



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 28, 2014

WELL WORK PERMIT

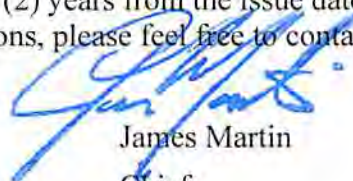
Horizontal 6A Well

This permit, API Well Number: 47-1706466, 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: STANDINGS UNIT 1H
Farm Name: JOHNSON, CHAD W. , ET AL
API Well Number: 47-1706466
Permit Type: Horizontal 6A Well
Date Issued: 04/28/2014

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 (USACOE). Through this permit, you are hereby being advised to consult with USACOE 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 fifty (50) 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 fill material shall be within plus or minus 2% of the optimum moisture content as determined by the standard proctor density test, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort. Each lift must meet 95 % compaction of the optimum density based on results from the standard proctor density test of the actual soils used in specific engineered fill sites. 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.

4701706466

WW-6B
(9/13)

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

1) Well Operator: Antero Resources Corporation 494488557 017-Doddridge Greenbrier New Milton 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Standings Unit 1H Well Pad Name: Victor Pad

3) Farm Name/Surface Owner: Chad W. Johnson Public Road Access: CR 25/10

4) Elevation, current ground: ~1170' Elevation, proposed post-construction: 1156'

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

DCN
3-6-2014

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Marcellus Shale: 7500' TVD, Anticipated Thickness- 60 feet, Associated Pressure- 3250#

8) Proposed Total Vertical Depth: 7500' TVD

9) Formation at Total Vertical Depth: Marcellus Shale

10) Proposed Total Measured Depth: 16,000' MD

11) Proposed Horizontal Leg Length: 7921'

12) Approximate Fresh Water Strata Depths: 346', 420', 522'

13) Method to Determine Fresh Water Depths: Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: 1412', 1644', 1860'

15) Approximate Coal Seam Depths: 352', 817', 1229'

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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Environmental Protection
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WW-6B
(9/13)

470170646

18)

CASING AND TUBING PROGRAM

TYPE	Size	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill-up (Cu. Ft.)
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#	580'	580"*see #19	CTS, 806 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2450'	2450'	CTS, 998 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	16000'	16000'	4007 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

DCN
3-6-2014

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	24"	0.438"	1530	Class A	1.18
Fresh Water	13-3/8"	17-1/2"	0.38"/0.33"	2730/1730	Class A	1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	Class A	1.18
Intermediate						
Production	5-1/2"	8-3/4" & 8-1/2"	0.361"	12630	Lead-H/POZ & Tail - H	H/POZ-1.44 & H-1.8
Tubing	2-3/8"	4.778"	0.19"	11200		
Liners						

PACKERS

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

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05/02/2014

WW-6B
(9/13)

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 freshwater 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."

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 30.25 acres

22) Area to be disturbed for well pad only, less access road (acres): 4.46 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
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.

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*Note: Attach additional sheets as needed.

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05/02/2014

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WW-9
(9/13)

API Number 47 - 017 - _____
Operator's Well No. Standings Unit 1H _____

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Antero Resources Corporation OP Code 494488557

Watershed (HUC 10) Beech Lick of Meathouse Fork Quadrangle New Milton 7.5'

Elevation 1156' County Doddridge District Greenbrier

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 _____)

*DCW
3-6-2014*

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/Suff Foams, 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)

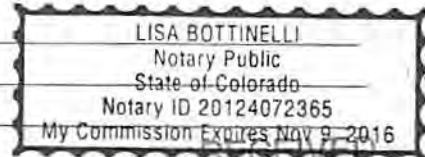
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations 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) Evan Foster

Company Official Title Environmental Specialist



Subscribed and sworn before me this 10 day of Feb, 20 14 Office of Oil and Gas

[Signature] Notary Public MAR 4 2014

My commission expires 11/9/2016

WV Department of Environmental Protection

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Form WW-9

Operator's Well No. Standings Unit 1H

Antero Resources Corporation

Proposed Revegetation Treatment: Acres Disturbed 30.25 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

Road A (8.24) + Road B (1.28) + Road C (10.39) + Road D (2.20) + Well Pad (4.46) + Engineered Fill Pad (2.17) + Topsoil Spoil Pad (.59) + Water Containment Pad (.92) = 30.25 Acres

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Crownvetch	25	Crownvetch	25
Perennial Ryegrass	30	Perennial Ryegrass	30
*or type of grass seed requested by surface owner		*or type of grass seed requested by surface owner	

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: Douglas Newlon

Comments: Preseed + Mulch install and maintain EIS to Wv Dep regulations

Title: Oil Gas Inspector

Date: 3-6-2014

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Field Reviewed? Yes No

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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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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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Well Site Safety Plan

Antero Resources

Well Name: Standings Unit 1H, Standings Unit 2H,
Sherwood Unit 2H, Falcon Unit 1H, Colorado
Unit 1H & Colorado Unit 2H

Pad Location: VICTOR PAD
Doddridge County/ New Milton &
Greenbrier District

GPS Coordinates: Lat 39°11'9.996"/Long -80°37'51.689" (NAD83)

Driving Directions:

From West Union:

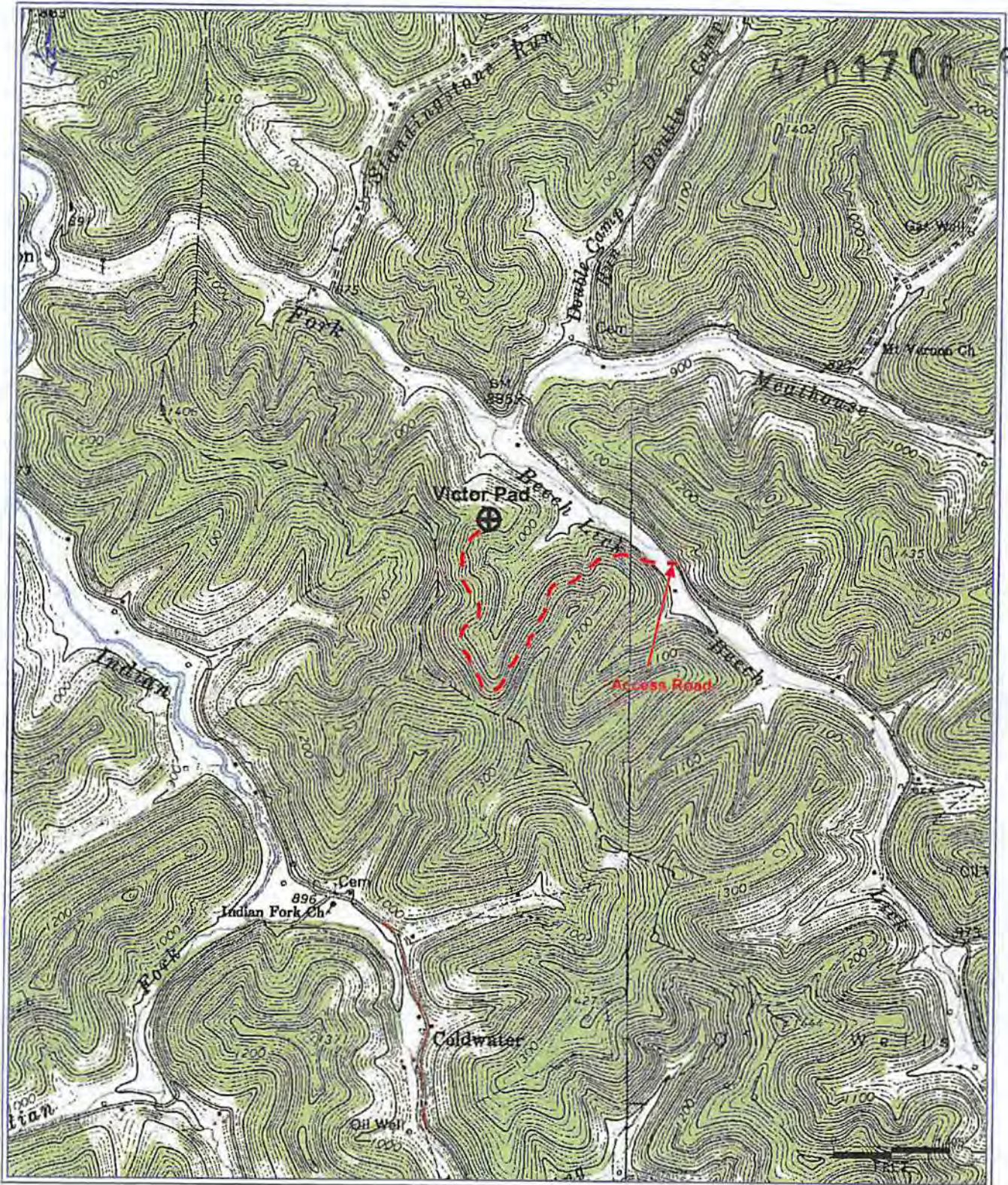
Head southeast on WV-18 S for 6.3 miles. Turn left onto Co Route 25/ Meathouse Fork.
Continue to follow Co Route 25 for 7.1 miles. Turn right onto Co Rte 25/10, your destination will
be on the right in 0.2 miles.

*DCW
3-6-2014*

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Antero Resources Corporation
 Appalachian Basin
 Standings Unit 1H
 Doddridge County

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Quadrangle: New Milton
 Watershed: Headwaters Middle Island Creek/Meathouse Fork
 District: Greenbrier/New Milton
 Date: 2/6/2014

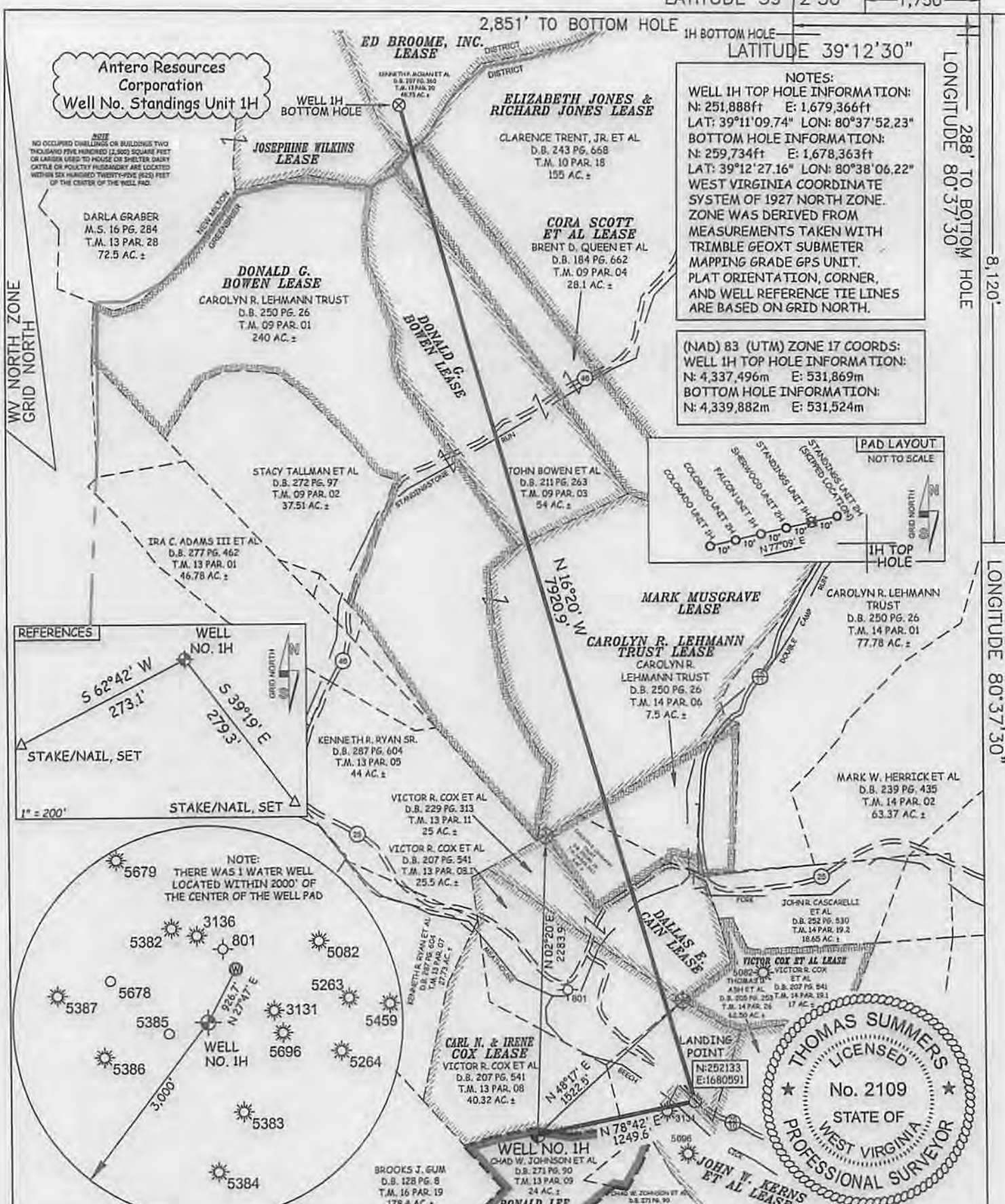
05/02/2014

LATITUDE 39°12'30" 1,750'

LONGITUDE 80°37'30" 288' TO BOTTOM HOLE

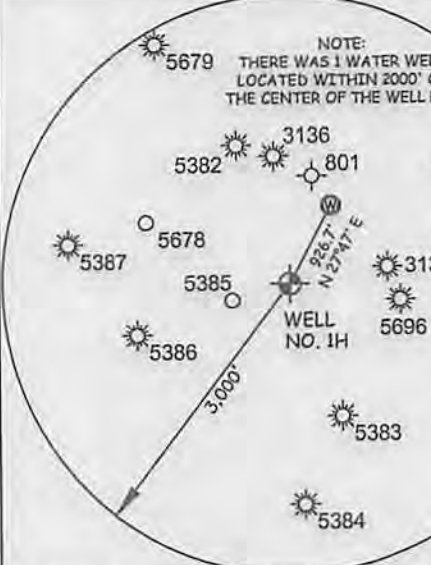
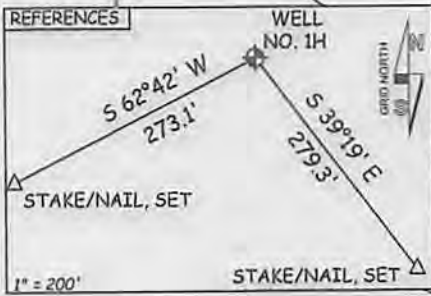
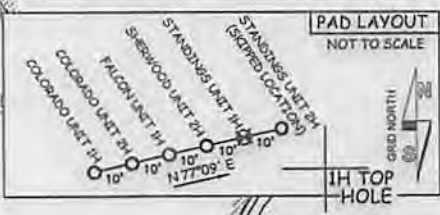
8,120'

LONGITUDE 80°37'30"



NOTES:
 WELL 1H TOP HOLE INFORMATION:
 N: 251,888ft E: 1,679,366ft
 LAT: 39°11'09.74" LON: 80°37'52.23"
 BOTTOM HOLE INFORMATION:
 N: 259,734ft E: 1,678,363ft
 LAT: 39°12'27.16" LON: 80°38'06.22"
 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 1H TOP HOLE INFORMATION:
 N: 4,337,496m E: 531,869m
 BOTTOM HOLE INFORMATION:
 N: 4,339,882m E: 531,524m



JOB # 12-149WA	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 PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.	LEGEND
DRAWING # STANDINGS1HR2		— Surface Owner Boundary Lines +/- — Interior Surface Tracts +/- ⊕ Existing Fence Rebar, Found
SCALE 1" = 1000'	STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS	THOMAS SUMMERS P.S. 2109
MINIMUM DEGREE OF ACCURACY SUBMETER		DATE 02/04/14
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS	WILLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415	OPERATOR'S WELL# STANDINGS UNIT #1H
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 1,156' WATERSHED BEECH LICK OF MEATHOUSE FORK QUADRANGLE NEW MILTON 7.5' DISTRICT GREENBRIER COUNTY DODD	API WELL # 47 - 017 - 06466 H6A
WELL NO. 1H		STATE COUNTY PERMIT
SURFACE OWNER CHAD W. JOHNSON ET AL	ACREAGE 24 ACRES +/-	06402/2014
OIL & GAS ROYALTY OWNER RONALD LEE SWANN, CARL N. & IRENE COX; JOHN KERNIS ET AL; DALLAS E. CAIN; CAROLYN R. LEHMANN TRUST; MARK MUSGRAVE; DONALD G. BOWEN; CORA SCOTT ET AL; ED BROOME, INC.	LEASE ACREAGE 23.49 ACRES +/-; 82 ACRES +/-; 62.5 ACRES +/-; 22.162 ACRES +/-; 16.624 ACRES +/-; 135.421 ACRES +/-; 54.533 ACRES +/-; 28.1 ACRES +/-; 48.75 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 7,500' TVD 16,000' MD	
WELL OPERATOR ANTERO RESOURCES CORPORATION	DESIGNATED AGENT DIANNA STAMPER	
ADDRESS 1625 17TH STREET	ADDRESS 5400 D BIG TYLER ROAD	
FORM WW-6 DENVER, CO 80202	ADDRESS CHARLESTON, WV 25313	



West Virginia State Plane Coordinate System
North Zone, NAD83
Elevations Based on NAVD83
Established By Survey Grade GPS & OPUS Post-Processing
API#1706442

VICTOR PAD

SITE DESIGN, CONSTRUCTION PLAN, & EROSION & SEDIMENT CONTROL PLANS

ANTERO RESOURCES CORPORATION



Well Table			
Prop. Well Standings Unit 2H WVA NAD83 N: 21102.17 WVA NAD83 E: 18476.47 LAT NAD83: 38 1817.19 LONG NAD83: 81 4189.27	Prop. Well Standings Unit 1H WVA NAD83 N: 21104.47 WVA NAD83 E: 18476.11 LAT NAD83: 38 1817.17 LONG NAD83: 81 4189.27	Prop. Well Standings Unit 2H WVA NAD83 N: 21102.28 WVA NAD83 E: 18476.11 LAT NAD83: 38 1817.17 LONG NAD83: 81 4189.27	Prop. Well Fallow Unit 1H WVA NAD83 N: 21102.17 WVA NAD83 E: 18476.47 LAT NAD83: 38 1817.19 LONG NAD83: 81 4189.27
Prop. Well Colorado Unit 2H WVA NAD83 N: 21102.17 WVA NAD83 E: 18476.47 LAT NAD83: 38 1817.19 LONG NAD83: 81 4189.27	Prop. Well Colorado Unit 1H WVA NAD83 N: 21104.47 WVA NAD83 E: 18476.11 LAT NAD83: 38 1817.17 LONG NAD83: 81 4189.27	Left Bank Intentionally	Left Bank Intentionally

Project Contacts

Antero Resources

Mike Ash - Survey Coordinator
304-380-8181 Cell

Roger Durbin - Survey Coordinator
304-651-5586

El Wagoner, Environmental Engineer
304-622-3842, ext 311 Df: 304-478-9770 Cell

John Kibicki, Engineer
817-388-1553

Dwight Woods
817-721-1436

Aaron Kuntzer, Construction Supervisor
405-227-8344

Anthony Smith, Manager WV Design & Survey
304-869-3425 Cell: 304-673-6196 Cell

Surveyor & Engineer

Bill Yetzer, P.S., E.I. - Allegheny Surveys Inc
304-446-5035 Cell: 304-619-4337 Cell

Kirk Wilson, PE - L&W Enterprises, Inc
304-257-4818 Cell: 304-668-0365 Cell

Antero will obtain an Encroachment Permit (Form MM-109) from the West Virginia Department of Transportation Division of Highways, prior to commencement of any construction activities.

Well Pad Location Restrictions:

All Pad construction complies with the following restrictions:

- * 250' from an existing well or developed spring used for human or domestic animals
- * 625' from occupied dwelling or barn greater than 2500 SF used for poultry or dairy measured from the center of the pad.
- * 100' from edge of disturbance to perennial streams, natural or artificial lake, pond or reservoir. Wetlands 4, 6, 7, 8, & 9 are impacted by Road G. Wetland 18 is impacted by Road A. Wetland 17 by the Water Containment Pad, and Wetland 11 by Road A. Army Corps of Engineers Nationwide Permits required for these wetland impacts.
- * 300' from edge of disturbance to a naturally reproducing trout stream.
- * 1000' of a surface or ground water intake to a public water supply.

FLOODPLAIN CONDITIONS	
DO SITE CONSTRUCTION ACTIVITIES TAKE PLACE IN FLOODPLAIN:	NO
PERMIT NEEDED FROM COUNTY FLOODPLAIN COORDINATOR:	NO
HEC-RAS STUDY COMPLETED:	YES
FLOODPLAIN SHOWN ON DRAWINGS:	YES
FIRM MAP NUMBER(S) FOR SITE:	54017C0235C / 54017C0240C
ACREAGES OF CONSTRUCTION IN FLOODPLAIN:	0.00 Acres

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!!



Electronic Version of These Plans May Be Viewed at: Q:\OIL GAS\SAY FILES\REVIEWS

Property Owner Information - Victor Pad					
New Milton / Greenbrier District - Doddridge County					
Owner	TIM/Parcel	Acres/Tract	Total Acres	Type of Disturbance	Acres
Victor R. Cox and	15/8	201/741	40.32	Road B & Construction Access	0.52
Wanda L. Cox				Topsoil Spoil Pile	0.07
				Well Pad	1.54
				Road D	2.25
				Engineered Fill Pad	0.91
				Total	5.28
Thomas D. and Helen L. Aggy	14/26	205/753	62.5	Road B & Construction Access	0.59
				Road A	1.47
				Water Containment Pad	0.92
				Total	2.98
Chad W. Johnson, et al	13/20	171/780	63.63	Road B & Construction Access	0.17
				Topsoil Spoil Pile	0.34
				Road A	6.77
				Road C	5.90
				Total	13.18
Chad W. Johnson, et al	15/78	273/980	24	Road C	1.18
				Well Pad	2.90
				Topsoil Spoil Pile	0.18
				Total	6.26
Michael Ryan	13-7	181/704	27.73	Engineered Fill Pad	1.24
Brooks L. Gurn	16/19	128/78	32.4	Road C	1.61
				Grand Total	30.25

Ephemeral Stream Impact (Linear feet)					
Stream and Impact Cause	Culvert (LF)	Inlet/Outlet Structures Fill (LF)	Slope Fill (LF)	Constr. Disturb. To LOD (LF)	Total Impact (LF)
Stream 3 (Access Road A)	0	8	0	24	32
Total Ephemeral Impact	0	8	0	24	32

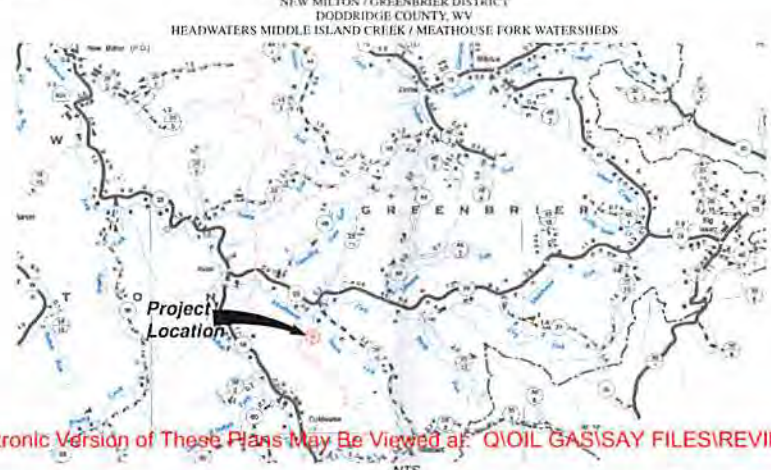
Intermittent Stream Impact (Linear feet)					
Stream and Impact Cause	Culvert (LF)	Inlet/Outlet Structures (LF)	Slope Fill (LF)	Constr. Disturb. To LOD (LF)	Total Impact (LF)
Stream 2 (Access Road A)	0	6	0	4	10
Stream 2 (Gasline Crossing)**	10	0	0	13	23
Stream 5 (Access Road C)	0	0	0	27	27
Total Intermittent Impact	10	6	0	43	59

Perennial Stream Impact (Linear feet)					
Stream and Impact Cause	Culvert (LF)	Inlet/Outlet Structures (LF)	Slope Fill (LF)	Constr. Disturb. To LOD (LF)	Total Impact (LF)
Stream 1 (Access Road A)	0	25	0	11	36
Total Perennial Impact	0	25	0	11	36
Total Stream Impacts					212

Wetland Impact (Square feet)			
Wetland and Impact Cause	Fill (SF)	Constr. Disturb. To LOD (SF)	Total Impact (SF)
Wetland 2 (Access Road C)	313	0	313
Wetland 5 (Access Road C)	812	0	812
Wetland 7 (Access Road C)	501	0	501
Wetland 8 (Access Road C)	358	0	358
Wetland 9 (Access Road C)	298	0	298
Wetland 11 (Access Road C)	2244	0	2244
Wetland 12 (Water Containment Pad)	2092	2112	4204
Wetland 18 (Access Road A)	644	360	1004
Total Square Feet	11432	2502	13934
Total Acres	0.26	0.06	0.32

- (DRAWING NOTES)
- 1 COVER SHEET LOCATION MAP
 - 2 SCHEDULE OF QUANTITIES
 - 3 CONSTRUCTION EROSION & SEDIMENT CONTROL NOTES
 - 4 EXISTING CONDITIONS
 - 5 PLAN SHEET INDEX
 - 6 12 SITE PLANS
 - 18 14 ACCESS ROAD A, C, AND D CROSS SECTIONS
 - 19 WELL PAD BASELINE PROFILE & CROSS SECTIONS
 - 16 DETAILS
 - 17 RECLAMATION PLAN

LOD Area (ac)	
Road A (1,500 feet)	8.24
Road B (255 feet) / Construction Access	1.28
Road C (2,420 feet)	15.19
Road D (830 feet)	2.20
Well Pad	4.45
Engineered Fill Pad	2.12
Topsoil Spoil Pad	0.59
Water Containment Pad	0.92
Total Affected Area	30.25
Total Wooded Acres Disturbed	16.10
Total Linear Feet of Access Road	7,206



DATE	REVISIONS
8-19-13	Updated Per New Antero Standards (Sheets: 1, 2, 3, 11, 15, & 16)
8-21-13	Updated Wetlands Delineation (Sheets: 1, 4, 5, & 6)
8-30-13	Updated Per Alistar Request (Sheets: 1, 10, 11, & 16)
11-20-13	Updated Per New Antero Standards and to Reflect Geotechnical Report (All Sheets)
12-13-13	Updated Wetlands Delineation (Sheets: 1, 4-11, & 16)
1-4-14	Revised Design and Well Layout (All Sheets)
1-14-14	Revised Site Entrance and Details (All Sheets)
2-28-14	Revised Keyway/Bench and Gabion Wall Details (Sheets: 1, 8, 9, 11, 14, 15, & 16)
3-21-14	Revised Per WVDEP Comments (Sheets: 1, 4, 10, 11, 12, & 15)

Allegheny Surveys, Inc.
172 Thompson Drive
Bridgeport, WV 26330
(304) 848-5035

L&W ENTERPRISES, INC.
1000 W. 10th Street
Martinsburg, WV 26151
(304) 263-1111

ANTERO RESOURCES
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COVER SHEET/LOCATION MAP
VICTOR PAD
NEW MILTON / GREENBRIER DISTRICT
DODDRIEGE COUNTY, WV

Date: 2/25/13
Scale: N/A
Designed By: CKW/KRM
File No: Antero 211-12
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