pit will be used at this site (Drilling and Flowback Fluids will be stored in tanks. Cuttings will be tanked and hauled off site.)

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

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number _____)
- Reuse (at API Number Future permitted well locations when applicable. API# will be provided on Form WR-34)
- Off Site Disposal (Supply form WW-9 for disposal location) (Meadowfill Landfill Permit #SWF-1032-98)
- Other (Explain _____)

*By your Honor
3-9-16
[Signature]*

Will closed loop system be used? If so, describe: Yes

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Surface - Air/Freshwater, Intermediate - Dust/Stiff Foam, Production - Water Based Mud

-If oil based, what type? Synthetic, petroleum, etc. N/A

Additives to be used in drilling medium? Please See Attachment

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Stored in tanks, removed offsite and taken to 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? Meadowfill Landfill (Permit #SWF-1032-98)

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

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

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

Company Official Signature [Signature]

Company Official (Typed Name) Cole Kilstrom

Company Official Title Environmental & Regulatory Manager

Subscribed and sworn before me this 19 day of February, 20 16

[Signature]

Notary Public

KARA QUACKENBUSH
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20144028297
MY COMMISSION EXPIRES JULY 21, 2018

My commission expires July 21, 2018

04/15/2016

Antero Resources Corporation

Proposed Revegetation Treatment: Acres Disturbed 4.35 existing acres (*See note below) Prevegetation pH _____

Lime 2-4 Tons/acre or to correct to pH 6.5

Fertilizer type Hay or straw or Wood Fiber (will be used where needed)

Fertilizer amount 500 lbs/acre

Mulch 2-3 Tons/acre

*Please note that this location is sharing the Access Roads (15.54), Staging Area "A" (2.31), Water Containment Pad (2.49), and New Topsoil/Excess Materials Stockpiles (4.35) with the Dotson Holland pad site (4.13). Reference "Site Plan/Construction Staging Note" on page 1 of the Alvadore design. The Alvadore pad will consist of 4.35 total acres of disturbance which is referenced as "Staging Area B" on the Dotson Holland pad design.

Seed Mixtures

Temporary

Permanent

Seed Type Annual Rye Grass lbs/acre 40

Seed Type Crownvetch lbs/acre 10-15

*See attached Table 3 for additional seed type (Alvadore Pad Design Page 18)

*See attached Table 4a for additional seed type (Alvadore Pad Design Page 18)

*or type of grass seed requested by surface owner

*or type of grass seed requested by surface owner

NOTE: No Fescue or Timothy Grass shall be used.

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature] [Signature]

Comments: _____

Title: Inspector Date: 3-9-16

Field Reviewed? () Yes () No

Form WW-9 Additives Attachment

SURFACE INTERVAL

1. Fresh Water
2. Soap –Foamer AC
3. Air

INTERMEDIATE INTERVAL

STIFF FOAM RECIPE:

- 1) 1 ppb Soda Ash / Sodium Carbonate-Alkalinity Control Agent
- 2) 1 ppb Conqor 404 (11.76 ppg) / Corrosion Inhibitor
- 3) 4 ppb KLA-Gard (9.17 ppg) / Amine Acid Complex-Shale Stabilizer
- 4) 1ppb Mil Pac R / Sodium Carboxymethylcellulose-Filtration Control Agent
- 5) 12 ppb KCL / Potassium Chloride-inorganic Salt
- 6) Fresh Water 80 bbls
- 7) Air

PRODUCTION INTERVAL

1. Alpha 1655
Salt Inhibitor
2. Mil-Carb
Calcium Carbonate
3. Cottonseed Hulls
Cellulose-Cottonseed Pellets – LCM
4. Mil-Seal
Vegetable, Cotton & Cellulose-Based Fiber Blend – LCM
5. Clay-Trol
Amine Acid Complex – Shale Stabilizer
6. Xan-Plex
Viscosifier For Water Based Muds
7. Mil-Pac (All Grades)
Sodium Carboxymethylcellulose – Filtration Control Agent
8. New Drill
Anionic Polyacrylamide Copolymer Emulsion – Shale Stabilizer
9. Caustic Soda
Sodium Hydroxide – Alkalinity Control
10. Mil-Lime
Calcium Hydroxide – Lime
11. LD-9
Polyether Polyol – Drilling Fluid Defoamer
12. Mil Mica
Hydro-Biotite Mica – LCM

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Environmental Protection

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13. Escaid 110
Drilling Fluid Solvent – Aliphatic Hydrocarbon
14. Ligco
Highly Oxidized Leonardite – Filtration Control Agent
15. Super Sweep
Polypropylene – Hole Cleaning Agent
16. Sulfatrol K
Drilling Fluid Additive – Sulfonated Asphalt Residuum
17. Sodium Chloride, Anhydrous
Inorganic Salt
18. D-D
Drilling Detergent – Surfactant
19. Terra-Rate
Organic Surfactant Blend
20. W.O. Defoam
Alcohol-Based Defoamer
21. Perma-Lose HT
Fluid Loss Reducer For Water-Based Muds
22. Xan-Plex D
Polysaccharide Polymer – Drilling Fluid Viscosifier
23. Walnut Shells
Ground Cellulosic Material – Ground Walnut Shells – LCM
24. Mil-Graphite
Natural Graphite – LCM
25. Mil Bar
Barite – Weighting Agent
26. X-Cide 102
Biocide
27. Soda Ash
Sodium Carbonate – Alkalinity Control Agent
28. Clay Trol
Amine Acid complex – Shale Stabilizer
29. Sulfatrol
Sulfonated Asphalt – Shale Control Additive
30. Xanvis
Viscosifier For Water-Based Muds
31. Milstarch
Starch – Fluid Loss Reducer For Water Based Muds
32. Mil-Lube
Drilling Fluid Lubricant

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04/15/2016

4701706767



911 Address
142 Rocket Dr.
Greenwood, WV 26415

Well Site Safety Plan

Antero Resources

Bryan Hain
3-9-16
Unit Green

Well Name: Hudkins Unit 1H, Hudkins Unit 2H, Leason Run Unit 1H, Leason Run Unit 2H, Doak Unit 1H, Doak Unit 2H, O'Donnell Unit 1H, O'Donnell Unit 2H

Pad Location: ALVADORE PAD
Doddridge County/Central District

4701706767

GPS Coordinates: Lat 39°16'24.49"/Long -80°52'57.53" (NAD83)

Driving Directions:

From the intersection of W Virginia 18 S and US-50 W near the town of West Union head west on US-50 for 6.9 miles. Turn left onto Co Route 50/30/Old U.S. 50 W/Sunnyside Rd for 0.1 miles, lease road will be on your left.

EMERGENCY (24 HOUR) CONTACT 1-800-878-1373

LATITUDE 39°17'30"

2,218'

3,254' TO BOTTOM HOLE

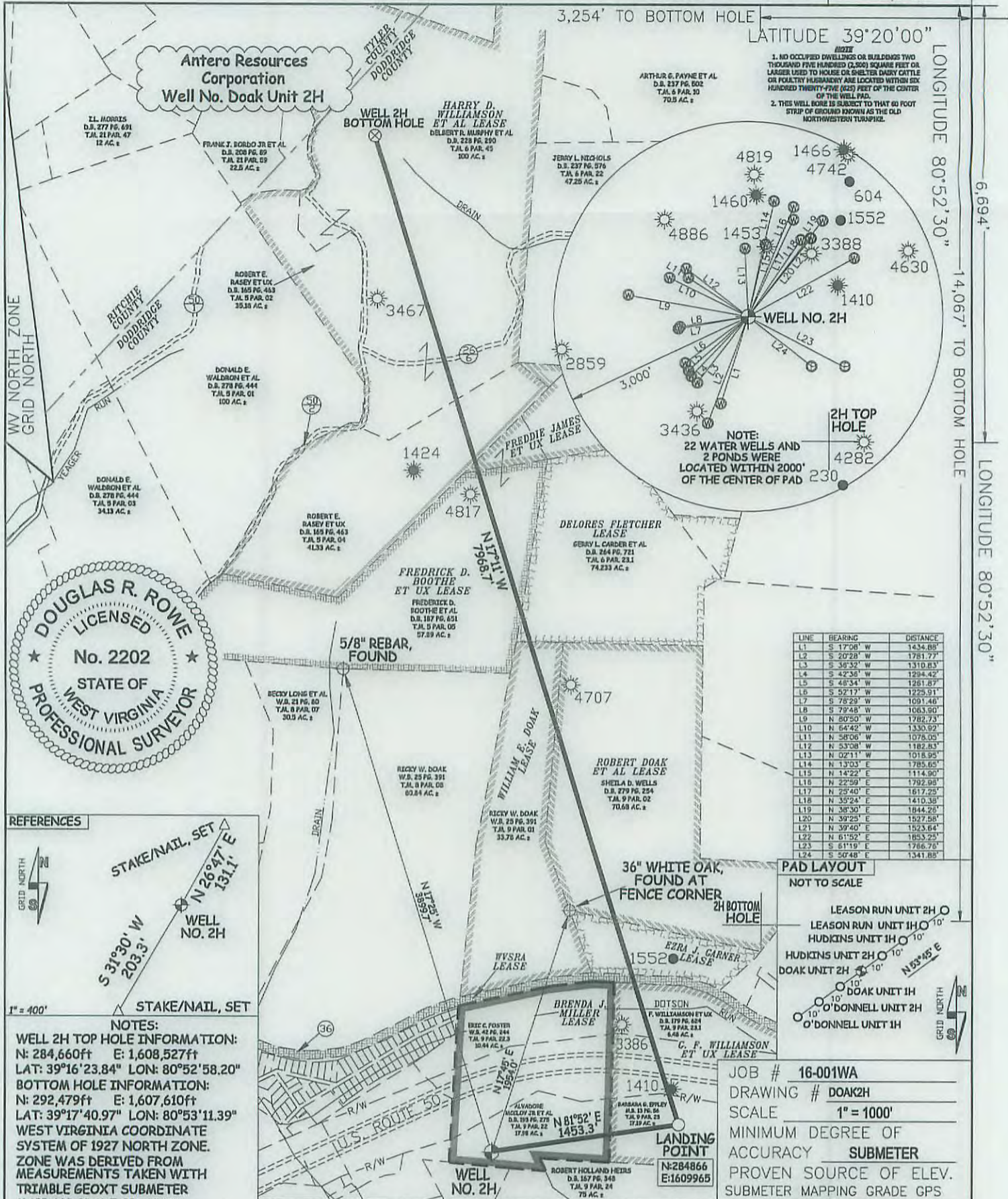
LATITUDE 39°20'00"

LONGITUDE 80°52'30"

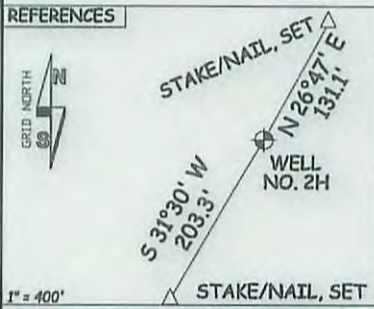
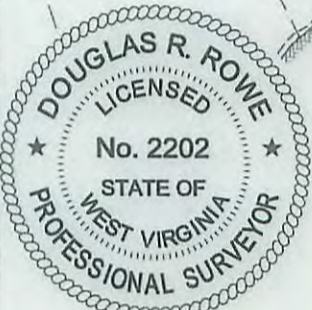
14,067' TO BOTTOM HOLE

LONGITUDE 80°52'30"

6,694'



LINE	BEARING	DISTANCE
L1	S 17°38' W	1434.88'
L2	S 20°28' W	1781.77'
L3	S 35°32' W	1310.83'
L4	S 42°36' W	1294.42'
L5	S 48°34' W	1261.87'
L6	S 52°17' W	1225.91'
L7	S 78°23' W	1091.48'
L8	S 79°48' W	1083.90'
L9	N 80°50' W	1782.73'
L10	N 64°42' W	1330.92'
L11	N 58°06' W	1078.00'
L12	N 53°08' W	1182.83'
L13	N 02°11' W	1018.95'
L14	N 13°03' E	1785.65'
L15	N 14°22' E	1114.90'
L16	N 22°59' E	1792.98'
L17	N 25°40' E	1617.25'
L18	N 35°24' E	1410.38'
L19	N 38°30' E	1844.28'
L20	N 39°25' E	1527.58'
L21	N 39°40' E	1523.64'
L22	N 61°52' E	1853.25'
L23	S 61°19' E	1766.76'
L24	S 50°48' E	1341.85'



NOTES:
 WELL 2H TOP HOLE INFORMATION:
 N: 284,660ft E: 1,608,527ft
 LAT: 39°16'23.84" LON: 80°52'58.20"
 BOTTOM HOLE INFORMATION:
 N: 292,479ft E: 1,607,610ft
 LAT: 39°17'40.97" LON: 80°53'11.39"
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

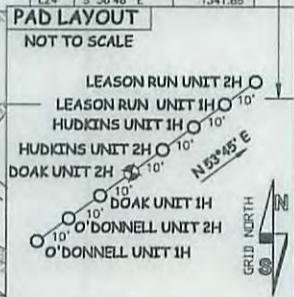
(NAD) 83 (UTM) ZONE 17 COORDS:
 WELL 2H TOP HOLE INFORMATION:
 N: 4,347,120m E: 510,121m
 BOTTOM HOLE INFORMATION:
 N: 4,349,497m E: 509,802m

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 DIVISION OF OIL AND GAS
 WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1,083' ORIGINAL - 1,057' PROPOSED WATERSHED NORTH FORK HUGHES RIVER
 QUADRANGLE PENNSBORO 7.5' DISTRICT CENTRAL COUNTY DODDRIDGE
 SURFACE OWNER ALVADORE MCCLOY JR ET UX ACREAGE 17.98 ACRES +/-
 OIL & GAS ROYALTY OWNER BRENDA J. MILLER; G.F. WILLIAMSON ET UX; WVSRA; EZRA J. GARNER; LEASE ACREAGE 39.15 ACRES +/-; 50 ACRES +/-; 301.19 ACRES +/-; 11 ACRES +/-;
 ROBERT DOAK ET AL; WILLIAM E. DOAK; DELORES FLETCHER; FREDRICK D. BOOTHE ET UX; FREDDIE JAMES ET UX; HARRY D. WILLIAMSON ET AL. 71 ACRES +/-; 35 ACRES +/-; 40 ACRES +/-; 62 ACRES +/-; 34 ACRES +/-; 176 ACRES +/-
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL
 (SPECIFY) PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,700' TVD 15,600' MD

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 RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
 WILLOW LAND SURVEYING PLLC
 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415



JOB # 16-001WA
 DRAWING # DOAK2H
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

LEGEND
 - - - Surface Owner Boundary Lines +/-
 - - - Interior Surface Tracts +/-
 X Existing Fence
 ⊕ Found monument, as noted

DOUGLAS R. ROWE P.S. 2202
 DATE 01/07/16
 OPERATOR'S WELL# DOAK UNIT #2H
 API WELL # 47 - 017 - 06767 H4A
 STATE COUNTY PERMIT
 DIANNA STAMPER
 CT CORPORATION SYSTEM
 5400 D BIG TYLER ROAD
 CHARLESTON, WV 25313

04/15/2016

LATITUDE 39°17'30"

2,218'

3,254' TO BOTTOM HOLE

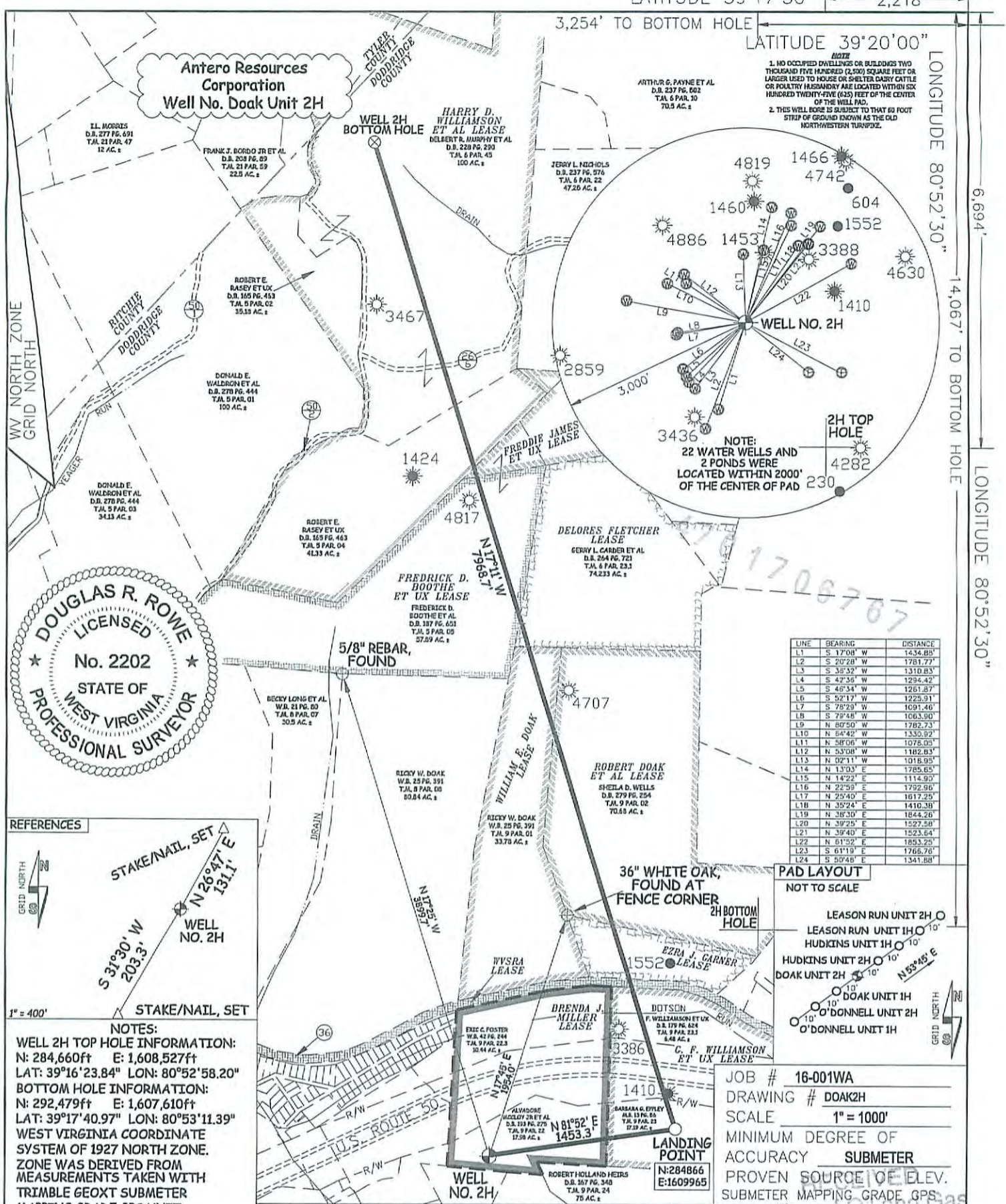
LATITUDE 39°20'00"

LONGITUDE 80°52'30"

6,694'

14,067' TO BOTTOM HOLE

LONGITUDE 80°52'30"



1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.
2. THIS WELL PAD IS SUBJECT TO THAT 60 FOOT STRIP OF GROUND KNOWN AS THE OLD NORTHWESTERN TURNPIKE.

ARTHUR G. PAYNE ET AL
D.B. 237 PG. 602
T.A.L. 5 PAR. 30
70.5 AC. ±

HARRY D. WILLIAMSON ET AL LEASE
DEBERT R. HURRY ET AL
D.B. 228 PG. 290
T.A.L. 6 PAR. 43
100 AC. ±

JERRY L. NICHOLS
D.B. 237 PG. 576
T.A.L. 6 PAR. 22
47.20 AC. ±

FRANK J. BORDO JR ET AL
D.B. 203 PG. 69
T.A.L. 21 PAR. 59
22.9 AC. ±

ROBERT E. RASEY ET UX
D.B. 165 PG. 453
T.A.L. 5 PAR. 02
35.13 AC. ±

DONALD E. WALDRON ET AL
D.B. 270 PG. 444
T.A.L. 5 PAR. 01
100 AC. ±

LL MORRIS
D.B. 277 PG. 691
T.A.L. 21 PAR. 47
12 AC. ±

DONALD E. WALDRON ET AL
D.B. 270 PG. 444
T.A.L. 5 PAR. 03
34.13 AC. ±

ROBERT E. RASEY ET UX
D.B. 165 PG. 463
T.A.L. 5 PAR. 04
41.33 AC. ±

FREDRICK D. BOOTHE ET UX LEASE
FREDRICK D. BOOTHE ET AL
D.B. 137 PG. 601
T.A.L. 5 PAR. 05
57.89 AC. ±

DELORES FLETCHER LEASE
CERRY L. GARDER ET AL
D.B. 204 PG. 721
T.A.L. 6 PAR. 223
74.233 AC. ±

ROBERT DOAK ET AL LEASE
SHEILA D. WELLS
D.B. 279 PG. 254
T.A.L. 9 PAR. 02
70.88 AC. ±

RICKY W. DOAK
W.B. 25 PG. 391
T.A.L. 8 PAR. 00
80.84 AC. ±

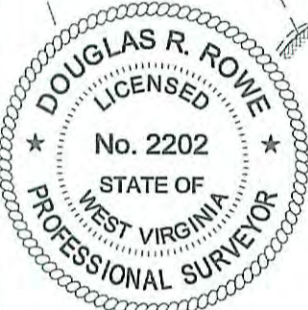
RICKY W. DOAK
W.B. 25 PG. 391
T.A.L. 9 PAR. 01
33.70 AC. ±

DOTSON
F. WILLIAMSON ET UX
D.B. 139 PG. 624
T.A.L. 9 PAR. 233
8.48 AC. ±

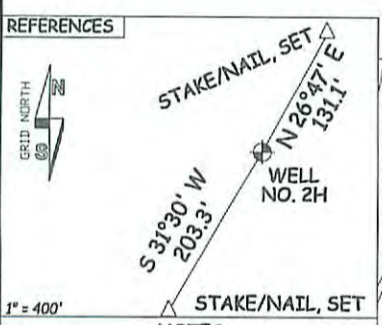
ERIC C. FOSTER
W.B. 41 PG. 84
T.A.L. 9 PAR. 223
10.41 AC. ±

BARBARA G. EPLEY
A.B. 15 PG. 65
T.A.L. 9 PAR. 23
17.19 AC. ±

ROBERT HOLLAND HEIRS
D.B. 167 PG. 340
T.A.L. 9 PAR. 24
78 AC. ±



LINE	BEARING	DISTANCE
L1	S 17°08' W	1434.88'
L2	S 20°28' W	1781.77'
L3	S 38°32' W	1310.83'
L4	S 42°36' W	1294.42'
L5	S 48°34' W	1261.87'
L6	S 52°17' W	1225.31'
L7	S 78°23' W	1091.46'
L8	S 79°48' W	1063.90'
L9	N 80°50' W	1782.73'
L10	N 64°42' W	1330.92'
L11	N 58°06' W	1078.05'
L12	N 53°00' W	1162.83'
L13	N 02°11' W	1018.95'
L14	N 13°03' E	1785.65'
L15	N 14°22' E	1114.90'
L16	N 22°59' E	1792.96'
L17	N 25°40' E	1617.25'
L18	N 35°24' E	1410.38'
L19	N 38°30' E	1844.28'
L20	N 39°25' E	1527.58'
L21	N 39°40' E	1523.64'
L22	N 61°52' E	1853.25'
L23	S 61°19' E	1766.76'
L24	S 50°48' E	1341.88'



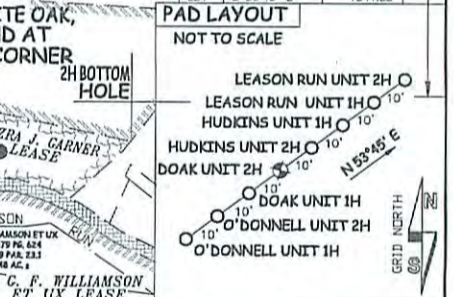
NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 284,660ft E: 1,608,527ft
LAT: 39°16'23.84" LON: 80°52'58.20"
BOTTOM HOLE INFORMATION:
N: 292,479ft E: 1,607,610ft
LAT: 39°17'40.97" LON: 80°53'11.39"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

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STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415



JOB # 16-001WA
DRAWING # DOAK2H
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

LEGEND
--- Surface Owner Boundary Lines +/-
--- Interior Surface Tracts +/-
X Existing Fence
⊕ Found monument, as noted

DATE 01/07/16
OPERATOR'S WELL# DOAK UNIT #2H
API WELL # 47 - 017

STATE COUNTY PERMIT
STATE COUNTY PERMIT

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X
LOCATION: ELEVATION 1,083' ORIGINAL - 1,057' PROPOSED WATERSHED NORTH FORK HUGHES RIVER
QUADRANGLE PENNSBORO 7.5' DISTRICT CENTRAL COUNTY DODDRIDGE
SURFACE OWNER ALVADORE MCCLOY JR ET UX ACREAGE 17.98 ACRES +/-
OIL & GAS ROYALTY OWNER BRENDA J. MILLER; G.F. WILLIAMSON ET UX; WVSRA; EZRA J. GARNER; LEASE ACREAGE 39.15 ACRES; 50 ACRES; 301.19 ACRES; 11 ACRES; ROBERT DOAK ET AL; WILLIAM E. DOAK; DELORES FLETCHER; FREDRICK D. BOOTHE ET UX; FREDDIE JAMES ET UX; HARRY D. WILLIAMSON ET AL 71 ACRES; 35 ACRES; 40 ACRES; 62 ACRES; 34 ACRES; 176 ACRES; PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) PLUG & ABANDON CLEAN OUT & REPLUG TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,700' TVD 15,600' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM
DENVER, CO 80202 CHARLESTON, WV 25313

04/15/2016

COUNTY NAME PERMIT

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:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Brenda J. Miller Lease</u>			
Brenda J. Miller	Antero Resources Appalachian Corporation	1/8	0277/0186
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>G.F. Williamson, et ux Lease</u>			
G.F. Williamson, et ux	J & J Enterprises, Inc.	1/8	0136/0266
J & J Enterprises, Inc.	Eastern American Energy Corporation	Merger	DB 0211/0437
Eastern American Energy Corporation	Enervest East Limited Partnership	Assignment	0193/0509
Enervest East Limited Partnership	The Houston Exploration Company	Assignment	0196/0228
The Houston Exploration Company	Seneca-Upshur Petroleum, Inc.	Assignment	0199/0024
Seneca- Upshur Petroleum, Inc.	Antero Resources Appalachian Corporation	Memorandum of Agreement	0287/0321
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>WVSRA Lease</u>			
West Virginia State Rail Authority	Antero Resources Appalachian Corporation	1/8+	0253/0409
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Ezra J. Garner Lease</u>			
Ezra J. Garner	Donald E. Lowe	1/8	0078/0006
Donald E. Lowe	Palmer Hill	Assignment	0088/0048
Palmer Hill	W. Leslie Rogers, Sr.	Assignment	0091/0062
W. Leslie Rogers, Sr.	Mary Elizabeth Rich & William Rogers	Assignment	Recited in 0139/0585
Mary Elizabeth Rich Estate & William Rogers	W. Kevin Snider & Ritchie Petroleum Corporation	Assignment	0178/0499
W. Kevin Snider & Ritchie Petroleum Corporation	Antero Resources Appalachian Corporation	Assignment	0271/0536
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Robert W. Doak, et al Lease</u>			
Robert W. Doak, et al	Prior Oil Company	1/8	0087/0286
Prior Oil Company	L.C. Young	Assignment	0088/0293
L.C. Young	W. Leslie Rogers	Assignment	0091/0135
W. Leslie Rogers, Sr. Estate	Mary Elizabeth Rich & William Rogers	Assignment	Recited in 0139/0585
Mary Elizabeth Rich Estate & William Rogers	W. Kevin Snider & Ritchie Petroleum Corporation	Assignment	0185/0661
W. Kevin Snider & Ritchie Petroleum Corporation	Antero Resources Appalachian Corporation	*Partial Assignment	0276/0526
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1

472000703

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

*Partial Assignments to Antero Resources Corporation include 100% rights to extract, produce and market the oil and gas from the Marcellus and any other formations completed with this well.

**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)**

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- (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:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>William E. Doak Lease</u>			
Williams E. Doak , et al	C. E. Young	1/8	0069/0339
C.E. Young	W. Leslie Rogers	Assignment	0090/0135
W. Leslie Rogers	Mary Elizabeth Rich	Will	0127/0524
Mary Elizabeth Rich	D. Leslie Rich	Will	0178/0499
D. Leslie Rich	W. Kevin Snyder & Ritchie Petroleum Corp.	Assignment	0185/0661
W/ Kevin Snyder & Ritchie Petroleum Corp.	Key Oil Company	Assignment	0187/0059
Key Oil Company	Antero Resources Appalachian Corporation	*Partial Assignment	0276/0526
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Delores Fletcher Lease</u>			
Delores Fletcher	Antero Resources Appalachian Corporation	1/8+	0290/04469
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Frederick D. Boothe, et ux Lease</u>			
Frederick D. Boothe, et ux	Key Oil Company	1/8	0195/0276
Key Oil Company	Antero Resources Appalachian Corporation	Assignment	0276/0526
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Freddie James, et ux Lease</u>			
Freddie James, et ux	Antero Resources Corporation	1/8+	0329/0564

870170275

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

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****CONTINUED ON NEXT PAGE****

04/15/2016

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
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Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Harry D. Williamson, et al Lease				
	Harry D. Williamson, et al	C.E. Young & L.C. Young	1/8	0069/0347
	C.E. Young	L.C. Young	Assignment	0070/0076
	L.C. Young	W. Leslie Rogers	Assignment	0090/0135
	W. Leslie Rogers	J & J Enterprises	Assignment	0139/0570
	J & J Enterprises	Eastern American Energy Corp.	Assignment	0159/0139
	Eastern American Energy Corp.	Energy Corporation of America	Assignment	0240/0498
	Energy Corporation of America	Antero Resources Appalachian Corp.	Assignment	0272/0307
	Antero Resources Appalachian Corp.	Antero Resources Corporation	Name Change	Exhibit 1

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**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: Antero Resources Corporation
 By: Kevin Kilstrom
 Its: Senior Vice President of Production

4701706767
 Office of Oil and Gas
 FEB 23 2016
 WV Department of
 Environmental Protection
 Page 1 of _____

FORM WW-6A1
EXHIBIT 1

FILED

JUN 10 2013

Natalie E. Tomant
Secretary of State
1900 Kanawha Blvd E
Bldg 1, Suite 137-K
Charleston, WV 25305



Penny Barker, Manager
Corporations Division
Tel: (304)558-8000
Fax: (304)558-8381
Website: www.wvscs.com
E-mail: business@wvscs.com

APPLICATION FOR
AMENDED CERTIFICATE
OF AUTHORITY

Office Hours: Monday - Friday
8:30 a.m. - 5:00 p.m. ET

FILE ONE ORIGINAL
(Two if you want a filed
stamped copy returned to you)
FEE: \$25.00

**** In accordance with the provisions of the West Virginia Code, the undersigned corporation hereby ****
applies for an Amended Certificate of Authority and submits the following statement:

- Name under which the corporation was authorized to transact business in WV: Antero Resources Appalachian Corporation
- Date Certificate of Authority was issued in West Virginia: 6/25/2008
- Corporate name has been changed to: Antero Resources Corporation
(Attach one Certified Copy of Name Change as filed in home State of incorporation.)
- Name the corporation elects to use in WV: Antero Resources Corporation
(due to home state name not being available)
- Other amendments: (attach additional pages if necessary)

- Name and phone number of contact person. (This is optional, however, if there is a problem with the filing, listing a contact person and phone number may avoid having to return or reject the document.)
Alvyn A. Schopp (303) 367-7310
Contact Name Phone Number
- Signature information (See below *Important Legal Notice Regarding Signature):
Print Name of Signer: Alvyn A. Schopp Title/Capacity: Authorized Person
Signature: [Handwritten Signature] Date: June 10, 2013

***Important Legal Notice Regarding Signature:** For West Virginia Code §31D-1-129. Penalty for signing false document. Any person who signs a document he or she knows is false in any material respect and knows that the document is to be delivered to the secretary of state for filing is guilty of a misdemeanor and, upon conviction thereof, shall be fined not more than one thousand dollars or confined in the county or regional jail not more than one year, or both.

Form CF-4

Issued by the Office of the Secretary of State

WV011 - 04/6/2011 Walker-Kilmer Collins

RECEIVED
Office of Oil and Gas
Revised 4/13
FEB 23 2016
WV Department of
Environmental Protection

04/15/2016



Antero Resources
1615 Wynkoop Street
Denver, CO 80202
Office 303.357.7310
Fax 303.357.7315

February 19, 2016

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

RE: Doak Unit 2H
Quadrangle: Pennsboro 7.5'
Central County/Doddridge District, West Virginia

Mr. Martin:

Antero Resources Corporation (Antero) is submitting the following application for a new well work permit for the Doak Unit 2H horizontal shallow well. As an authorized representative, I certify that Antero has the right to extract, produce or market the oil or gas for all leases through which the Doak Unit 2H horizontal lateral will drill through including any and all roads crossed under as identified on the attached survey plat.

Sincerely,

A handwritten signature in blue ink, appearing to read "H West", with a long horizontal flourish extending to the right.

Haley West
Landman

4701706767

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

04/15/2016

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

Date of Notice Certification: 02/19/2016

API No. 47- 017 - _____
 Operator's Well No. Doak Unit 2H
 Well Pad Name: Zinn Pad

Notice has been given:

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

State: <u>West Virginia</u>	UTM NAD 83 Easting: <u>510121m</u>
County: <u>Doddridge</u>	Northing: <u>4347120m</u>
District: <u>Central</u>	Public Road Access: <u>CR 50/31</u>
Quadrangle: <u>Pennsboro 7.5'</u>	Generally used farm name: <u>McCloy, Alvadore, Jr., et ux</u>
Watershed: <u>North Fork Hughes River</u>	

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

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: *PLEASE CHECK ALL THAT APPLY <input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED <input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED <input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH) <input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION <input checked="" type="checkbox"/> 5. PUBLIC NOTICE <input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		OOG OFFICE USE ONLY <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED
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Required Attachments:

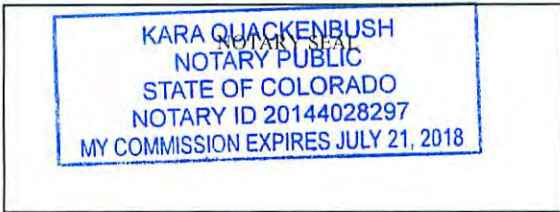
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. 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.

WV Department of
 Environmental Protection
 04/15/2016
 FEB 23 2016

Certification of Notice is hereby given:

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

Well Operator:	<u>Antero Resources Corporation</u>	Address:	<u>1615 Wynkoop Street</u>
By:	<u>Kevin Kilstrom</u> <i>Kevin Kilstrom</i>		<u>Denver, CO 80202</u>
Its:	<u>Senior Vice President of Production</u>	Facsimile:	<u>303-357-7315</u>
Telephone:	<u>303-357-7310</u>	Email:	<u>asteele@anteroresources.com</u>



Subscribed and sworn before me this 19 day of February 2016
Kara Quackenbush Notary Public
 My Commission Expires July 21, 2018

Oil and Gas Privacy Notice:

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

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WV Department of
Environmental Protection

04/15/2016

**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: 2/22/2016 **Date Permit Application Filed:** 2/22/2016

Notice of:

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

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

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

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

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

SURFACE OWNER(s)
Name: PLEASE SEE ATTACHMENT
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: PLEASE SEE ATTACHMENT
Address: _____

Name: _____
Address: _____

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

COAL OWNER OR LESSEE
Name: NO DECLARATIONS ON RECORD WITH COUNTY
Address: _____

COAL OPERATOR
Name: NO DECLARATIONS ON RECORD WITH COUNTY
Address: _____

WATER PURVEYOR(s)/OWNER(s) OF WATER WELL, SPRING OR OTHER WATER SUPPLY SOURCE
Name: PLEASE SEE ATTACHMENT
Address: _____

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

Office of Oil and Gas

*Please attach additional forms if necessary

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

Well Location Restrictions

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

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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

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Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

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04/15/2016

WW-6A
(8-13)

API NO. 47- 017 -
OPERATOR WELL NO. Doak Unit 2H
Well Pad Name: Alvadore Pad

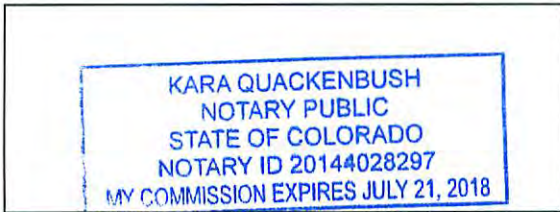
Notice is hereby given by:

Well Operator: Antero Resources Corporation
Telephone: (303) 357-7310
Email: asteale@anteroresources.com

Address: 1615 Wynkoop Street
Denver, CO 80202
Facsimile: 303-357-7315

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.



Subscribed and sworn before me this 22 day of February 2016
Kara Quackenbush Notary Public
My Commission Expires July 21, 2018

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WV Department of
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04/15/2016

WW-6A Notice of Application Attachment (ALVADORE PAD):**List of Surface Owner(s) with Proposed Disturbance associated with Alvadore Well Pad:**

WELL PAD – This owner was notified of all well work permit applications, and has executed signed Surface Use Agreements with Antero Resources Corporation.

TM 9 PCL 22

Owner: Alvadore, Jr. & Frances J. McCloy (ON LEASE)
Address: 110 Rocket Dr.
 Greenwood, WV 26415

ROAD AND/OR OTHER DISTURBANCE – These owners have executed signed agreements with Antero Resources Corporation. However, they were only notified if their tract is overlying the oil and gas leasehold being developed by the proposed well work as outlined in WV Code 22-6A-10(b)(2).

TM 17 PCL 42 & 43, TM 8 PCL 26.1 & 31

Owner: Alvadore, Jr. & Frances J. McCloy
 (OFF LEASE)
Address: 110 Rocket Dr.
 Greenwood, WV 26415

Owner: Constance Griffith (ON LEASE)
Address: 14 Mustang Acres
 Parkersburg, WV 26104

Owner: Mary K. Hill (ON LEASE)
Address: 1437 Old Pink Hill Rd.
 Deep Run, NC 28525

TM 9 PCL 23 – Allen F. Dotson, et al

Owner: Barbara Davis (ON LEASE)
Address: 796 Middle Island Road
 Middlebourne, WV 26149

Owner: Ella Ruth Walton (ON LEASE)
Address: 13 Garner Rd.
 Greenwood, WV 26415

Owner: Ruth Doak (ON LEASE)
Address: 1437 Old Pink Hill Rd.
 Deep Run, NC 28525

TM 8 PCL 31.2

Owner: Chester S. & Berna K. Ankrom
 (OFF LEASE)
Address: 132 Rocket Dr.
 Greenwood, WV 26415

Owner: Allen Dotson (ON LEASE)
Address: 6789 Pike St.
 Mineral Wells, WV 26150

TM 9 PCL 24, 24.1 & 25.1

Owner: Robert L. Holland, Jr., Holland
 Heirs – O & G Escrow c/o Jane Hardin
 (OFF LEASE)
Address: 225 Watchung Fork
 Westfield, NJ 07090

Owner: Barbara Eppley (ON LEASE)
Address: 16866 State Route 339
 Waterford, OH 45786

Owner: Edward Ferrebee (ON LEASE)
Address: 761 Glengarry Ct.
 Pittsburgh, PA 15239

Owner: Kimberlee Holland, widow Robert L.
 Holland, Jr. (Heir of Robert Holland)
 (OFF LEASE)
Address: 204 Ray Hudkins Lane
 West Union, WV 26456
Address: PO Box 425 (2nd Address)
 West Union, WV 26456

Owner: Edward Ferrebee (2nd Address)
 (ON LEASE)
Address: 1620 Harvest Hill Dr.
 Pittsburgh, PA 15239

*Please note that existing disturbance located within WVDOH right-of-way is covered by Antero's approved permit with WVDOH.

WW-6A Notice of Application Attachment (ALVADORE PAD):**WATER SOURCE OWNERS: Within 1500'**

***NOTE: On attached water well map 10 other water sources are identified, but they are located greater than 1500' from the subject well pad location.**

TM 9 PCL 22.3

2 Water Wells: 1019' (WW1, L1) & 1115' (WW3, L3)

Owner: Eric C. Foster & Bryan E. Foster
Address: 804 Long Run Rd.
Greenwood, WV 26415

TM 9 PCL 22.4

1 Water Well: 1410' (WW6, L6)

Owner: Gary L. & Alicia G. Jones
Address: 812 Long Run Rd.
Greenwood, WV 26415

TM 9 PCL 32.2

1 Water Well: 1435' (WW11, L13)

Owner: Daniel H. Rymer, et ux
Address: RR 1 Box 290
Greenwood, WV 26415

TM 8 PCL 39

1 Water Well: 1311' (WW13, L15)

Owner: Dale F. & Paulette Pierce
Address: 4762 Sunnyside Rd.
Pennsboro, WV 26415

TM 8 PCL 30

1 Water Well: 1294' (WW14, L16)

Owner: Tony L. Nichols, et al
Address: 194 Fetty Hollow
Spencer, WV 25276

TM 8 PCL 30.1

1 Water Well: 1262' (WW15, L17)

Owner: Cheryl A. Ankrom-Tucker
Address: 16 Rocket Dr.
Greenwood, WV 26415

TM 8 PCL 26

1 Water Well: 1226' (WW16, L 18)

Owner: Wanda M. Weaver
Address: 26 Rocket Dr.
Greenwood, WV 26415

TM 8 PCL 31.2

2 Water Wells: 1091' (WW17, L 19) & 1064' (WW18, L 20)

Owner: Chester S. & Berna K. Ankrom
Address: 132 Rocket Dr.
Greenwood, WV 26415

TM 17 PCL 19 & 21.1

2 Water Wells: 1331' (WW20, L 22) & 1183' (WW22, L 24)

Owner: William J. & Renee A. Britton
Address: 457 Long Run Rd.
Greenwood, WV 26415

TM 17 PCL 21

1 Water Well: 1078' (WW21, L23)

Owner: Michael James II, et al
Address: 1 First American Way
Westlake, TX 76262

TM 9 PCL 32

1 Pond: 1342' (P2, L12)

Owner: Anthony R. & Tabitha J. Smith
Address: 115 Wabash Ave.
West Union, WV 26456

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04/15/2016

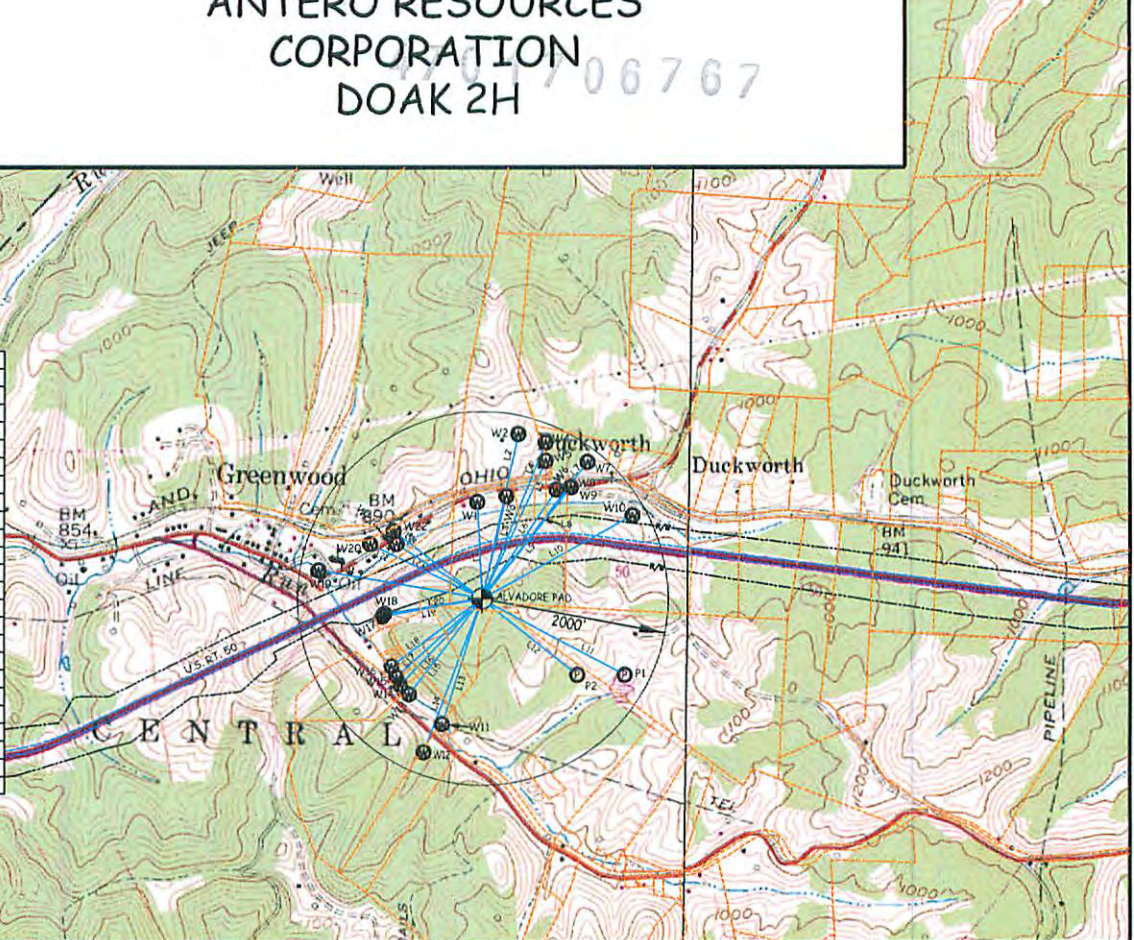
ANTERO RESOURCES CORPORATION DOAK 2H

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LINE	BEARING	DISTANCE
L1	N 02'11" W	1018.95'
L2	N 13'03" E	1785.85'
L3	N 14'22" E	1114.90'
L4	N 22'59" E	1792.96'
L5	N 25'40" E	1617.25'
L6	N 35'24" E	1410.38'
L7	N 38'30" E	1844.26'
L8	N 39'25" E	1527.58'
L9	N 39'40" E	1523.64'
L10	N 61'52" E	1853.25'
L11	S 61'19" E	1766.76'
L12	S 50'48" E	1341.88'
L13	S 17'08" W	1434.88'
L14	S 20'28" W	1781.77'
L15	S 36'32" W	1310.83'
L16	S 42'36" W	1294.42'
L17	S 46'34" W	1261.87'
L18	S 52'17" W	1225.91'
L19	S 78'29" W	1091.46'
L20	S 79'48" W	1063.90'
L21	N 80'50" W	1782.73'
L22	N 64'42" W	1330.92'
L23	N 58'06" W	1078.05'
L24	N 53'08" W	1182.83'

NOTE: LATITUDE & LONGITUDE SHOWN HEREON BASED ON SUBMETER MAPPING GRADE DGPS.



WELL	SURFACE OWNER	ADDRESS	DISTRICT-TAX MAP-PARCEL	WELL LATITUDE	WELL LONGITUDE
W1	ERIC C. FOSTER & BRYAN E. FOSTER	804 LONG RUN RD. GREENWOOD, WV 26415	1-9-22.3	39° 16' 34.25"	80° 52' 58.84"
W2	RICKY DOAK	RT 1 BOX 1016 PENNSBORO, WV 26415	1-9-01	39° 16' 41.45"	80° 52' 53.36"
W3	ERIC C. FOSTER & BRYAN E. FOSTER	804 LONG RUN RD. GREENWOOD, WV 26415	1-9-22.3	39° 16' 34.91"	80° 52' 54.84"
W4	WILLIAM J. & VIRGINIA M. DOAK	PO BOX 343 WEST UNION, WV 26456	1-9-09	39° 16' 40.62"	80° 52' 49.57"
W5	RICKY DOAK	757 LONG RUN RD. PENNSBORO, WV 26415	1-9-01	39° 16' 38.71"	80° 52' 49.52"
W6	GARY L. & ALICIA G. JONES	812 LONG RUN RD. GREENWOOD, WV 26415	1-9-22.4	39° 16' 35.68"	80° 52' 47.99"
W7	CHARLES M. WALTON	15 ONWARD RD WILLIAMSTOWN, WV 26187	1-9-10.1	39° 16' 38.64"	80° 52' 43.83"
W8	FRANCIS G. WILLIAMSON ET UX	958 LONG RUN RD PENNSBORO, WV 26415	1-9-23.1	39° 16' 36.01"	80° 52' 46.05"
W9	FRANCIS G. WILLIAMSON ET UX	958 LONG RUN RD PENNSBORO, WV 26415	1-9-23.1	39° 16' 35.94"	80° 52' 46.01"
W10	FRANCIS G. WILLIAMSON ET UX	958 LONG RUN RD PENNSBORO, WV 26415	1-9-23.1	39° 16' 33.08"	80° 52' 37.54"
W11	DANIEL H. RYMER ET UX	RT 1 BOX 290 GREENWOOD, WV 26415	1-9-32.2	39° 16' 10.58"	80° 53' 03.25"
W12	JOHN D. & SANDRA J. ANKENNEY	4615 SUNNYSIDE RD PENNSBORO, WV 26415	1-9-32.1	39° 16' 07.61"	80° 53' 05.74"
W13	DALE F. & PAULETTE PIERCE	4762 SUNNYSIDE RD PENNSBORO, WV 26415	1-8-39	39° 16' 13.67"	80° 53' 07.86"
W14	TONY L. NICHOLS ET AL	194 FETTY HOLLOW SPENCER, WV 25276	1-8-30	39° 16' 14.65"	80° 53' 09.10"
W15	CHERYL A. ANKROM-TUCKER	16 ROCKET DR. PENNSBORO, WV 26415	1-8-30.1	39° 16' 15.49"	80° 53' 09.63"
W16	WANDA M. WEAVER ET AL	26 ROCKET DR GREENWOOD, WV 26415	1-8-26	39° 16' 16.64"	80° 53' 10.33"
W17	CHESTER S. & BERNA K. ANKROM	132 ROCKET DR GREENWOOD, WV 26415	1-8-31.2	39° 16' 21.88"	80° 53' 11.70"
W18	CHESTER S. & BERNA K. ANKROM	132 ROCKET DR GREENWOOD, WV 26415	1-8-31.2	39° 16' 22.18"	80° 53' 11.42"
W19	ALAN S. LLOYD	RT 1 BOX 219 WEST UNION, WV 26456	1-17-28	39° 16' 26.74"	80° 53' 20.58"
W20	WILLIAM J. & RENEE A. BRITTON	457 LONG RUN RD. GREENWOOD, WV 26415	1-17-19	39° 16' 29.64"	80° 53' 13.56"
W21	MICHAEL L. JAMES, II ET AL	1 FIRST AMERICAN WAY WESTLAKE, TX 76262	1-17-21	39° 16' 29.69"	80° 53' 09.90"
W22	WILLIAM J. & RENEE A. BRITTON	457 LONG RUN RD. GREENWOOD, WV 26415	1-17-21.1	39° 16' 31.07"	80° 53' 10.32"
P1	ROBERT HOLLAND HEIRS	225 WATCHUNG FORK WESTFIELD, NJ 7090	1-9-24	39° 16' 16.05"	80° 52' 38.28"
P2	ANTHONY R. & TABITHA J. SMITH	115 WABASH AVE. WEST UNION, WV 26456	1-9-32	39° 16' 15.97"	80° 52' 44.76"

WILLOW LAND SURVEYING, PLLC
P.O. BOX 17, PENNSBORO, WV 26415
(304) 659-1717

TOPO SECTION(S) OF :
WEST UNION 7.5' QUAD.
& PENNSBORO 7.5' QUAD.

JOB #: 16-001WA

SCALE : 1-INCH = 2000-FEET



DATE: 02/22/16

DRAWN BY: J.W.

FILE: DOAK1HWATERMAP

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

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least **TEN (10)** days prior to filing a permit application.
Date of Notice: 01/08/2016 **Date Permit Application Filed:** 02/22/2016

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

HAND DELIVERY **CERTIFIED MAIL RETURN RECEIPT REQUESTED**

10700707

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

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

Name: Alvadore Jr. & Frances J. McCloy
Address: 110 Rocket Dr.
Greenwood, WV 26415

Name: _____
Address: _____

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>510122.50m (Approximate Pad Center)</u>
County: <u>Doddridge</u>		Northing: <u>4347131.15m (Approximate Pad Center)</u>
District: <u>Central</u>	Public Road Access: <u>CR 50/31</u>	
Quadrangle: <u>Pennsboro 7.5'</u>	Generally used farm name: <u>McCloy, Alvadore Jr. & Frances J.</u>	
Watershed: <u>North Fork Hughes River</u>		

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator: Antero Resources Appalachian Corporation
Address: 1615 Wynkoop St.
Denver, CO 80202
Telephone: 303-357-7323
Email: asteele@anteroresources.com
Facsimile: 303-357-7315

Authorized Representative: Ashlie Steele
Address: 1615 Wynkoop St.
Denver, CO 80202
Telephone: 303-357-7323
Email: asteele@anteroresources.com
Facsimile: 303-357-7315

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 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.

RECEIVED
Office of Oil and Gas
FEB 23 2016
WV Department of
Environmental Protection
Tax Map 9 Parcel 22
04/15/2016

**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: 02/22/2016 **Date Permit Application Filed:** 02/22/2016

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

CERTIFIED MAIL HAND
RETURN RECEIPT REQUESTED DELIVERY

4701700707

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: Alvadore, Jr. & Frances J. McCloy Name: _____
Address: 110 Rocket Drive Address: _____
Greenwood, WV 26415

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: West Virginia UTM NAD 83 Easting: 510121m
County: Doddridge Northing: 4347120m
District: Central Public Road Access: CR 50/31
Quadrangle: Pennsboro 7.5' Generally used farm name: McCloy, Alvadore Jr. & Frances J.
Watershed: North Fork Hughes River

This Notice Shall Include:

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

Well Operator: Antero Resources Corporation Address: 1615 Wynkoop Street
Telephone: (303) 357-7310 Denver, CO 80202
Email: asteele@anteroresources.com Facsimile: 303-357-7315

Oil and Gas Privacy Notice:

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

RECEIVED
Office of Oil and Gas
FEB 23 2016
WV Department of
Environmental Protection
04/15/2016



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

October 21, 2015

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

470 1706707

Subject: DOH Permit for the Alvadore Pad, Doddridge County
Doak Unit 2H Well site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #04-2013-0884 which has been issued to Antero Resources Corporation for access to the State Road for a well site located off of Doddridge County Route 50/31 SLS.

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

Very Truly Yours,

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

Cc: Ashlie Steele
Antero Resources Corporation
CH, OM, D-4
File

RECEIVED
Office of Oil and Gas
FEB 23 2016
WV Department of
Environmental Protection
04/15/2016

List of Anticipated Additives Used for Fracturing or Stimulating Well

Additives	Chemical Abstract Service Number (CAS #)
Fresh Water	7732-18-5
2 Phosphobutane 1,2,4 tricarboxylic acid	37971-36-1
Ammonium Persulfate	7727-54-0
Anionic copolymer	proprietary
Anionic polymer	proprietary
BTEX Free Hydrotreated Heavy Naphtha	64742-48-9
Cellulase enzyme	(Proprietary)
Demulsifier Base	(Proprietary)
Ethoxylated alcohol blend	Mixture
Ethoxylated Nonylphenol	68412-54-4
Ethoxylated oleylamine	26635-93-8
Ethylene Glycol	107-21-1
Glycol Ethers	111-76-2
guar gum	9000-30-0
Hydrogen Chloride	7647-01-0
Hydrotreated light distillates, non-aromatic, BTEX free	64742-47-8
Isopropyl alcohol	67-63-0
liquid, 2,2-dibromo-3-nitrilopropionamide	10222-01-2
Microparticle	proprietary
Petroleum Distillates (BTEX Below Detect)	64742-47-8
Polyacrylamide	57-55-6
Propargyl Alcohol	107-19-7
Propylene Glycol	57-55-6
Quartz	14808-60-7
Sillica, crystalline quartz	7631-86-9
Sodium Chloride	7647-14-5
Sodium Hydroxide	1310-73-2
Sugar	57-50-1
Surfactant	68439-51-0
Suspending agent (solid)	14808-60-7
Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7

6701700707

RECEIVED
Office of Oil and Gas

FEB 23 2016

WV Department of
Environmental Protection
04/15/2016



4701706767

Addendum for Antero pads in Ritchie County, WV

Doak Unit 1H * Alvadore Pad

Doak Unit 2H* Alvadore Pad

*Requested by WVDEP due to SHL of well located in Pennsboro Quad

The following outlines the process to be undertaken by Antero Resources prior to and during completion process of wells in Ritchie County.

▪ Investigate all wells within 1320' of new wells - for all identified Marcellus vertical wells and any existing well(s) with an interval that is less than 1500 feet from the deepest formation drilled (including, but not specific to the Alexander formation) to the top of Marcellus:

- Contact operator of all wells
 - Confirm well status, producing horizon, well completion/stimulation information
 - Discuss plans to stimulate the horizontal Marcellus wells and the plans for monitoring potential impact on shallow wells
 - Make sure all vertical wells (with an interval that is less than 1500 feet from the deepest formation drilled to the top of Marcellus) have adequate wellhead equipment, Including pressure gauges
 - Provide shallow well operator with frac dates and develop plan for monitoring during stimulation
 - If well waters out during frac, shut it in until after stimulation, and install adequate well control equipment prior to swabbing in the impacted shallow well
- Control fracturing parameters during job to limit fracture height growth
- Limit rate and limit pressures for each segment of fracturing stages

04/15/2016

LOCATION COORDINATES
 ACCESS ROAD ENTRANCE
 LATITUDE: 39.272850 LONGITUDE: -80.872297 (NAD 83)
 N 4347131.60 E 5099720.79 (UTM NAD83, ZONE 17 METERS)

CENTROID OF ALVADORE WELL PAD
 LATITUDE: 39.273470 LONGITUDE: -80.862648 (NAD 83)
 N 4347131.15 E 510122.50 (UTM NAD83, ZONE 17 METERS)

CENTROID OF DOTSON HOLLAND WATER CONTAINMENT TANK
 LATITUDE: 39.273250 LONGITUDE: -80.870519 (NAD 83)
 N 4347144.50 E 510354.40 (UTM NAD83, ZONE 17 METERS)

CENTROID OF DOTSON HOLLAND WELL PAD
 LATITUDE: 39.273470 LONGITUDE: -80.872930 (NAD 83)
 N 4347133.20 E 510960.71 (UTM NAD83, ZONE 17 METERS)



ALVADORE WELL PAD, DOTSON HOLLAND WELL PAD & WATER CONTAINMENT PAD AS-BUILT AND EROSION & SEDIMENT CONTROL IMPROVEMENT PLAN

CENTRAL DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA
 CABIN RUN-NORTH FORK HUGHES RIVER WATERSHED
 USGS 7.5 PENNSBORO AND WEST UNION QUAD MAPS

GENERAL DESCRIPTION
 THE WELL PAD(S), WATER CONTAINMENT PAD(S), AND ACCESS ROAD(S) HAVE BEEN CONSTRUCTED TO AID IN THE DEVELOPMENT OF INDIVIDUAL MARCELLUS SHALE GAS WELLS

FLOODPLAIN NOTE
 THE SITE IS LOCATED IN FLOODZONE "X" PER FEMA FLOOD MAPS #54017C0100C & #54017C0151C. THE SITE ENTRANCE IS LOCATED IN FLOODZONE "X" PER FEMA FLOOD MAP #54017C0100C.

GEOTECHNICAL NOTE
 THE ACCESS ROAD CUT SLOPE (1.5:1) HAS BEEN FIELD VERIFIED BY A CERTIFIED GEOTECHNICAL ENGINEER TO ENSURE THE SLOPES WERE APPROPRIATE PRIOR TO CONSTRUCTION. ACCESS ROAD CONSTRUCTION HAS BEEN MONITORED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER OR PROJECT DESIGN ENGINEER DURING CONSTRUCTION. A SUBSURFACE INVESTIGATION & REPORT OF THE SITE WAS PERFORMED BY KLEINFELDER. THE INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS REPORT WAS USED IN THE PREPARATION OF THESE PLANS. HOWEVER, ADDITIONAL INVESTIGATION IS NECESSARY TO CONFIRM THE ESTIMATED KEY DIPS. PLEASE REFER TO THE SUBSURFACE INVESTIGATION REPORT BY KLEINFELDER FOR ADDITIONAL INFORMATION AS NEEDED.

ENVIRONMENTAL NOTES
 WETLAND DELINEATIONS WERE PERFORMED NOVEMBER 2012, FEBRUARY, 2013, JULY, 2013, & SEPTEMBER, 2013 BY POTESTA ENGINEERS AND ENVIRONMENTAL CONSULTANTS TO REVIEW THE SITE FOR WATERS AND WETLANDS THAT ARE MOST LIKELY WITHIN THE REGULATORY JURISDICTION OF THE U.S. ARMY CORPS OF ENGINEERS (USACE) AND/OR THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (WVDEP). THE SEPTEMBER 19, 2013 JURISDICTIONAL AQUATIC FEATURES MAP WAS PREPARED BY POTESTA ENGINEERS AND ENVIRONMENTAL CONSULTANTS AND SUMMARIZES THE RESULTS OF THE FIELD DELINEATION. THE MAP 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.

PROJECT CONTACTS

OPERATOR
 ANTERO RESOURCES CORPORATION
 535 WHITE OAK BLVD
 RIDGEPORT, WV 26069
 PHONE (304) 842-4100
 FAX (304) 842-4102

ELI WAGONER - ENVIRONMENTAL ENGINEER
 OFFICE (304) 842-4028 CELL (304) 476-0770

JON McEVERS - OPERATIONS SUPERINTENDENT
 OFFICE (303) 357-6799 CELL (303) 808-2423

AARON KUNZLER - CONSTRUCTION SUPERVISOR
 CELL (405) 227-9344

ANTHONY SMITH - FIELD ENGINEER
 OFFICE (304) 842-4205 CELL (304) 873-0196

CHARLES E. COMPTON, III - SURVEYING COORDINATOR
 CELL: (304) 719-0449

MARK HURSTON - LAND AGENT
 CELL: (304) 889-8510

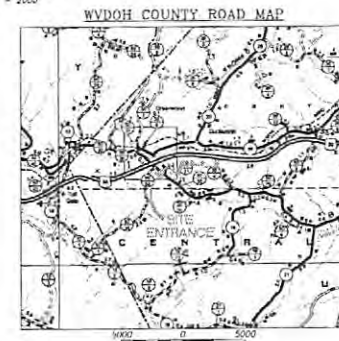
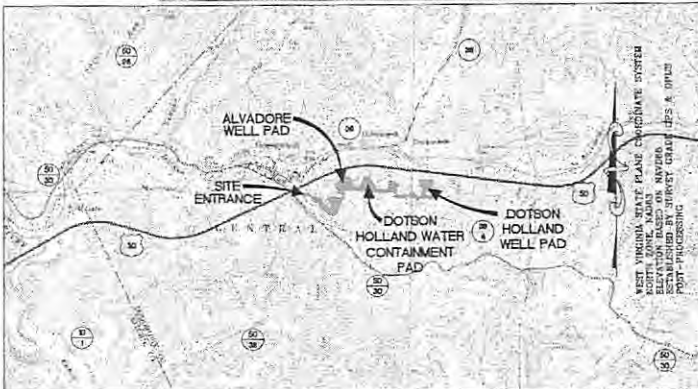
ENGINEER/SURVEYOR
 NAVITUS ENGINEERING, INC.
 CYNTHIA S. SUMR, PE - PROJECT MANAGER/ENGINEER
 OFFICE: (888) 862-4105 CELL (540) 668-0747

ENVIRONMENTAL POTESTA ENGINEERS AND ENVIRONMENTAL CONSULTANTS
 TIMOTHY S. FERDINAND, M.S. - STAFF SCIENTIST I
 OFFICE (304) 242-1400 CELL (304) 352-8217

- RESTRICTIONS NOTES:**
1. THERE ARE NO WETLANDS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE WELL PAD AND LOD. THERE IS A SIGNIFICANT IMPACT THAT HAS BEEN PERMITTED BY THE APPROPRIATE AGENCIES.
 2. THERE ARE NO NATURALLY PRODUCING FROTH STREAMS WITHIN 300 FEET OF THE WELL PAD AND LOD.
 3. THERE ARE NO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY FACILITIES WITHIN 1000 FEET OF THE WELL PAD AND LOD.
 4. THERE ARE NO APPARENT EXISTING WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF THE WELL PAD BEING DRILLED.
 5. THERE ARE NO OCCUPIED DWELLING STRUCTURES WITHIN 625 FEET OF THE CENTER OF THE WELL PAD.
 6. THERE ARE NO AGRICULTURAL BUILDINGS LARGER THAN 2,500 SQUARE FEET WITHIN 625 FEET OF THE CENTER OF THE WELL PAD.

NOTES:

1. ALL BMP'S MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL ALL AREAS WITHIN THE LIMIT OF DISTURBANCE ARE COMPLETELY STABILIZED. MAINTENANCE MUST INCLUDE INSPECTION OF ALL EROSION AND SEDIMENT CONTROLS AFTER EACH RUNOFF EVENT IN EXCESS OF 0.5" AND ON A BIWEEKLY BASIS.
2. THE CONSTRUCTION SITE SHOULD BE STABILIZED AS SOON AS POSSIBLE AFTER COMPLETION. ESTABLISHMENT OF FINAL STABILIZATION MUST BE INITIATED NO LATER THAN 7 DAYS AFTER REACHING FINAL GRADE. FINAL STABILIZATION MEANS THAT ALL SOIL-DISTURBING ACTIVITIES ARE COMPLETED, AND THAT EITHER A PERMANENT VEGETATIVE COVER WITH A DENSITY OF 70% OR GREATER HAS BEEN ESTABLISHED OR THAT THE SURFACE HAS BEEN STABILIZED BY HARD COVER SUCH AS PAVEMENT OR BUILDINGS. IT SHOULD BE NOTED THAT THE 70% REQUIREMENT REFERS TO THE TOTAL AREA VEGETATED AND NOT JUST A PERCENT OF THE SITE.
3. ALL PERMANENT SEDIMENT CONTROL MEASURES CAN BE REMOVED AFTER THE SITE IS PERMANENTLY STABILIZED AND APPROVAL IS RECEIVED FROM THE WVDEP.
4. ANY AREAS DISTURBED BY REMOVAL OF CONTROLS SHALL BE REPAIRED, STABILIZED, AND PERMANENTLY SEEDING.
5. THE AS-BUILT INFORMATION SHOWN HEREON REFLECTS FIELD DATA COLLECTED RELATING TO THIS FINAL GRADING OF THE DISTURBED AREA AS OF AUGUST 08, 2014. THE AS-BUILT INFORMATION SHOWN HEREON REFLECTS FIELD DATA COLLECTED RELATING TO THE ALVADORE PRODUCTION EQUIPMENT AS OF MAY 12, 2015 AND TO THE DOTSON HOLLAND PRODUCTION EQUIPMENT AS OF JANUARY 07, 2015. NAVITUS ENGINEERING IS NOT RESPONSIBLE FOR ANY CHANGES MADE TO THE SITE AFTER THE ABOVE MENTIONED DATES.
6. THE EXISTING CONTAINMENT BERM AROUND THE WELL PAD SHALL BE REPAIRED AS NECESSARY TO ENSURE 100% CONTAINMENT OF ALL FLUIDS PRIOR TO DRILLING OPERATIONS.
7. THE EXISTING EGRESSSES TO THE WELL PAD SHALL HAVE THE MOUNTABLE BERMS REPAIRED AS NECESSARY TO ENSURE 100% CONTAINMENT OF ALL FLUIDS PRIOR TO DRILLING OPERATIONS.



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!

REPRODUCTION NOTE
 THESE PLANS WERE PREPARED BY NAVITUS ENGINEERING, INC. ANY REPRODUCTION OF THESE PLANS WITHOUT THE WRITTEN PERMISSION OF NAVITUS ENGINEERING, INC. IS STRICTLY PROHIBITED.

SHEET INDEX

- 01 - COVER SHEET
- 02 - LEGEND
- 03 - OVERALL PLAN SHEET INDEX
- 04 - ACCESS ROAD & STAGING AREA AS-BUILT PLAN
- 05 - WELL PAD & WATER CONTAINMENT PAD AS-BUILT PLAN
- 06 - ACCESS ROAD AS-BUILT PLAN
- 07 - WELL PAD AS-BUILT PLAN
- 08 - ACCESS ROAD AS-BUILT PROFILES
- 09 - WELL PAD & WATER CONTAINMENT PAD AS-BUILT SECTIONS
- 10 - CONSTRUCTION DETAILS

ALVADORE & DOTSON HOLLAND LIMITS OF DISTURBANCE AREA (AC)

Access Road	Area (AC)
Access Road "A" (15.00')	15.13
Access Road "D" (73')	0.14
Access Road "C" (67')	0.27
Dotson Holland Staging Area	2.31
Alvadore Well Pad	4.35
Dotson Holland Water Containment Pad	2.49
Dotson Holland Well Pad	4.13
Excavator/Topsoil Material Stockpiles	4.35
Total Affected Area	33.17
Total Wooded Acres Disturbed	23.27

Impacts to Alvadore, J.R. & Frances J. McCoy TM 8-21

Access Road	Area (AC)
Access Road "A" (15.00')	4.55
Dotson Holland Staging Area	1.35
Excavator/Topsoil Material Stockpiles	0.88
Total Affected Area	6.78
Total Wooded Acres Disturbed	3.91

Impacts to Alvadore, J.R. & Frances J. McCoy TM 9-22

Access Road	Area (AC)
Access Road "B" (73')	0.14
Access Road "C" (67')	0.13
Dotson Holland Staging Area	0.96
Alvadore Well Pad	4.36
Water Containment Pad	2.49
Excavator/Topsoil Material Stockpiles	0.93
Total Affected Area	11.15
Total Wooded Acres Disturbed	10.34

Impacts to Allen P. Dotson, ET AL TM 9-23

Access Road	Area (AC)
Access Road "A" (14')	0.13
Excavator/Topsoil Material Stockpiles	2.48
Total Affected Area	2.61
Total Wooded Acres Disturbed	2.48

Impacts to Alvadore, J.R. & Frances J. McCoy TM 11-42

Access Road	Area (AC)
Access Road "A" (11')	0.12
Access Road "C" (2.54')	7.29
Access Road "D" (40')	0.14
Dotson Holland Well Pad	0.26
Excavator/Topsoil Material Stockpiles	0.96
Total Affected Area	8.77
Total Wooded Acres Disturbed	4.29

Impacts to Alvadore, J.R. & Frances J. McCoy TM 17-43

Access Road	Area (AC)
Access Road "A" (70')	0.12
Excavator/Topsoil Material Stockpiles	0.96
Total Affected Area	1.08
Total Wooded Acres Disturbed	0.96

Impacts to Robert Holland Hains TM 9-24.1

Access Road	Area (AC)
Access Road "A" (01')	0.01
Dotson Holland Well Pad	2.33
Total Affected Area	2.33
Total Wooded Acres Disturbed	1.27

Impacts to Robert L. Holland, JR. TM 9-25.1

Access Road	Area (AC)
Access Road "A" (75')	0.20
Excavator/Topsoil Material Stockpiles	1.54
Total Affected Area	1.74
Total Wooded Acres Disturbed	0.98

ALVADORE

Proposed Well Name	WV North NAD 83	WV North NAD 83	UTM (METERS) Zone 17	NAD 83 Lat & Long
D'Donne Unit 1H	N 23462.59	E 157061.49	N 434714.54	Lat 39-16-23.845
D'Donne Unit 2H	N 23464.85	E 157061.54	N 434715.28	Lat 39-16-24.184
Doak Unit 1H	N 23464.58	E 157061.56	N 434715.23	Lat 39-16-24.179
Doak Unit 2H	N 23465.17	E 157061.57	N 434715.76	Lat 39-16-24.179
Huckling Unit 2H (Drilled)	N 23466.54	E 157061.57	N 434716.21	Lat 39-16-24.188
Huckling Unit 1H (Drilled)	N 23467.24	E 157061.58	N 434716.74	Lat 39-16-24.188
Leason Run Unit 1H (Drilled)	N 23467.24	E 157061.58	N 434716.74	Lat 39-16-24.188
Leason Run Unit 2H (Drilled)	N 23468.58	E 157061.58	N 434717.44	Lat 39-16-24.173
Well Pad Elevation				1,050.0

DOTSON HOLLAND

Proposed Well Name	WV North NAD 83	WV North NAD 83	UTM (METERS) Zone 17	NAD 83 Lat & Long
Amelia Unit 2H (Drilled)	N 23466.14	E 157061.57	N 434716.52	Lat 39-16-24.640
Amelia Unit 1H (Drilled)	N 23467.24	E 157061.58	N 434717.24	Lat 39-16-24.640
Zalutsk Unit 1H (Drilled)	N 23467.24	E 157061.58	N 434717.24	Lat 39-16-24.640
Zalutsk Unit 2H (Permitted)	N 23468.58	E 157061.58	N 434718.44	Lat 39-16-24.640
Alder Unit 2H (Permitted)	N 23469.92	E 157061.59	N 434719.20	Lat 39-16-24.640
Alder Unit 1H (Permitted)	N 23471.26	E 157061.59	N 434720.00	Lat 39-16-24.640
Murphy Unit 2H (Permitted)	N 23472.60	E 157061.59	N 434720.80	Lat 39-16-24.640
Murphy Unit 1H (Permitted)	N 23473.94	E 157061.59	N 434721.60	Lat 39-16-24.640
Well Pad Elevation				980.0

AS-BUILT CERTIFICATIONS:
 THE DRAWINGS, CONSTRUCTION DETAILS, AND REFERENCE DIAGRAMS ATTACHED HERETO HAVE BEEN PREPARED IN ACCORDANCE WITH THE WEST VIRGINIA CODE OF STATE RULES, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS CAS 39-8.

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Antero
 THIS DOCUMENT WAS PREPARED FOR ANTERO RESOURCES CORPORATION

ALVADORE & DOTSON HOLLAND WELL PADS & WATER CONTAINMENT PAD
 CENTRAL DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA

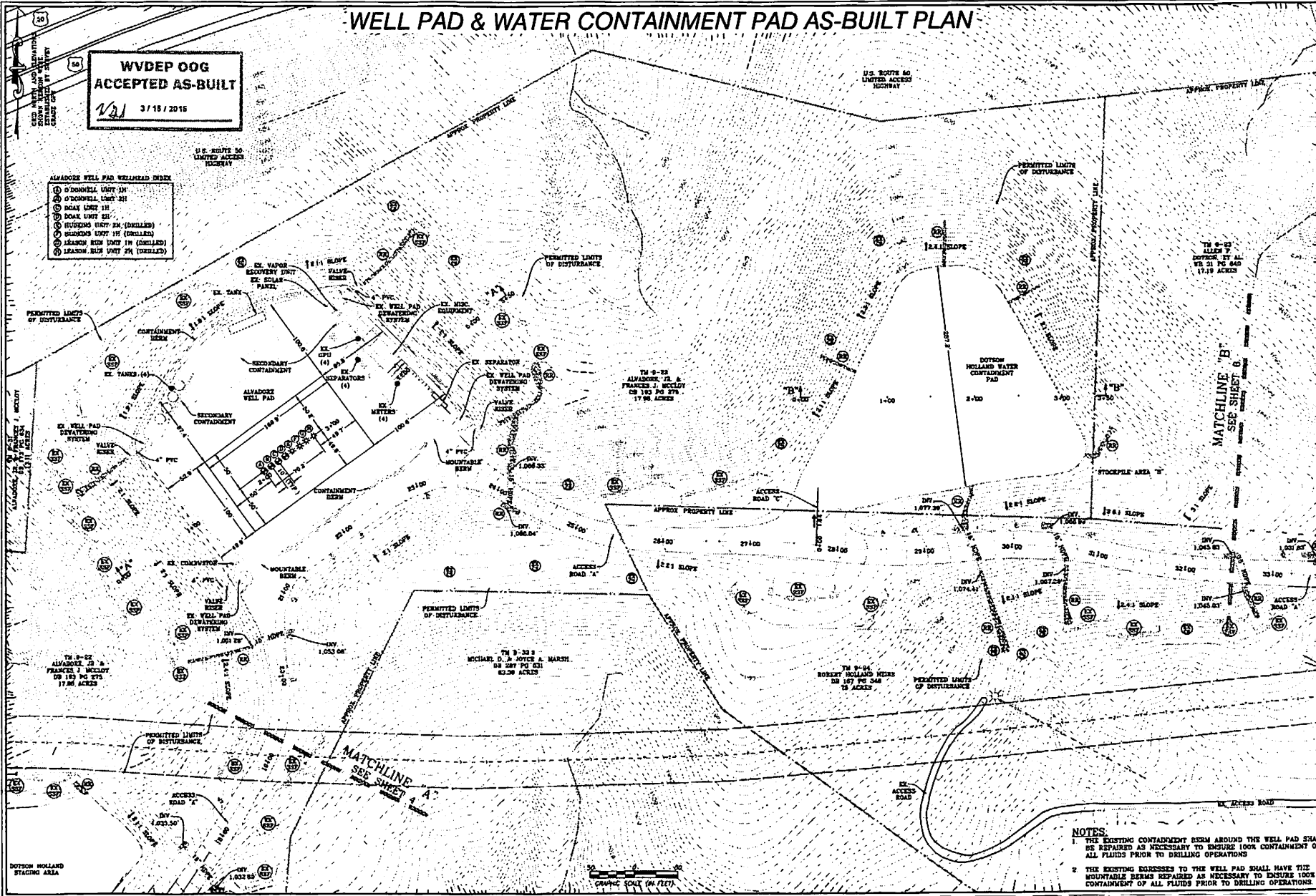
COVER SHEET

DATE: 08/20/2014
 SCALE: AS SHOWN
 SHEET 1 OF 10

WELL PAD & WATER CONTAINMENT PAD AS-BUILT PLAN

WVDEP 00G
ACCEPTED AS-BUILT
WJ 3/15/2015

- ALVADORE WELL PAD WELLHEAD INDEX**
- ① O'DONNELL UNIT 1H
 - ② O'DONNELL UNIT 2H
 - ③ DOCK UNIT 1H
 - ④ DOCK UNIT 2H
 - ⑤ RUSSELL UNIT 2H (DRILLED)
 - ⑥ BRIDGEMAN UNIT 1H (DRILLED)
 - ⑦ LEASON RUN UNIT 1H (DRILLED)
 - ⑧ LEASON RUN UNIT 2H (DRILLED)



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DATE	REVISION
01/22/2015	REVISED FOR ADDITIONAL WELLS
02/27/2015	REVISED PRODUCTION EQUIPMENT
03/11/2015	REVISED PER WV DEP COMMENT



THIS DOCUMENT WAS PREPARED FOR ANTERO RESOURCES CORPORATION

WELL PAD & WATER CONTAINMENT PAD AS-BUILT PLAN
ALVADORE & DOTSON HOLLAND
WELL PADS & WATER CONTAINMENT PAD
 CENTRAL DISTRICT
 DODDRIEGE COUNTY, WEST VIRGINIA



- NOTES:**
- 1 THE EXISTING CONTAINMENT BERM AROUND THE WELL PAD SHALL BE REPAIRED AS NECESSARY TO ENSURE 100% CONTAINMENT OF ALL FLUIDS PRIOR TO DRILLING OPERATIONS
 - 2 THE EXISTING EXPOSURES TO THE WELL PAD SHALL HAVE THE MOUNTABLE BERMS REPAIRED AS NECESSARY TO ENSURE 100% CONTAINMENT OF ALL FLUIDS PRIOR TO DRILLING OPERATIONS.

DATE: 08/20/2014
 SCALE: 1" = 50'
 SHEET 5 OF 10

LOCATION COORDINATES

ACCESS ROAD ENTRANCE
LATITUDE: 39.272391 LONGITUDE: -80.887237 (NAD 83)
N 4347010.86 E 509728.79 (UTM NAD83, ZONE 17 METERS)

CENTROID OF ALVADORE WELL PAD
LATITUDE: 39.273470 LONGITUDE: -80.882648 (NAD 83)
N 4347131.15 E 510122.50 (UTM NAD83, ZONE 17 METERS)

CENTER OF DOTSON HOLLAND WATER CONTAINMENT TANK
LATITUDE: 39.273589 LONGITUDE: -80.879959 (NAD 83)
N 4347144.59 E 510354.40 (UTM NAD83, ZONE 17 METERS)

CENTROID OF DOTSON HOLLAND WELL PAD
LATITUDE: 39.273479 LONGITUDE: -80.872930 (NAD 83)
N 4347133.25 E 510960.71 (UTM NAD83, ZONE 17 METERS)

GENERAL DESCRIPTION

THE WELL PAD(S), WATER CONTAINMENT PAD(S), AND ACCESS ROAD(S) HAVE BEEN CONSTRUCTED TO AID IN THE DEVELOPMENT OF INDIVIDUAL MARCELLUS SHALE GAS WELLS.

FLOODPLAIN NOTE

THE SITE IS LOCATED IN FLOODZONE "X" PER FEMA FLOOD MAPS #54017C0100C & #54017C0115C. THE SITE ENTRANCE IS LOCATED IN FLOODZONE "A" PER FEMA FLOOD MAP #54017C0100C.

GEOTECHNICAL NOTE

THE ACCESS ROAD CUT SLOPE (1.5:1) HAS BEEN FIELD VERIFIED BY A CERTIFIED GEOTECHNICAL ENGINEER TO ENSURE THE SLOPES WERE ADEQUATE PRIOR TO CONSTRUCTION. ACCESS ROAD CONSTRUCTION HAS BEEN MONITORED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER OR PROJECT DESIGN ENGINEER DURING CONSTRUCTION. A SUBSURFACE INVESTIGATION & REPORT OF THE SITE WAS PERFORMED BY KLEINFELDER. THE INFORMATION AND RECOMMENDATIONS CONTAINED IN THEIR REPORT WAS USED IN THE PREPARATION OF THESE PLANS, HOWEVER, ADDITIONAL INVESTIGATION IS NECESSARY TO CONFIRM THE ESTIMATED TOE KEY DEPTHS. PLEASE REFER TO THE SUBSURFACE INVESTIGATION REPORT BY KLEINFELDER FOR ADDITIONAL INFORMATION, AS NEEDED.

ENVIRONMENTAL NOTES

WETLAND DELINEATIONS WERE PERFORMED NOVEMBER, 2012, FEBRUARY, 2013, JULY, 2013, & SEPTEMBER, 2013 BY POTESTA ENGINEERS AND ENVIRONMENTAL CONSULTANTS 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 SEPTEMBER 19, 2013 JURISDICTIONAL AQUATIC FEATURES MAP WAS PREPARED BY POTESTA ENGINEERS AND ENVIRONMENTAL CONSULTANTS AND SUMMARIZES THE RESULTS OF THE FIELD DELINEATION. THE MAP 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.

PROJECT CONTACTS

OPERATOR:

ANTERO RESOURCES CORPORATION
535 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330
PHONE: (304) 842-4100
FAX: (304) 842-4102

ROGER DUNLAP - SURVEYING COORDINATOR
CELL: (304) 651-5588

MARK HUTSON - LAND AGENT
CELL: (304) 869-8315

ELI WAGONER - ENVIRONMENTAL ENGINEER
OFFICE: (304) 842-4068 CELL: (304) 476-9770

ENGINEER/SURVEYOR:
NAVITUS ENGINEERING, INC.
CYRUS S. KUMP, PE - PROJECT
MANAGER/ENGINEER
OFFICE: (888) 682-4185 CELL: (540) 886-8747

JOHN KAWCAK - OPERATIONS SUPERINTENDENT
CELL: (817) 368-1553

ENVIRONMENTAL:
POTESTA ENGINEERS AND ENVIRONMENTAL
CONSULTANTS
TIMOTHY R. FERGUSON M.S. - STAFF SCIENTIST I
OFFICE: (304) 342-1400 CELL: (304) 382-8217

AARON KUNZLER - CONSTRUCTION SUPERVISOR
CELL: (405) 227-8344

ANTHONY SMITH - FIELD ENGINEER
OFFICE: (304) 842-4208 CELL: (304) 873-6198

RESTRICTIONS NOTES:

1. THERE ARE NO WETLANDS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE WELL PAD AND LOD. THERE IS A PERENNIAL STREAM IMPACT THAT HAS BEEN PERMITTED BY THE APPROPRIATE AGENCIES.
2. THERE ARE NO NATURALLY PRODUCING TROUT STREAMS WITHIN 300 FEET OF THE WELL PAD AND LOD.
3. THERE ARE NO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY FACILITIES WITHIN 1000 FEET OF THE WELL PAD AND LOD.
4. THERE ARE NO APPARENT EXISTING WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF THE WELL(S) BEING DRILLED.
5. THERE ARE NO OCCUPIED DWELLING STRUCTURES WITHIN 625 FEET OF THE CENTER OF THE WELL PAD.
6. THERE ARE NO AGRICULTURAL BUILDINGS LARGER THAN 2,500 SQUARE FEET WITHIN 625 FEET OF THE CENTER OF THE WELL PAD.

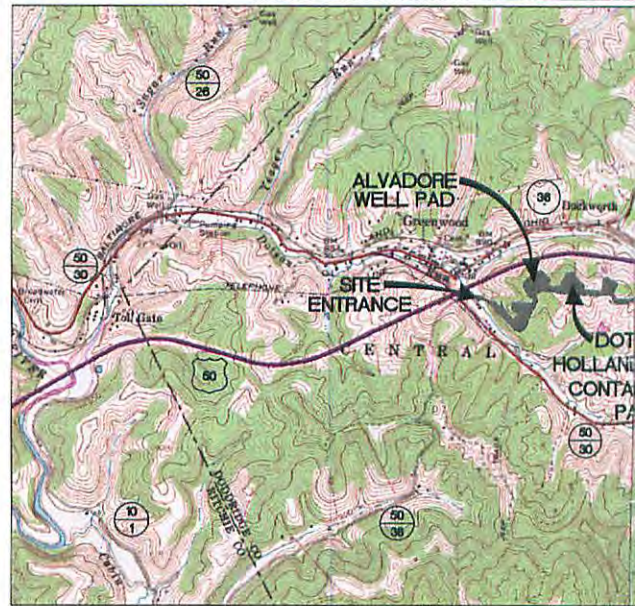
NOTES:

1. ALL BMP'S MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL ALL AREAS WITHIN THE LIMIT OF DISTURBANCE ARE COMPLETE AND PERMANENTLY STABILIZED. MAINTENANCE MUST INCLUDE INSPECTION OF ALL EROSION AND SEDIMENT CONTROLS AFTER EACH RUNOFF EVENT IN EXCESS OF 0.5" AND ON A BIWEEKLY BASIS.
2. THE CONSTRUCTION SITE SHOULD BE STABILIZED AS SOON AS POSSIBLE AFTER COMPLETION. ESTABLISHMENT OF FINAL STABILIZATION MUST BE INITIATED NO LATER THAN 7 DAYS AFTER REACHING FINAL GRADE. FINAL STABILIZATION MEANS THAT ALL SOIL-DISTURBING ACTIVITIES ARE COMPLETED, AND THAT EITHER A PERMANENT VEGETATIVE COVER WITH A DENSITY OF 70% OR GREATER HAS BEEN ESTABLISHED OR THAT THE SURFACE HAS BEEN STABILIZED BY HARD COVER SUCH AS PAVEMENT OR BUILDINGS. IT SHOULD BE NOTED THAT THE 70% REQUIREMENT REFERS TO THE TOTAL AREA VEGETATED AND NOT JUST A PERCENT OF THE SITE.
3. ALL PERMANENT SEDIMENT CONTROL MEASURES CAN BE REMOVED AFTER THE SITE IS PERMANENTLY STABILIZED AND APPROVAL IS RECEIVED FROM THE WVDEP.
4. ANY AREAS DISTURBED BY REMOVAL OF CONTROLS SHALL BE REPAIRED, STABILIZED, AND PERMANENTLY SEEDED.
5. THE AS-BUILT INFORMATION SHOWN HEREON REFLECTS FIELD DATA COLLECTED RELATING TO THE FINAL GRADING OF THE DISTURBED AREA AS OF AUGUST 08, 2014. THE AS-BUILT INFORMATION SHOWN HEREON REFLECTS FIELD DATA COLLECTED RELATING TO THE ALVADORE PRODUCTION EQUIPMENT AS OF MAY 12, 2015 AND TO THE DOTSON HOLLAND PRODUCTION EQUIPMENT AS OF JANUARY 07, 2015. NAVITUS ENGINEERING IS NOT RESPONSIBLE FOR ANY CHANGES MADE TO THE SITE AFTER THE ABOVE MENTIONED DATES.
6. THE EXISTING CONTAINMENT BERM AROUND THE WELL PAD SHALL BE REPAIRED AS NECESSARY TO ENSURE 100% CONTAINMENT OF ALL FLUIDS PRIOR TO DRILLING OPERATIONS
7. THE EXISTING EGRESSES TO THE WELL PAD SHALL HAVE THE MOUNTABLE BERMS REPAIRED AS NECESSARY TO ENSURE 100% CONTAINMENT OF ALL FLUIDS PRIOR TO DRILLING OPERATIONS.

ALVADORE WELL PAD DOTSON HOLLAND WATER CONTAINMENT TANK AS-BUILT AND EROSION CONTROL IMPROVEMENTS

CENTRAL DISTRICT, DODDRIDGE COUNTY
CABIN RUN-NORTH FORK HUGHES

USGS 7.5 PENNSBORO AND WEST



WEST VIRGINIA COUNTY MAP



(NOT TO SCALE)

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04/15/2016

WELL PAD, WATER CONTAINMENT PAD & SEDIMENTATION PAD

WVDOH COUNTY, WEST VIRGINIA
 OVER WATERSHED
 SECTION QUAD MAPS

Boya Harris
 3-9-16
[Signature]

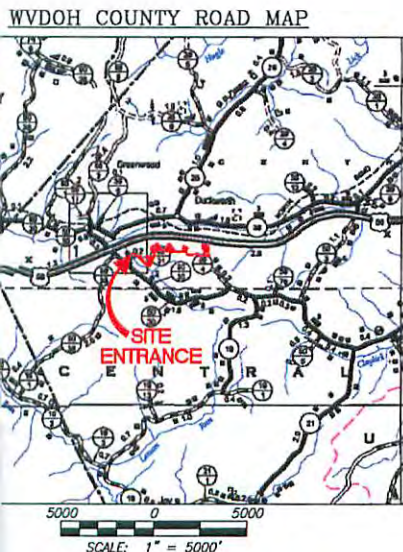
SHEET INDEX

- 01 - COVER SHEET
- 02 - LEGEND
- 03 - OVERALL PLAN SHEET INDEX
- 04 - ACCESS ROAD & STAGING AREA AS-BUILT PLAN
- 05 - WELL PAD & WATER CONTAINMENT PAD AS-BUILT PLAN
- 06 - ACCESS ROAD AS-BUILT PLAN
- 07 - WELL PAD AS-BUILT PLAN
- 08 - ACCESS ROAD AS-BUILT PROFILES
- 09 - WELL PAD & WATER CONTAINMENT PAD AS-BUILT SECTIONS



ALVADORE & DOTSON HOLLAND LIMITS OF DISTURBANCE AREA (AC)	
Total Site	
Access Road "A" (5,088')	15.13
Access Road "B" (73')	0.14
Access Road "C" (67')	0.27
Dotson Holland Staging Area	2.31
Alvadore Well Pad	4.35
Dotson Holland Water Containment Pad	2.49
Dotson Holland Well Pad	4.13
Excess/Topsoil Material Stockpiles	4.35
Total Affected Area	33.17
Total Wooded Acres Disturbed	23.27
Impacts to WV DOR RW	
Access Road "A" (14')	0.13
Total Affected Area	0.13
Total Wooded Acres Disturbed	0.00
Impacts to Alvadore, JR. & Frances J. McCloy TM 17-42	
Access Road "A" (171')	0.32
Total Affected Area	0.32
Total Wooded Acres Disturbed	0.00
Impacts to Alvadore, JR. & Frances J. McCloy TM 17-43	
Access Road "A" (70')	0.12
Total Affected Area	0.12
Total Wooded Acres Disturbed	0.00
Impacts to Chester S. & Berna K. Ankrom TM 8-31-2	
Access Road "A"	0.01
Total Affected Area	0.01
Total Wooded Acres Disturbed	0.00
Impacts to Alvadore, JR. & Frances J. McCloy TM 8-26-1	
Access Road "A" (76')	0.20
Total Affected Area	0.20
Total Wooded Acres Disturbed	0.07

Impacts to Alvadore, JR. & Frances J. McCloy TM 8-31	
Access Road "A" (1,191')	4.06
Dotson Holland Staging Area	1.35
Excess/Topsoil Material Stockpiles	0.88
Total Affected Area	6.29
Total Wooded Acres Disturbed	3.91
Impacts to Alvadore, JR. & Frances J. McCloy TM 9-22	
Access Road "A" (1,025')	3.05
Access Road "B" (73')	0.14
Access Road "C" (27')	0.13
Dotson Holland Staging Area	0.96
Alvadore Well Pad	4.35
Water Containment Pad	2.49
Excess/Topsoil Material Stockpiles	0.03
Total Affected Area	11.15
Total Wooded Acres Disturbed	10.34
Impacts to Allen F. Dotson, ET AL TM 9-23	
Excess/Topsoil Material Stockpiles	2.48
Total Affected Area	2.48
Total Wooded Acres Disturbed	2.42
Impacts to Robert Holland Heirs TM 9-24	
Access Road "A" (2,541')	7.24
Access Road "C" (40')	0.14
Dotson Holland Well Pad	0.26
Excess/Topsoil Material Stockpiles	0.96
Total Affected Area	8.60
Total Wooded Acres Disturbed	4.28
Impacts to Robert Holland Heirs TM 9-24.1	
Dotson Holland Well Pad	2.33
Total Affected Area	2.33
Total Wooded Acres Disturbed	1.27
Impacts to Robert L. Holland, JR. TM 9-25.1	
Dotson Holland Well Pad	1.54
Total Affected Area	1.54
Total Wooded Acres Disturbed	0.98



ALVADORE

Proposed Well Name	WV North NAD 27	WV North NAD 83	UTM (METERS) Zone 17	NAD 83 Lat & Long
O'Donnell Unit 1H	N 284642.59	N 284677.13	N 4347114.54	LAT 39-16-23.9545 LONG -80-52-57.8907
O'Donnell Unit 2H	N 284648.60	N 284683.04	N 4347116.38	LAT 39-16-24.0142 LONG -80-52-57.7893
Doak Unit 1H	N 284654.42	N 284688.96	N 4347118.23	LAT 39-16-24.0739 LONG -80-52-57.6879
Doak Unit 2H	N 284660.33	N 284694.87	N 4347120.07	LAT 39-16-24.1335 LONG -80-52-57.5866
Huddins Unit 1H (Drilled) APW 047-17-06436	N 284666.34	N 284700.88	N 4347121.94	LAT 39-16-24.1941 LONG -80-52-57.4911
Huddins Unit 1H (Drilled) APW 047-17-06418	N 284672.15	N 284706.69	N 4347123.75	LAT 39-16-24.2529 LONG -80-52-57.3792
Leason Run Unit 1H (Drilled) APW 047-17-06474	N 284678.34	N 284712.88	N 4347125.68	LAT 39-16-24.3152 LONG -80-52-57.2861
Leason Run Unit 2H (Drilled) APW 047-17-06475	N 284683.98	N 284718.53	N 4347127.44	LAT 39-16-24.3723 LONG -80-52-57.1771
Well Pad Elevation	1,055.0			

DOTSON HOLLAND

Proposed Well Name	WV North NAD 27	WV North NAD 83	UTM (METERS) Zone 17	NAD 83 Lat & Long
Aranda Unit 1H (Drilled) APW 47-017-06432	N 284659.14	N 284693.75	N 4365059.52	LAT 39-16-24.5432 LONG -80-52-22.2896
Aranda Unit 1H (Drilled) APW 47-017-06431	N 284651.08	N 284685.69	N 4365057.13	LAT 39-16-24.4640 LONG -80-52-22.2559
Zalberback Unit 1H (Drilled) APW 47-017-06430	N 284641.76	N 284676.37	N 4365054.37	LAT 39-16-24.3723 LONG -80-52-22.2163
Zalberback Unit 2H (Permitted) APW 47-017-06409	N 284631.33	N 284665.95	N 4347125.41	LAT 39-16-24.2697 LONG -80-52-22.1773
Alder Unit 2H (Permitted) APW 47-017-06402	N 284621.73	N 284656.35	N 4347122.50	LAT 39-16-24.1753 LONG -80-52-22.1399
Alder Unit 1H (Permitted) APW 47-017-06440	N 284612.13	N 284646.74	N 4347119.59	LAT 39-16-24.0908 LONG -80-52-22.1026
Murphy Unit 2H (Permitted) APW 47-017-06442	N 284602.53	N 284637.14	N 4347118.68	LAT 39-16-23.9863 LONG -80-52-22.0652
Murphy Unit 1H (Permitted) APW 47-017-06441	N 284592.92	N 284627.54	N 4347113.77	LAT 39-16-23.8918 LONG -80-52-22.0279
Murphy Unit 4H	N 284653.33	N 284687.95	N 4347132.13	LAT 39-16-24.4877 LONG -80-52-22.1305
Well Pad Elevation	989.0			

REPRODUCTION NOTE
 THESE DRAWINGS WERE CREATED TO BE PLOTTED ON 22"x34" (ANSI D) SCALE DRAWINGS ARE ON 11"x17" (ANSI B) PAPER.

THESE DRAWINGS WERE CREATED FOR COLOR PLOTTING AND ANY PRINTING IN GRAY SCALE OR COLOR MAY RESULT IN A LOSS OF DETAIL. THESE DRAWINGS SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES.

AS-BUILT CERTIFICATIONS:

THESE DRAWINGS, CONSTRUCTION NOTES, AND REFERENCE DIAGRAMS ATTACHED HERETO HAVE BEEN PREPARED IN ACCORDANCE WITH THE WEST VIRGINIA CODE OF STATE RULES, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS CR 35-8.

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Received
 of Oil & Gas
 10/20/16

DATE	REVISION	REVISOR	REVISION DESCRIPTION
01/09/2015	REVISOR		FOR ADDITIONAL WELLS
06/23/2015	REVISOR		REVISED-PRODUCTION EQUIPMENT

Antero Resources
 THIS DOCUMENT WAS PREPARED FOR ANTERO RESOURCES CORPORATION

ALVADORE & DOTSON HOLLAND
 WELL PADS & WATER CONTAINMENT PAD
 CENTRAL DISTRICT
 DODDRIDGE COUNTY, WEST VIRGINIA

REGISTERED PROFESSIONAL ENGINEER
 STATE OF WEST VIRGINIA
 06/23/2015

DATE: 08/20/2014
 SCALE: AS SHOWN
 SHEET: 04/15/2016