

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

February 22, 2013

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-1706187, issued to ANTERO RESOURCES APPALACHIAN 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 of completion of drilling, 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: DOTSON UNIT 1H
Farm Name: DAVIS, JONATHAN

API Well Number: 47-1706187

Permit Type: Horizontal 6A Well

Date Issued: 02/22/2013

Promoting a healthy environment.

09/24/2021

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17-06187

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. 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.
2. 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% (unless soil test results show a greater range of moisture content is appropriate and 95% compaction can still be achieved) 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.
3. 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.
4. 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.
5. 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.

09/24/2021

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
W.VA. CODE §22-6A - WELL WORK PERMIT APPLICATION

17 1 671

1) Well Operator: Antero Resources Appalachian Corporation 494488557 Doddridge Central West Union 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Dotson Unit 1H Well Pad Name: Existing Jonathan Davis Pad

3 Elevation, current ground: 1146' Elevation, proposed post-construction: 1146'

4) Well Type: (a) Gas Oil
Other
(b) If Gas: Shallow Deep
Horizontal

5) Existing Pad? Yes or No: Yes

6) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):
Marcellus Shale: 7,000' TVD, Anticipated Thickness- 60 feet, Associated Pressure- 3,100#

7) Proposed Total Vertical Depth: 7,000' TVD

8) Formation at Total Vertical Depth: Marcellus Shale

9) Proposed Total Measured Depth: 14,000' MD

10) Approximate Fresh Water Strata Depths: 148', 340'

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

12) Approximate Saltwater Depths: 1581'

13) Approximate Coal Seam Depths: 824'

14) Approximate Depth to Possible Void (coal mine, karst, other): None anticipated

15) Does land contain coal seams tributary or adjacent to, active mine? No

16) Describe proposed well work: 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.

17) Describe fracturing/stimulating methods in detail:
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."

18) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres): 24.44 acres existing

19) Area to be disturbed for well pad only, less access road (acres): 7.42 acres existing

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20)

CASING AND TUBING PROGRAM

TYPE	Size	New or Used	Grade	Weight per 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#	390'	390' *see above	CTS, 542 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2540'	2540'	CTS, 1034 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	14000'	14000'	3439 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7200'	
Liners							

SDW
1/25/2013

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield
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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21) 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.

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

Conductor: no additives, Class A cement.

Surface: Class A cement with 2% calcium and 1/4 lb flake, 5 gallons of clay treat

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

23) 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.

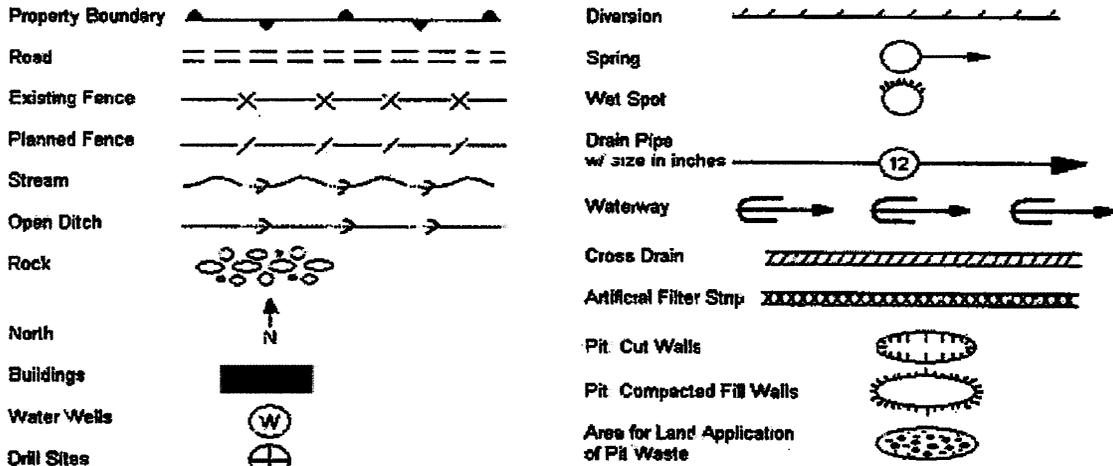
Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.

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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(Existing Pad 7.42 + Water Tank Pad 3.29 + Access Road A 12.57 + Spoil Pad 1.16 = 24.44 acres)

Proposed Revegetation Treatment: Acres Disturbed 24.44 Prevegetation pH _____
 Lime 2-3 Tons/acre or to correct to pH 6.5 *pre-seed & mulch all disturbed areas as soon as reasonably possible per WV DEP ETS manual*
 Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)
 Mulch 2-3 Tons/acre Hay or straw or Wood Fiber (will be used where needed)

Seed Mixtures

Seed Type	Area I (Temporary)	Seed Type	Area II (Permanent)
Tall Fescue	45	Tall Fescue	45
Perennial Rye Grass	20	Perennial Rye Grass	20

*or type of grass seed requested by surface owner

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: S. D. Warrick

Comments: _____

Title: Oil & Gas Inspector Date: 1/25/2013

Field Reviewed? Yes No

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Water Management Plan: Primary Water Sources



WMP- 01002

API/ID Number:

047-017-06187

Operator:

Antero Resources

Dotson Unit 1H

Important:

For each proposed primary water source (including source intakes for purchased water sources) identified in your water management plan, and summarized herein, DEP has made an evaluation concerning water availability over the specified date range. DEP's assessment is based on the following considerations:

- Statistical analysis of historical USGS stream gauge data (transferred to un-gauged locations as necessary);
- Identification of sensitive aquatic life (endangered species, mussels, etc.);
- Quantification of known existing demands on the water supply (Large Quantity Users);
- Minimum flows required by the Army Corps of Engineers; and
- Designated stream uses.

Based on these factors, DEP has provided, for each intake location (and origination point for purchased water), a reference gauge location and discharge flow reading which must be surpassed prior to withdrawals. Additionally, DEP has established a minimum passby flow at the withdrawal location which must also be surpassed prior to withdrawals. These thresholds are considered terms of the permit and are enforceable as such.

DEP is aware that some intake points will be used for mutiple wells and well sites. In these cases, the thresholds set by the Water Management Plan are to be interepreted as total withdrawal limits for each location over the specified date range regardless of how many wells are supported by that intake.

For all purchased water intakes, determinations of water availability are made at the original source intake location. It is the responsibility of the Oil and Gas Operator, not the seller, to cease withdrawal of water from the seller when flows are less than the minimum gauge reading at the stream gauge referenced by the Water Management Plan in order to protect stream uses.

Note that the determinations made herein are based on the best available data, but it is impossible to predict water availability in the future. While the DEP has carefully established these minimum withdrawal thresholds, it remains the operator's responsibility to protect aquatic life at all times. Approval to withdrawal is contingent upon permission from the land owner. It is the responsibility of the operator to secure and maintain permission prior to any withdrawals.

The operator is reminded that 24-48 hours prior to withdrawing (or purchasing) water, DEP must be notified by email at DEP.water.use@wv.gov.

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09/24/2021

Source Summary

WMP-01002

API Number:

047-017-06187

Operator:

Antero Resources

Dotson Unit 1H

Stream/River

● Source **West Fork River @ JCP Withdrawal** Owner: **James & Brenda Raines**

Start Date End Date Total Volume (gal) Max. daily purchase (gal) Intake Latitude: Intake Longitude:
3/26/2013 3/26/2014 7,070,000 39.320913 -80.337572

Regulated Stream? Stonewall Jackson Dam Ref. Gauge ID: 3061000 WEST FORK RIVER AT ENTERPRISE, WV

Max. Pump rate (gpm): **1,000** Min. Gauge Reading (cfs): **170.54** Min. Passby (cfs) **146.25**

DEP Comments:

● Source **West Fork River @ McDonald Withdrawal** Owner: **David Shrieves**

Start Date End Date Total Volume (gal) Max. daily purchase (gal) Intake Latitude: Intake Longitude:
3/26/2013 3/26/2014 7,070,000 39.16761 -80.45069

Regulated Stream? Stonewall Jackson Dam Ref. Gauge ID: 3061000 WEST FORK RIVER AT ENTERPRISE, WV

Max. Pump rate (gpm): **3,000** Min. Gauge Reading (cfs): **170.54** Min. Passby (cfs) **106.30**

DEP Comments:

● Source **West Fork River @ GAL Withdrawal** Owner: **David Shrieves**

Start Date End Date Total Volume (gal) Max. daily purchase (gal) Intake Latitude: Intake Longitude:
3/26/2013 3/26/2014 7,070,000 39.16422 -80.45173

Regulated Stream? Stonewall Jackson Dam Ref. Gauge ID: 3061000 WEST FORK RIVER AT ENTERPRISE, WV

Max. Pump rate (gpm): **1,000** Min. Gauge Reading (cfs): **170.54** Min. Passby (cfs) **106.30**

DEP Comments:

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09/24/2021

● Source **Middle Island Creek @ Dawson Withdrawal** Owner: **Gary D. and Rella A. Dawson**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
3/26/2013	3/26/2014	7,070,000		39.379292	-80.867803

Regulated Stream? Ref. Gauge ID: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Max. Pump rate (gpm): 3,000 Min. Gauge Reading (cfs): 76.03 Min. Passby (cfs) 28.83

DEP Comments:

● Source **McElroy Creek @ Forest Withdrawal** Owner: **Forest C. & Brenda L. Moore**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
3/26/2013	3/26/2014	7,070,000		39.39675	-80.738197

Regulated Stream? Ref. Gauge ID: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Max. Pump rate (gpm): 1,000 Min. Gauge Reading (cfs): 71.96 Min. Passby (cfs) 13.10

DEP Comments:

● Source **McElroy Creek @ Sweeney Withdrawal** Owner: **Bill Sweeney**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
3/26/2013	3/26/2014	7,070,000		39.398123	-80.656808

Regulated Stream? Ref. Gauge ID: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Max. Pump rate (gpm): 1,000 Min. Gauge Reading (cfs): 69.73 Min. Passby (cfs) 6.66

DEP Comments:

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09/24/2021

● Source **Meathouse Fork @ Gagnon Withdrawal**

Owner: **George L. Gagnon and Susan C. Gagnon**

Start Date End Date Total Volume (gal) Max. daily purchase (gal) Intake Latitude: Intake Longitude:
3/26/2013 3/26/2014 7,070,000 39.26054 -80.720998

Regulated Stream? Ref. Gauge ID: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Max. Pump rate (gpm): 1,000 Min. Gauge Reading (cfs): 71.96 Min. Passby (cfs) 11.74

DEP Comments:

● Source **Meathouse Fork @ Whitehair Withdrawal**

Owner: **Elton Whitehair**

Start Date End Date Total Volume (gal) Max. daily purchase (gal) Intake Latitude: Intake Longitude:
3/26/2013 3/26/2014 7,070,000 39.211317 -80.679592

Regulated Stream? Ref. Gauge ID: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Max. Pump rate (gpm): 1,000 Min. Gauge Reading (cfs): 69.73 Min. Passby (cfs) 7.28

DEP Comments:

● Source **Tom's Fork @ Erwin Withdrawal**

Owner: **John F. Erwin and Sandra E. Erwin**

Start Date End Date Total Volume (gal) Max. daily purchase (gal) Intake Latitude: Intake Longitude:
3/26/2013 3/26/2014 7,070,000 39.174306 -80.702992

Regulated Stream? Ref. Gauge ID: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Max. Pump rate (gpm): 1,000 Min. Gauge Reading (cfs): 69.73 Min. Passby (cfs) 0.59

DEP Comments:

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09/24/2021

● Source **Arnold Creek @ Davis Withdrawal**

Owner: **Jonathon Davis**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
3/26/2013	3/26/2014	7,070,000		39.302006	-80.824561

Regulated Stream? Ref. Gauge ID: **3114500** **MIDDLE ISLAND CREEK AT LITTLE, WV**

Max. Pump rate (gpm): 1,000 Min. Gauge Reading (cfs): 69.73 Min. Passby (cfs) 3.08

DEP Comments:

● Source **Buckeye Creek @ Powell Withdrawal**

Owner: **Dennis Powell**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
3/26/2013	3/26/2014	7,070,000		39.277142	-80.690386

Regulated Stream? Ref. Gauge ID: **3114500** **MIDDLE ISLAND CREEK AT LITTLE, WV**

Max. Pump rate (gpm): 1,000 Min. Gauge Reading (cfs): 69.73 Min. Passby (cfs) 4.59

DEP Comments:

● Source **South Fork of Hughes River @ Knight Withdrawal**

Owner: **Tracy C. Knight & Stephanie C. Knight**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
3/26/2013	3/26/2014	7,070,000		39.198369	-80.870969

Regulated Stream? Ref. Gauge ID: **3155220** **SOUTH FORK HUGHES RIVER BELOW MACFARLAN, WV**

Max. Pump rate (gpm): 3,000 Min. Gauge Reading (cfs): 39.80 Min. Passby (cfs) 1.95

DEP Comments:

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● Source **North Fork of Hughes River @ Davis Withdrawal**

Owner: **Lewis P. Davis and Normal J. Davis**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
3/26/2013	3/26/2014	7,070,000		39.322363	-80.936771

Regulated Stream? Ref. Gauge ID: 3155220 SOUTH FORK HUGHES RIVER BELOW MACFARLAN, WA

Max. Pump rate (gpm): **1,000** Min. Gauge Reading (cfs): **35.23** Min. Passby (cfs) **2.19**

DEP Comments:

Source Summary

WMP-01002	API Number:	047-017-06187	Operator:	Antero Resources
Dotson Unit 1H				

Purchased Water

● Source **Middle Island Creek @ Solo Construction**

Owner: **Solo Construction, LLC**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
3/26/2013	3/26/2014	7,070,000	1,000,000	39.399094	-81.185548

Regulated Stream? Ohio River Min. Flow Ref. Gauge ID: 9999999 Virtual Gauge, Ohio River @ Willow Island

Max. Pump rate (gpm): Min. Gauge Reading (cfs): **6,468.00** Min. Passby (cfs)

DEP Comments:

Elevation analysis indicates that this location has the same elevation as Middle Island Creek's pour point into the Ohio River. As such, it is deemed that water flow at this location is heavily influenced by the Ohio River.

APPROVED FOR SIGNATURE

09/24/2021

Source Detail

WMP- 01002	API/ID Number: 047-017-06187	Operator: Antero Resources
Dotson Unit 1H		

Source ID: 12472	Source Name: Middle Island Creek @ Solo Construction Solo Construction, LLC	Source Latitude: 39.399094 Source Longitude: -81.185548
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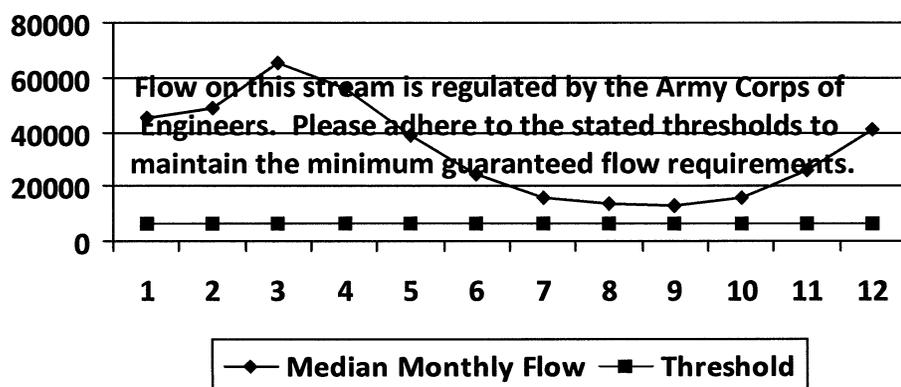
HUC-8 Code: 5030201	Drainage Area (sq. mi.): 25000	County: Pleasants	Anticipated withdrawal start date: 3/26/2013 Anticipated withdrawal end date: 3/26/2014
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<input type="checkbox"/> Endangered Species?	<input checked="" type="checkbox"/> Mussel Stream?	Total Volume from Source (gal): 7,070,000	Max. Pump rate (gpm):
<input type="checkbox"/> Trout Stream?	<input type="checkbox"/> Tier 3?		Max. Simultaneous Trucks:
<input checked="" type="checkbox"/> Regulated Stream?	Ohio River Min. Flow		Max. Truck pump rate (gpm): 0
<input checked="" type="checkbox"/> Proximate PSD?	City of St. Marys		
<input checked="" type="checkbox"/> Gauged Stream?			

Reference Gaug: 9999999	Virtual Gauge, Ohio River @ Willow Island
Drainage Area (sq. mi.): 25,000.00	Gauge Threshold (cfs): 6468

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	45,700.00	-	-
2	49,200.00	-	-
3	65,700.00	-	-
4	56,100.00	-	-
5	38,700.00	-	-
6	24,300.00	-	-
7	16,000.00	-	-
8	13,400.00	-	-
9	12,800.00	-	-
10	15,500.00	-	-
11	26,300.00	-	-
12	41,300.00	-	-

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs):	-
Upstream Demand (cfs):	0.00
Downstream Demand (cfs):	0.00
Pump rate (cfs):	-
Headwater Safety (cfs):	0.00
Ungauged Stream Safety (cfs):	0.00
Min. Gauge Reading (cfs):	-
Passby at Location (cfs):	-

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Source Detail

WMP- 01002

API/ID Number: 047-017-06187

Operator: Antero Resources

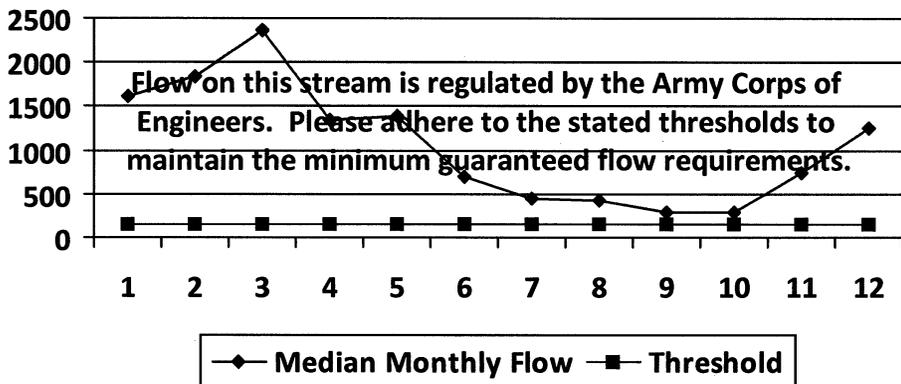
Dotson Unit 1H

Source ID: 12459	Source Name: West Fork River @ JCP Withdrawal James & Brenda Raines	Source Latitude: 39.320913	Source Longitude: -80.337572
HUC-8 Code: 5020002	Drainage Area (sq. mi.): 532.2	County: Harrison	Anticipated withdrawal start date: 3/26/2013
<input type="checkbox"/> Endangered Species?	<input checked="" type="checkbox"/> Mussel Stream?		Anticipated withdrawal end date: 3/26/2014
<input type="checkbox"/> Trout Stream?	<input type="checkbox"/> Tier 3?		Total Volume from Source (gal): 7,070,000
<input checked="" type="checkbox"/> Regulated Stream?	Stonewall Jackson Dam		Max. Pump rate (gpm): 1,000
<input type="checkbox"/> Proximate PSD?			Max. Simultaneous Trucks: 0
<input checked="" type="checkbox"/> Gauged Stream?			Max. Truck pump rate (gpm): 0

Reference Gaug: 3061000	WEST FORK RIVER AT ENTERPRISE, WV	Gauge Threshold (cfs): 234
Drainage Area (sq. mi.): 759.00		

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	1,630.82	-	-
2	1,836.14	-	-
3	2,365.03	-	-
4	1,352.59	-	-
5	1,388.37	-	-
6	695.67	-	-
7	450.73	-	-
8	430.37	-	-
9	299.45	-	-
10	293.59	-	-
11	736.74	-	-
12	1,257.84	-	-

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs):	-
Upstream Demand (cfs):	17.61
Downstream Demand (cfs):	0.00
Pump rate (cfs):	2.23
Headwater Safety (cfs):	0.00
Ungauged Stream Safety (cfs):	0.00
Min. Gauge Reading (cfs):	-
Passby at Location (cfs):	-

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Source Detail

WMP- 01002

API/ID Number: 047-017-06187

Operator:

Antero Resources

Dotson Unit 1H

Source ID: 12460

Source Name: West Fork River @ McDonald Withdrawal
David Shrieves

Source Latitude: 39.16761

Source Longitude: -80.45069

HUC-8 Code: 5020002

Drainage Area (sq. mi.): 314.91

County: Harrison

Anticipated withdrawal start date: 3/26/2013

Anticipated withdrawal end date: 3/26/2014

Endangered Species? Mussel Stream?

Trout Stream? Tier 3?

Regulated Stream? Stonewall Jackson Dam

Proximate PSD?

Gauged Stream?

Total Volume from Source (gal): 7,070,000

Max. Pump rate (gpm): 3,000

Max. Simultaneous Trucks: 0

Max. Truck pump rate (gpm): 0

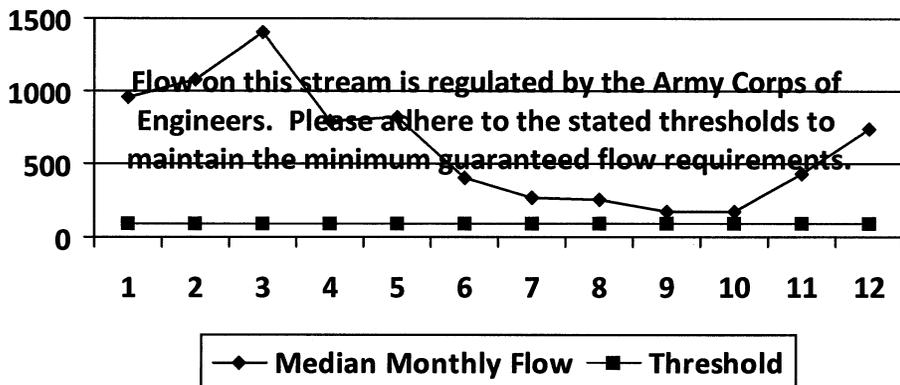
Reference Gaug: 3061000 WEST FORK RIVER AT ENTERPRISE, WV

Drainage Area (sq. mi.): 759.00

Gauge Threshold (cfs): 234

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	964.98	-	-
2	1,086.47	-	-
3	1,399.42	-	-
4	800.34	-	-
5	821.52	-	-
6	411.64	-	-
7	266.70	-	-
8	254.66	-	-
9	177.19	-	-
10	173.72	-	-
11	435.94	-	-
12	744.28	-	-

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs):	-
Upstream Demand (cfs):	17.61
Downstream Demand (cfs):	0.00
Pump rate (cfs):	6.68
Headwater Safety (cfs):	24.27
Ungauged Stream Safety (cfs):	0.00
Min. Gauge Reading (cfs):	-
Passby at Location (cfs):	-

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Source Detail

WMP- 01002

API/ID Number: 047-017-06187

Operator: Antero Resources

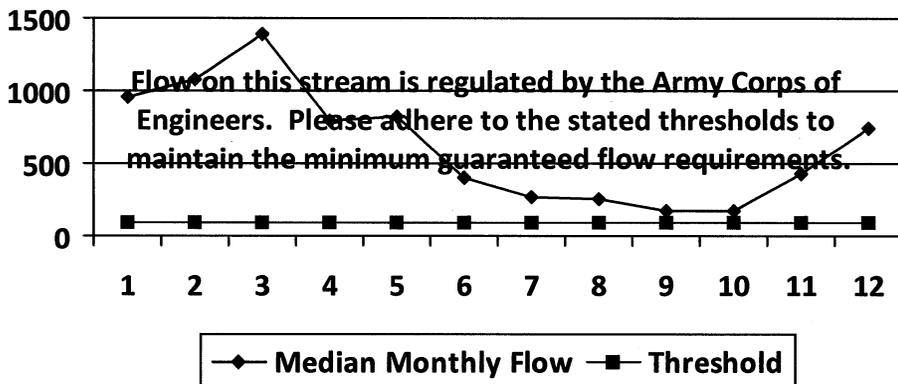
Dotson Unit 1H

Source ID: 12461	Source Name: West Fork River @ GAL Withdrawal David Shrieves	Source Latitude: 39.16422	Source Longitude: -80.45173
HUC-8 Code: 5020002	Drainage Area (sq. mi.): 313.67	County: Harrison	Anticipated withdrawal start date: 3/26/2013
<input type="checkbox"/> Endangered Species?	<input checked="" type="checkbox"/> Mussel Stream?		Anticipated withdrawal end date: 3/26/2014
<input type="checkbox"/> Trout Stream?	<input type="checkbox"/> Tier 3?		Total Volume from Source (gal): 7,070,000
<input checked="" type="checkbox"/> Regulated Stream?	Stonewall Jackson Dam		Max. Pump rate (gpm): 1,000
<input type="checkbox"/> Proximate PSD?			Max. Simultaneous Trucks: 0
<input checked="" type="checkbox"/> Gauged Stream?			Max. Truck pump rate (gpm): 0

Reference Gaug: 3061000	WEST FORK RIVER AT ENTERPRISE, WV	
Drainage Area (sq. mi.): 759.00	Gauge Threshold (cfs): 234	

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	961.18	-	-
2	1,082.19	-	-
3	1,393.91	-	-
4	797.19	-	-
5	818.28	-	-
6	410.02	-	-
7	265.65	-	-
8	253.65	-	-
9	176.49	-	-
10	173.04	-	-
11	434.22	-	-
12	741.35	-	-

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs):	-
Upstream Demand (cfs):	17.61
Downstream Demand (cfs):	0.00
Pump rate (cfs):	2.23
Headwater Safety (cfs):	24.18
Ungauged Stream Safety (cfs):	0.00
<hr/>	
Min. Gauge Reading (cfs):	-
Passby at Location (cfs):	-

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Source Detail

WMP- 01002 API/ID Number: 047-017-06187 Operator: Antero Resources
 Dotson Unit 1H

Source ID: 12462 Source Name: Middle Island Creek @ Dawson Withdrawal
 Gary D. and Rella A. Dawson Source Latitude: 39.379292
 Source Longitude: -80.867803

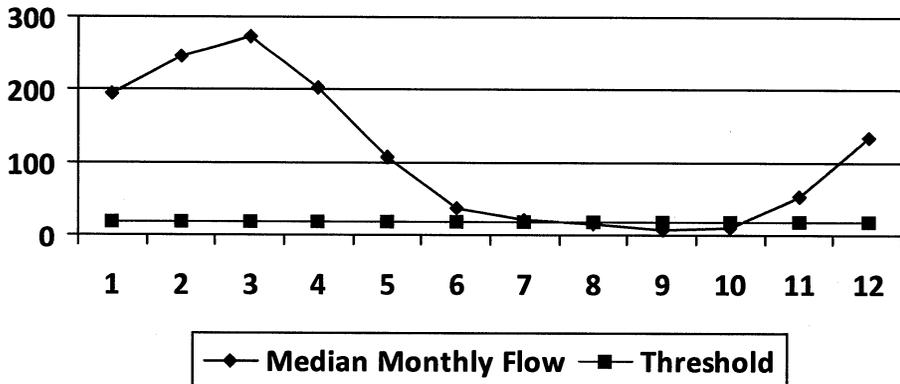
HUC-8 Code: 5030201 Anticipated withdrawal start date: 3/26/2013
 Drainage Area (sq. mi.): 181.34 County: Tyler Anticipated withdrawal end date: 3/26/2014
 Total Volume from Source (gal): 7,070,000

Endangered Species? Mussel Stream?
 Trout Stream? Tier 3?
 Regulated Stream?
 Proximate PSD?
 Gauged Stream? Max. Pump rate (gpm): 3,000
 Max. Simultaneous Trucks: 0
 Max. Truck pump rate (gpm): 0

Reference Gaug: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV
 Drainage Area (sq. mi.): 458.00 Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	194.47	42.06	152.68
2	244.62	42.06	202.83
3	273.72	42.06	231.93
4	203.26	42.06	161.47
5	107.22	42.06	65.43
6	37.44	42.06	-4.35
7	21.19	42.06	-20.60
8	17.45	42.06	-24.34
9	8.94	42.06	-32.85
10	11.23	42.06	-30.56
11	54.82	42.06	13.04
12	133.96	42.06	92.17

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs): 17.82
 Upstream Demand (cfs): 13.10
 Downstream Demand (cfs): 6.55
 Pump rate (cfs): 6.68
 Headwater Safety (cfs): 4.45
 Ungauged Stream Safety (cfs): 0.00

Min. Gauge Reading (cfs): 76.03
 Passby at Location (cfs): 28.82

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Source Detail

WMP- 01002 API/ID Number: 047-017-06187 Operator: Antero Resources

Dotson Unit 1H

Source ID: 12463 Source Name: McElroy Creek @ Forest Withdrawal
 Forest C. & Brenda L. Moore Source Latitude: 39.39675
 Source Longitude: -80.738197

HUC-8 Code: 5030201

Drainage Area (sq. mi.): 88.85 County: Tyler

Anticipated withdrawal start date: 3/26/2013

Anticipated withdrawal end date: 3/26/2014

Total Volume from Source (gal): 7,070,000

Max. Pump rate (gpm): 1,000

Max. Simultaneous Trucks: 0

Max. Truck pump rate (gpm): 0

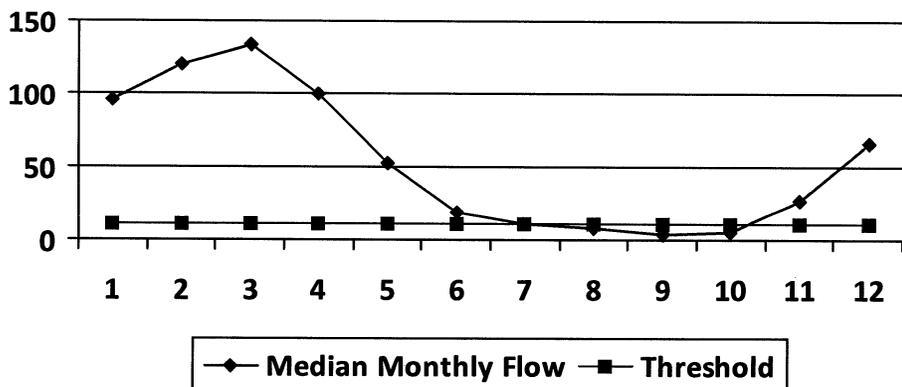
- Endangered Species? Mussel Stream?
- Trout Stream? Tier 3?
- Regulated Stream?
- Proximate PSD?
- Gauged Stream?

Reference Gaug: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Drainage Area (sq. mi.): 458.00 Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	95.28	17.55	77.91
2	119.86	17.55	102.48
3	134.11	17.55	116.74
4	99.59	17.55	82.22
5	52.54	17.55	35.16
6	18.35	17.55	0.97
7	10.38	17.55	-6.99
8	8.55	17.55	-8.82
9	4.38	17.55	-13.00
10	5.50	17.55	-11.87
11	26.86	17.55	9.49
12	65.63	17.55	48.26

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs): 8.73
 Upstream Demand (cfs): 2.23
 Downstream Demand (cfs): 0.00
 Pump rate (cfs): 2.23
 Headwater Safety (cfs): 2.18
 Ungauged Stream Safety (cfs): 2.18

Min. Gauge Reading (cfs): 71.96
 Passby at Location (cfs): 13.09

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Source Detail

WMP-01002

API/ID Number: 047-017-06187

Operator: Antero Resources

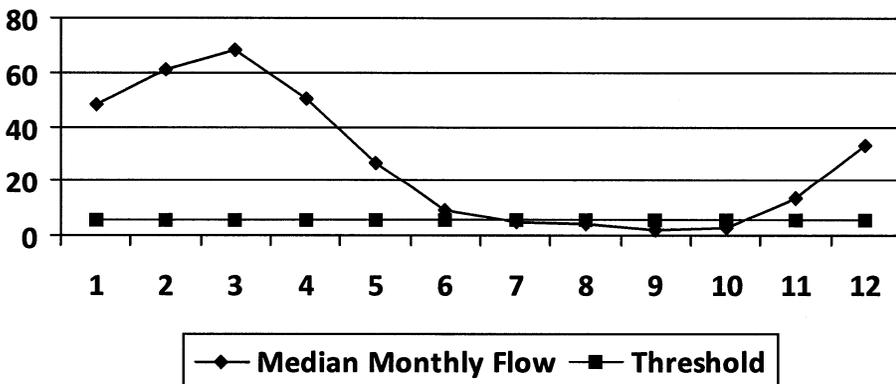
Dotson Unit 1H

Source ID: 12464	Source Name: McElroy Creek @ Sweeney Withdrawal Bill Sweeney	Source Latitude: 39.398123
		Source Longitude: -80.656808
HUC-8 Code: 5030201	Drainage Area (sq. mi.): 45.16	County: Doddridge
<input checked="" type="checkbox"/> Endangered Species?	<input checked="" type="checkbox"/> Mussel Stream?	Anticipated withdrawal start date: 3/26/2013
<input type="checkbox"/> Trout Stream?	<input type="checkbox"/> Tier 3?	Anticipated withdrawal end date: 3/26/2014
<input type="checkbox"/> Regulated Stream?		Total Volume from Source (gal): 7,070,000
<input type="checkbox"/> Proximate PSD?		Max. Pump rate (gpm): 1,000
<input type="checkbox"/> Gauged Stream?		Max. Simultaneous Trucks: 0
		Max. Truck pump rate (gpm): 0

Reference Gaug: 3114500	MIDDLE ISLAND CREEK AT LITTLE, WV	
Drainage Area (sq. mi.): 458.00		Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	48.43	8.88	39.93
2	60.92	8.88	52.42
3	68.17	8.88	59.67
4	50.62	8.88	42.12
5	26.70	8.88	18.21
6	9.32	8.88	0.83
7	5.28	8.88	-3.22
8	4.34	8.88	-4.15
9	2.23	8.88	-6.27
10	2.80	8.88	-5.70
11	13.65	8.88	5.16
12	33.36	8.88	24.86

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs):	4.44
Upstream Demand (cfs):	0.00
Downstream Demand (cfs):	0.00
Pump rate (cfs):	2.23
Headwater Safety (cfs):	1.11
Ungauged Stream Safety (cfs):	1.11
Min. Gauge Reading (cfs):	69.73
Passby at Location (cfs):	6.66

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Source Detail

WMP- 01002

API/ID Number: 047-017-06187

Operator: Antero Resources

Dotson Unit 1H

Source ID: 12465 Source Name: Meathouse Fork @ Gagnon Withdrawal
 George L. Gagnon and Susan C. Gagnon Source Latitude: 39.26054
 Source Longitude: -80.720998

HUC-8 Code: 5030201

Drainage Area (sq. mi.): 60.6 County: Doddridge

Anticipated withdrawal start date: 3/26/2013

Anticipated withdrawal end date: 3/26/2014

Endangered Species? Mussel Stream?

Total Volume from Source (gal): 7,070,000

Trout Stream? Tier 3?

Max. Pump rate (gpm): 1,000

Regulated Stream?

Max. Simultaneous Trucks: 0

Proximate PSD?

Max. Truck pump rate (gpm): 0

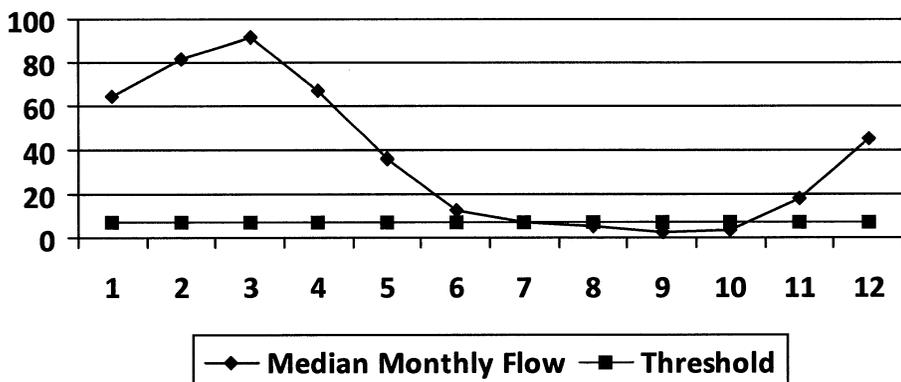
Gauged Stream?

Reference Gaug: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Drainage Area (sq. mi.): 458.00 Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	64.99	13.39	51.70
2	81.75	13.39	68.46
3	91.47	13.39	78.19
4	67.93	13.39	54.64
5	35.83	13.39	22.55
6	12.51	13.39	-0.77
7	7.08	13.39	-6.20
8	5.83	13.39	-7.45
9	2.99	13.39	-10.30
10	3.75	13.39	-9.53
11	18.32	13.39	5.04
12	44.76	13.39	31.48

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs): 5.95

Upstream Demand (cfs): 2.23

Downstream Demand (cfs): 2.81

Pump rate (cfs): 2.23

Headwater Safety (cfs): 1.49

Ungauged Stream Safety (cfs): 1.49

Min. Gauge Reading (cfs): 71.96

Passby at Location (cfs): 11.74

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Source Detail

WMP- 01002

API/ID Number: 047-017-06187

Operator: Antero Resources

Dotson Unit 1H

Source ID: 12466 Source Name Meathouse Fork @ Whitehair Withdrawal
Elton Whitehair

Source Latitude: 39.211317
Source Longitude: -80.679592

HUC-8 Code: 5030201

Drainage Area (sq. mi.): 30.37 County: Doddridge

Anticipated withdrawal start date: 3/26/2013

Anticipated withdrawal end date: 3/26/2014

Endangered Species? Mussel Stream?

Total Volume from Source (gal): 7,070,000

Trout Stream?

Tier 3?

Max. Pump rate (gpm): 1,000

Regulated Stream?

Max. Simultaneous Trucks: 0

Proximate PSD?

Max. Truck pump rate (gpm) 0

Gauged Stream?

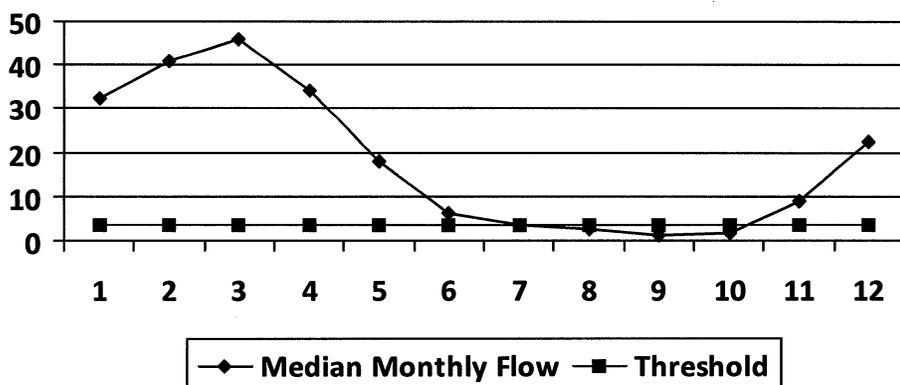
Reference Gaug 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Drainage Area (sq. mi.) 458.00

Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	32.57	6.70	26.15
2	40.97	6.70	34.55
3	45.84	6.70	39.42
4	34.04	6.70	27.62
5	17.96	6.70	11.54
6	6.27	6.70	-0.15
7	3.55	6.70	-2.87
8	2.92	6.70	-3.50
9	1.50	6.70	-4.92
10	1.88	6.70	-4.54
11	9.18	6.70	2.76
12	22.43	6.70	16.01

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs):	2.98
Upstream Demand (cfs):	0.00
Downstream Demand (cfs):	2.81
Pump rate (cfs):	2.23
Headwater Safety (cfs):	0.75
Ungauged Stream Safety (cfs):	0.75
Min. Gauge Reading (cfs):	69.73
Passby at Location (cfs):	7.29

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Source Detail

WMP-01002 API/ID Number: 047-017-06187 Operator: Antero Resources
Dotson Unit 1H

Source ID: 12467 Source Name: Tom's Fork @ Erwin Withdrawal
John F. Erwin and Sandra E. Erwin Source Latitude: 39.174306
Source Longitude: -80.702992

HUC-8 Code: 5030201 Anticipated withdrawal start date: 3/26/2013
 Drainage Area (sq. mi.): 4.01 County: Doddridge Anticipated withdrawal end date: 3/26/2014
 Total Volume from Source (gal): 7,070,000

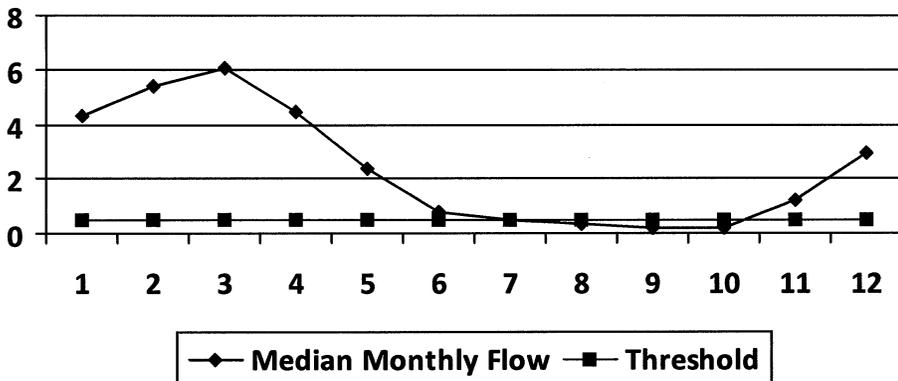
Endangered Species? Mussel Stream?
 Trout Stream? Tier 3?
 Regulated Stream?
 Proximate PSD?
 Gauged Stream?

Max. Pump rate (gpm): 1,000
 Max. Simultaneous Trucks: 0
 Max. Truck pump rate (gpm): 0

Reference Gaug: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV
 Drainage Area (sq. mi.): 458.00 Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	4.30	2.82	1.88
2	5.41	2.82	2.98
3	6.05	2.82	3.63
4	4.49	2.82	2.07
5	2.37	2.82	-0.05
6	0.83	2.82	-1.60
7	0.47	2.82	-1.96
8	0.39	2.82	-2.04
9	0.20	2.82	-2.23
10	0.25	2.82	-2.18
11	1.21	2.82	-1.21
12	2.96	2.82	0.54

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs): 0.39
 Upstream Demand (cfs): 0.00
 Downstream Demand (cfs): 0.00
 Pump rate (cfs): 2.23
 Headwater Safety (cfs): 0.10
 Ungauged Stream Safety (cfs): 0.10

Min. Gauge Reading (cfs): 69.73
 Passby at Location (cfs): 0.59

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Source Detail

WMP-01002

API/ID Number: 047-017-06187

Operator: Antero Resources

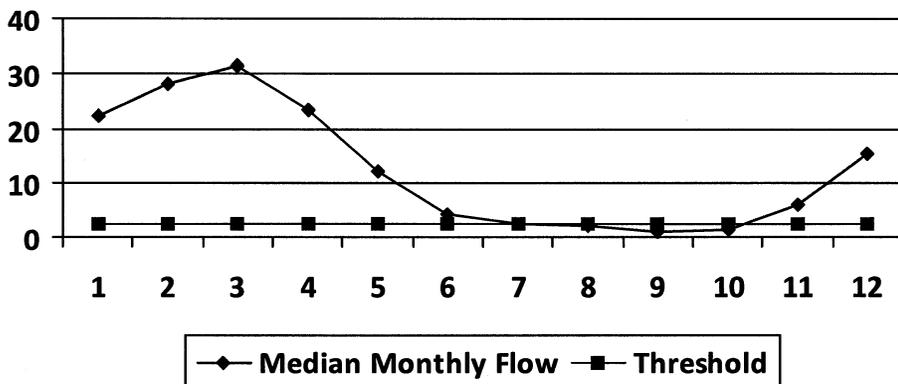
Dotson Unit 1H

Source ID: 12468	Source Name: Arnold Creek @ Davis Withdrawal Jonathon Davis	Source Latitude: 39.302006	Source Longitude: -80.824561
HUC-8 Code: 5030201	Drainage Area (sq. mi.): 20.83	County: Doddridge	Anticipated withdrawal start date: 3/26/2013
<input type="checkbox"/> Endangered Species?	<input checked="" type="checkbox"/> Mussel Stream?		Anticipated withdrawal end date: 3/26/2014
<input type="checkbox"/> Trout Stream?	<input type="checkbox"/> Tier 3?		Total Volume from Source (gal): 7,070,000
<input type="checkbox"/> Regulated Stream?			Max. Pump rate (gpm): 1,000
<input type="checkbox"/> Proximate PSD?			Max. Simultaneous Trucks: 0
<input type="checkbox"/> Gauged Stream?			Max. Truck pump rate (gpm): 0

Reference Gaug: 3114500	MIDDLE ISLAND CREEK AT LITTLE, WV
Drainage Area (sq. mi.): 458.00	Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	22.34	5.30	17.29
2	28.10	5.30	23.05
3	31.44	5.30	26.39
4	23.35	5.30	18.30
5	12.32	5.30	7.26
6	4.30	5.30	-0.75
7	2.43	5.30	-2.62
8	2.00	5.30	-3.05
9	1.03	5.30	-4.03
10	1.29	5.30	-3.76
11	6.30	5.30	1.25
12	15.39	5.30	10.34

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs):	2.05
Upstream Demand (cfs):	0.00
Downstream Demand (cfs):	0.00
Pump rate (cfs):	2.23
Headwater Safety (cfs):	0.51
Ungauged Stream Safety (cfs):	0.51
Min. Gauge Reading (cfs):	69.73
Passby at Location (cfs):	3.07

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Source Detail

WMP-01002 API/ID Number: 047-017-06187 Operator: Antero Resources
 Dotson Unit 1H

Source ID: 12469 Source Name: Buckeye Creek @ Powell Withdrawal
 Dennis Powell Source Latitude: 39.277142
 Source Longitude: -80.690386

HUC-8 Code: 5030201 Anticipated withdrawal start date: 3/26/2013
 Drainage Area (sq. mi.): 31.15 County: Doddridge Anticipated withdrawal end date: 3/26/2014
 Total Volume from Source (gal): 7,070,000

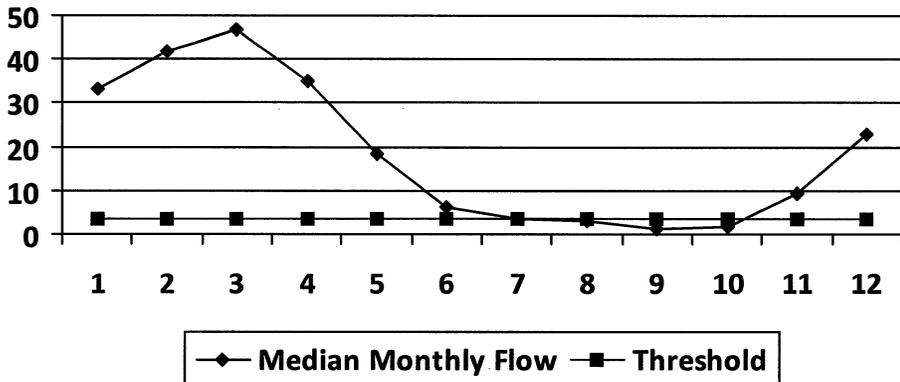
Endangered Species? Mussel Stream?
 Trout Stream? Tier 3?
 Regulated Stream?
 Proximate PSD?
 Gauged Stream?

Max. Pump rate (gpm): 1,000
 Max. Simultaneous Trucks: 0
 Max. Truck pump rate (gpm): 0

Reference Gaug: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV
 Drainage Area (sq. mi.): 458.00 Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	33.41	6.82	26.95
2	42.02	6.82	35.56
3	47.02	6.82	40.56
4	34.92	6.82	28.46
5	18.42	6.82	11.96
6	6.43	6.82	-0.03
7	3.64	6.82	-2.82
8	3.00	6.82	-3.46
9	1.53	6.82	-4.92
10	1.93	6.82	-4.53
11	9.42	6.82	2.96
12	23.01	6.82	16.55

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs): 3.06
 Upstream Demand (cfs): 0.00
 Downstream Demand (cfs): 0.00
 Pump rate (cfs): 2.23
 Headwater Safety (cfs): 0.77
 Ungauged Stream Safety (cfs): 0.77

Min. Gauge Reading (cfs): 69.73
 Passby at Location (cfs): 4.59

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Source Detail

WMP- 01002 API/ID Number: 047-017-06187 Operator: Antero Resources
 Dotson Unit 1H

Source ID: 12470 Source Name: South Fork of Hughes River @ Knight Withdrawal
 Tracy C. Knight & Stephanie C. Knight Source Latitude: 39.198369
 Source Longitude: -80.870969

HUC-8 Code: 5030203 Anticipated withdrawal start date: 3/26/2013
 Drainage Area (sq. mi.): 16.26 County: Ritchie Anticipated withdrawal end date: 3/26/2014

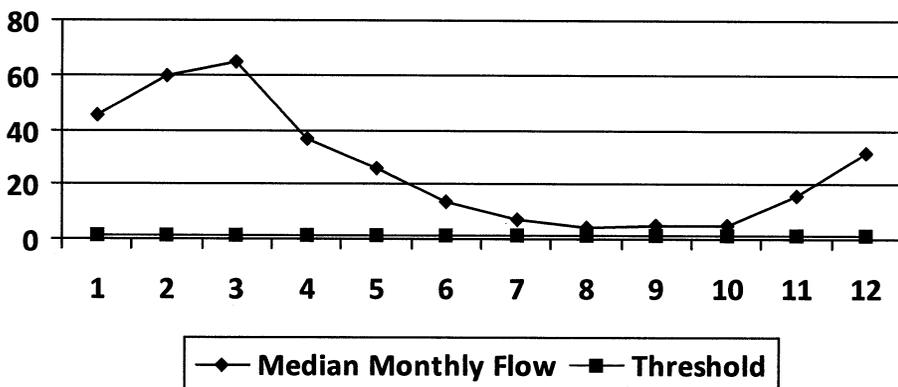
Endangered Species? Mussel Stream?
 Trout Stream? Tier 3?
 Regulated Stream?
 Proximate PSD?
 Gauged Stream?

Total Volume from Source (gal): 7,070,000
 Max. Pump rate (gpm): 3,000
 Max. Simultaneous Trucks: 0
 Max. Truck pump rate (gpm): 0

Reference Gaug: 3155220 SOUTH FORK HUGHES RIVER BELOW MACFARLAN, WV
 Drainage Area (sq. mi.): 229.00 Gauge Threshold (cfs): 22

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	45.67	14.26	31.44
2	59.55	14.26	45.31
3	65.21	14.26	50.97
4	36.87	14.26	22.63
5	25.86	14.26	11.63
6	13.90	14.26	-0.33
7	6.89	14.26	-7.34
8	3.98	14.26	-10.25
9	4.79	14.26	-9.45
10	5.20	14.26	-9.04
11	15.54	14.26	1.30
12	32.06	14.26	17.82

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs): 1.56
 Upstream Demand (cfs): 5.62
 Downstream Demand (cfs): 0.00
 Pump rate (cfs): 6.68
 Headwater Safety (cfs): 0.39
 Ungauged Stream Safety (cfs): 0.00

Min. Gauge Reading (cfs): 39.80
 Passby at Location (cfs): 1.95

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Source Detail

WMP-01002

API/ID Number: 047-017-06187

Operator: Antero Resources

Dotson Unit 1H

Source ID: 12471 Source Name: North Fork of Hughes River @ Davis Withdrawal Source Latitude: 39.322363
 Lewis P. Davis and Normal J. Davis Source Longitude: -80.936771

HUC-8 Code: 5030203

Drainage Area (sq. mi.): 15.18 County: Ritchie

Anticipated withdrawal start date: 3/26/2013

Anticipated withdrawal end date: 3/26/2014

- Endangered Species?
- Trout Stream?
- Regulated Stream?
- Proximate PSD?
- Gauged Stream?
- Mussel Stream?
- Tier 3?

Total Volume from Source (gal): 7,070,000

Max. Pump rate (gpm): 1,000

Max. Simultaneous Trucks: 0

Max. Truck pump rate (gpm): 0

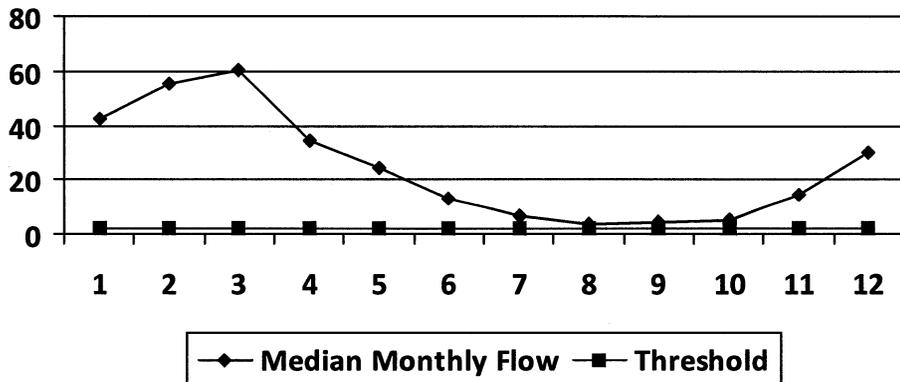
Reference Gaug: 3155220 SOUTH FORK HUGHES RIVER BELOW MACFARLAN, WV

Drainage Area (sq. mi.): 229.00

Gauge Threshold (cfs): 22

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	42.64	4.42	38.36
2	55.59	4.42	51.32
3	60.88	4.42	56.60
4	34.42	4.42	30.14
5	24.15	4.42	19.87
6	12.98	4.42	8.70
7	6.44	4.42	2.16
8	3.72	4.42	-0.56
9	4.47	4.42	0.19
10	4.85	4.42	0.57
11	14.50	4.42	10.23
12	29.93	4.42	25.65

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs):	1.46
Upstream Demand (cfs):	0.00
Downstream Demand (cfs):	0.00
Pump rate (cfs):	2.23
Headwater Safety (cfs):	0.36
Ungauged Stream Safety (cfs):	0.36
Min. Gauge Reading (cfs):	35.23
Passby at Location (cfs):	2.19

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.



Water Management Plan: Secondary Water Sources



WMP- 01002	API/ID Number	047-017-06187	Operator:	Antero Resources
Dotson Unit 1H				

Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

- For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.
- For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Lake/Reservoir

Source ID:	12473	Source Name	City of Salem Reservoir (Lower Dog Run)	Source start date:	3/26/2013
				Source end date:	3/26/2014
		Max. Daily Purchase (gal)	1,000,000	Total Volume from Source (gal):	7,070,000

DEP Comments:

APPROVED FEB 22 2013

09/24/2021

Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

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- For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Source ID: 12474	Source Name: Pennsboro Lake	Source start date: 3/26/2013
		Source end date: 3/26/2014
Max. Daily Purchase (gal):		Total Volume from Source (gal): 7,070,000

DEP Comments:

[Empty text box for DEP Comments]

Source ID: 12475	Source Name: Powers Lake (Wilderness Water Park Dam)	Source start date: 3/26/2013
		Source end date: 3/26/2014
Max. Daily Purchase (gal):		Total Volume from Source (gal): 7,070,000

DEP Comments:

[Empty text box for DEP Comments]

APPROVED FEB 22 2013

09/24/2021

WMP-01002

API/ID Number

047-017-06187

Operator:

Antero Resources

Dotson Unit 1H

Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

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- For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Source ID:	12476	Source Name	Powers Lake Two	Source start date:	3/26/2013
				Source end date:	3/26/2014
		Max. Daily Purchase (gal)		Total Volume from Source (gal):	7,070,000

DEP Comments:

[Empty text box for DEP Comments]

APPROVED FEB 2 2 2013

09/24/2021

Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

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- For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Other

Source ID:	12477	Source Name	Poth Lake (Landowner Pond)	Source start date:	3/26/2013
				Source end date:	3/26/2014
		Max. Daily Purchase (gal)		Total Volume from Source (gal):	7,070,000
DEP Comments:					

Source ID:	12478	Source Name	Williamson Pond (Landowner Pond)	Source start date:	3/26/2013
				Source end date:	3/26/2014
		Max. Daily Purchase (gal)		Total Volume from Source (gal):	7,070,000
DEP Comments:					

APPROVED FEB 2 2 2013

09/24/2021

Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

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- For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Source ID: 12479	Source Name: Eddy Pond (Landowner Pond)	Source start date: 3/26/2013
		Source end date: 3/26/2014
Max. Daily Purchase (gal)		Total Volume from Source (gal): 7,070,000

DEP Comments:

[Empty text box for comments]

Source ID: 12480	Source Name: Hog Lick Quarry	Source start date: 3/26/2013
		Source end date: 3/26/2014
Max. Daily Purchase (gal)	1,000,000	Total Volume from Source (gal): 7,070,000

DEP Comments:

[Empty text box for comments]

APPROVED

09/24/2021

Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

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- For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Source ID:	12481	Source Name	Glade Fork Mine	Source start date:	3/26/2013
				Source end date:	3/26/2014
		Max. Daily Purchase (gal)	1,000,000	Total Volume from Source (gal):	7,070,000

DEP Comments:

[Empty text box for DEP Comments]

Recycled Frac Water

Source ID:	12482	Source Name	Seaborn Unit 1H	Source start date:	3/26/2013
				Source end date:	3/26/2014
		Max. Daily Purchase (gal)		Total Volume from Source (gal):	7,070,000

DEP Comments:

[Empty text box for DEP Comments]

APPROVED FOR SIGNATURE

09/24/2021

17-06187



Well Site Safety Plan Antero Resources

Well Name: Dotson Unit 1H, Dotson Unit 2H, Piggot Unit 1H, Piggot Unit 2H, Valentine Unit 1H and Valentine Unit 2H

Pad Location: JONATHAN DAVIS PAD
(Doddridge County/Central District)

GPS Coordinates: Lat 39°17'57.76"/Long 80°49'43.44"

Driving Directions: From the intersection of I-79 and Hwy 50 near Clarksburg, head west on Hwy 50 for ~ 31.3 miles, then turn RIGHT at Arnolds Creek Rd (Co Route 1/1). In ~2.1 miles, continue on road, which becomes Stone Valley Rd (Co Route 36). In ~0.4 miles, bear RIGHT to get on Co Route 36/1. In ~ 0.7 miles, look for rig signs and lease road on the RIGHT. Follow lease road to location.

SDW
1/25/2013

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Office of Oil & Gas

JAN 28 2013

SSP Page 1

WV Department of
Environment 09/24/2021



PETRA 1/4/2012 4:16:23 PM

17-06187 H6A DOTSON UNIT 1H
 ANTERO RESOURCES

PAD NAME: JONATHAN DAVIS

Antero Resources Corporation

APPALACHIAN BASIN

Dotson Unit 1H

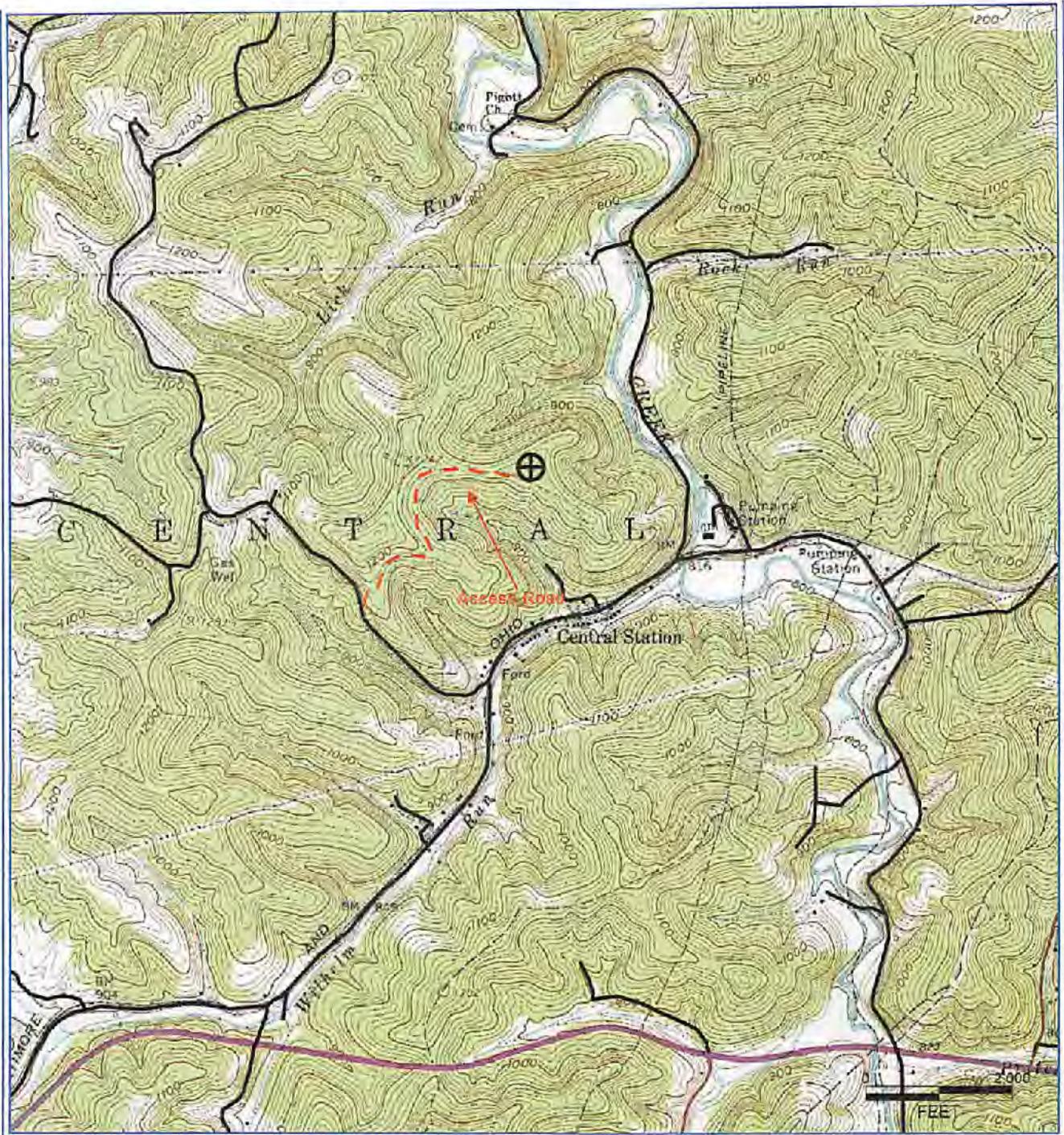
Doddridge County



REMARKS
 QUADRANGLE: WEST UNION
 WATERSHED: ARNOLD CREEK
 DISTRICT: CENTRAL

Date: 01/03/2013

09/24/2021



PETRA 1/4/2012 4:15:23 PM

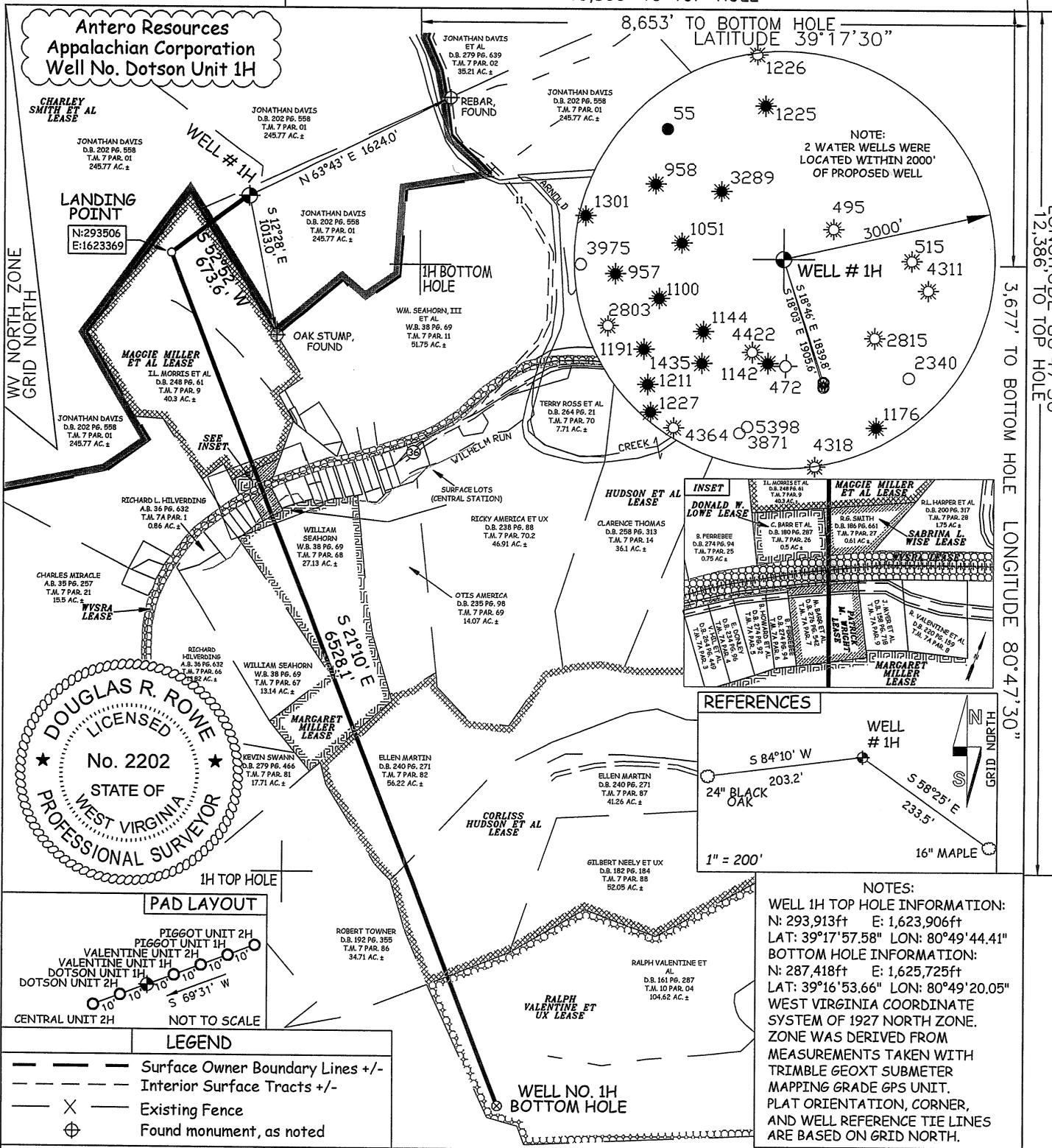
17-06187 H6A DOTSON UNIT 1H
 ANTERO RESOURCES

PAD NAME: JONATHAN DAVIS

Antero Resources Corporation
APPALACHIAN BASIN
Dotson Unit 1H Doddridge County
REMARKS QUADRANGLE: WEST UNION WATERSHED: ARNOLD CREEK DISTRICT: CENTRAL
Date: 01/03/2013 09/24/2021

LATITUDE 39°20'00"
10,566' TO TOP HOLE

LONGITUDE 80°47'30"
12,386' TO TOP HOLE
3,677' TO BOTTOM HOLE

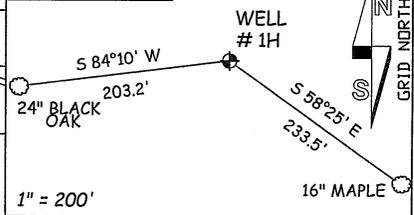


**Antero Resources
Appalachian Corporation
Well No. Dotson Unit 1H**

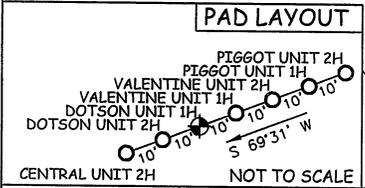
DOUGLAS R. ROWE
LICENSED
No. 2202
STATE OF
WEST VIRGINIA
PROFESSIONAL SURVEYOR

NOTE:
2 WATER WELLS WERE
LOCATED WITHIN 2000'
OF PROPOSED WELL

REFERENCES



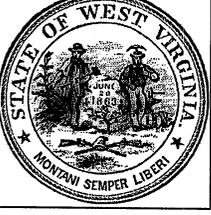
NOTES:
WELL 1H TOP HOLE INFORMATION:
N: 293,913ft E: 1,623,906ft
LAT: 39°17'57.58" LON: 80°49'44.41"
BOTTOM HOLE INFORMATION:
N: 287,418ft E: 1,625,725ft
LAT: 39°16'53.66" LON: 80°49'20.05"
WEST VIRGINIA COORDINATE
SYSTEM OF 1927 NORTH ZONE.
ZONE WAS DERIVED FROM
MEASUREMENTS TAKEN WITH
TRIMBLE GEOXT SUBMETER
MAPPING GRADE 6PS UNIT.
PLAT ORIENTATION, CORNER,
AND WELL REFERENCE TIE LINES
ARE BASED ON GRID NORTH.



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

JOB # 12-099WA
DRAWING # DOTSON1H
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WILLOW LAND SURVEYING PLLC
266 HUSHERS RUN RD PENNSBORO WEST VIRGINIA 26415

(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 1H TOP HOLE INFORMATION:
N: 4,350,017m E: 514,759m
BOTTOM HOLE INFORMATION:
N: 4,348,048m E: 515,347m

DJR
DOUGLAS R. ROWE P.S. 2202
DATE 01/03/13
OPERATOR'S WELL# DOTSON UNIT 1H
API WELL #

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 1,146' WATERSHED ARNOLD CREEK DISTRICT CENTRAL COUNTY DODDRIDGE
QUADRANGLE WEST UNION 7.5'

SURFACE OWNER JONATHAN DAVIS ACREAGE 245.77 ACRES +/-
OIL & GAS ROYALTY OWNER CHARLEY SMITH ET AL; MAGGIE MILLER ET AL; SABRINA L. WISE; DONALD W. LOWE; LEASE ACREAGE 213 AC; 40 AC; 0.478 AC; 0.50 AC;
WV STATE RAIL AUTHORITY; PATRICK M. WRIGHT; MARGARET MILLER; CORLISS HUDSON ET AL; RALPH VALENTINE ET UX 301.19 AC; 0.65 AC; 27.13 AC; 244.6 AC; 104.62 AC
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 ___ ESTIMATED DEPTH 7,000' TVD 14,000' MD
TARGET FORMATION MARCELLUS
WELL OPERATOR ANTERO RESOURCES APPALACHIAN CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1625 17TH STREET ADDRESS CT CORPORATION SYSTEM
DENVER, CO 80202 CHARLESTON, WV 25313

09/24/2021

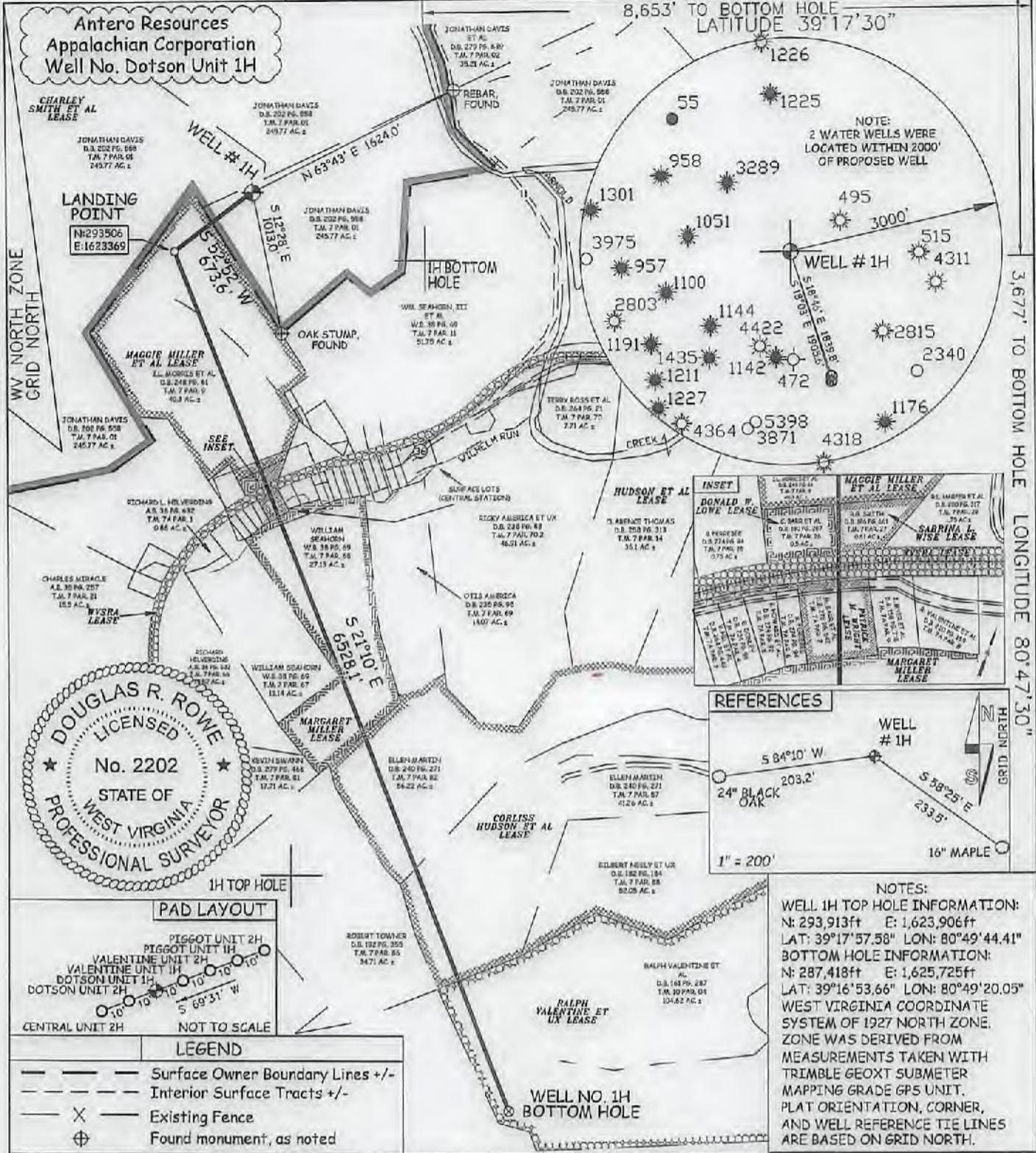
COUNTY NAME PERMIT

LATITUDE 39°20'00"
10,566' TO TOP HOLE

8,653' TO BOTTOM HOLE
LATITUDE 39°17'30"

LONGITUDE 80°47'30"
12,386' TO TOP HOLE

3,677' TO BOTTOM HOLE
LONGITUDE 80°47'30"



**Antero Resources
Appalachian Corporation
Well No. Dotson Unit 1H**

CHARLEY SMITH ET AL LEASE
JONATHAN DAVIS D.B. 202 PG. 558 T.M. 7 PAR. 01 249.77 AC ±
JONATHAN DAVIS D.B. 202 PG. 558 T.M. 7 PAR. 01 249.77 AC ±

LANDING POINT
N: 293506 E: 1623366

MAGGIE MILLER ET AL LEASE
ELLEN MARTIN D.B. 240 PG. 271 T.M. 7 PAR. 01 54.22 AC ±

WYBRA LEASE
CHARLES MIRACLE A.S. 30 PG. 257 T.M. 7 PAR. 01 185 AC ±

DOUGLAS R. ROWE LICENSED PROFESSIONAL SURVEYOR No. 2202 STATE OF WEST VIRGINIA

WELL # 1H
S 5°10'10" W 203.2'

24" BLACK OAK
S 58°25' E 233.5'

16" MAPLE

NOTES:
WELL 1H TOP HOLE INFORMATION:
N: 293,913ft E: 1,623,906ft
LAT: 39°17'57.58" LON: 80°49'44.41"
BOTTOM HOLE INFORMATION:
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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.

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

JOB # 12-099WA
DRAWING # DOTSON1H
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
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266 HUSHERS RUN RD PENNSBORO WEST VIRGINIA 26415

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N: 4,350,017m E: 514,759m
BOTTOM HOLE INFORMATION:
N: 4,348,048m E: 515,347m

DOUGLAS R. ROWE P.S. 2202

DATE 01/03/13
OPERATOR'S WELL# DOTSON UNIT 1H
API WELL #

STATE COUNTY PERMIT
47 - 017 - 06187 H6A

QUADRANGLE WEST UNION 7.5
SURFACE OWNER JONATHAN DAVIS ACREAGE 245.77 ACRES +/-
OIL & GAS ROYALTY OWNER CHARLEY SMITH ET AL; MAGGIE MILLER ET AL; SABRINA L WISE DONALD W. LOWE LEASE ACREAGE 213 AC; 40 AC; 0.478 AC; 0.50 AC;
WV STATE RAIL AUTHORITY; PATRICK M. WRIGHT; MARGARET MILLER; CORLISS HUDSON ET AL; RALPH VALENTINE ET UX 301.19 AC; 0.65 AC; 27.13 AC; 244.6 AC; 104.62 AC

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 ESTIMATED DEPTH 7,000' TVD 14,000' MD
TARGET FORMATION MARCELLUS

WELL OPERATOR ANTERO RESOURCES APPALACHIAN CORP.
ADDRESS 1625 17TH STREET DENVER, CO 80202
DESIGNATED AGENT DIANNA STAMPER CT CORPORATION SYSTEM
ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6, Section 8(d)
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>Charley Smith et al Lease</u>			
Charley Smith, et al	Hugh K. Spencer	1/8	0066/0449
Hugh K. Spencer	Antero Resources Appalachian Corp.	Assignment	0261/0681
<u>Maggie Miller et al Lease</u>			
Maggie Miller, et al	W. R. Nohe	1/8	0066/0058
Key Oil Company acquired rights under the original lease by mesne and sundry conveyances, mergers, and/or assignments from the original lessee, W. R. Nohe.			
Key Oil Company	Antero Resources Appalachian Corp.	*Partial Assignment of Oil and Gas Leases	0256/0285
<u>Donald W. Lowe Lease</u>			
Anita R. Webb	Antero Resources Appalachian Corp.	1/8	0277/0182
Jeffery A. Lowe	Antero Resources Appalachian Corp.	1/8	0279/0226
Gary R. Lowe	Antero Resources Appalachian Corp.	1/8	0277/0174
Donald W. Lowe	Antero Resources Appalachian Corp.	1/8	0277/0165
<u>Sabrina L. Wise Lease</u>			
Thomas J. Smith (Heir of Robert G Smith)	Antero Resources Appalachian Corp.	15%	0284/0634
Sabrina L. Wise (Heir of Robert G. Smith)	Antero Resources Appalachian Corp.	15%	0284/0639
<u>West Virginia State Rail Authority Lease</u>			
West Virginia State Rail Authority	Antero Resources Appalachian Corp.	1/8	0253/0409
<u>Patrick M. Wright Lease</u>			
Patrick Michael Wright	Antero Resources Appalachian Corp.	16%	0284/0620
<u>Margaret Miller Lease</u>			
Margaret Miller	Key Oil Company	1/8	0178/0373
Key Oil Company	Antero Resources Appalachian Corp.	*Partial Assignment of Oil and Gas Leases	0256/0285

RECEIVED
Office of Oil & Gas
09/24/2021
Department of Environmental Protection

Operator's Well Number Dotson Unit 1H 17-06187

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Corliss Hudson et al Lease</u>			
Corliss P. Hudson, et al	James I. Shearer	1/8	0067/0374
Corliss P. Hudson, et al	James I. Shearer	1/8	0067/0370
Key Oil Company acquired rights under the original lease by mesne and sundry conveyances, mergers, and/or assignments from the original lessee, James I. Shearer.			
Key Oil Company	Antero Resources Appalachian Corp	*Partial	0256/0285
Assignment of Oil and Gas Leases			
Whittle Corporation acquired rights under the original lease by mesne and sundry conveyances, mergers, and/or assignments from the original lessee, James I. Shearer.			
Whittle Corporation	Antero Resources Appalachian Corp	*Partial	0261/0018
Assignment of Oil and Gas Leases			
HMS Resources, Inc. acquired rights under the original lease by mesne and sundry conveyances, mergers, and/or assignments from the original lessee, James I. Shearer.			
HMS Resources, Inc.	Antero Resources Appalachian Corp	*Partial	0215/0388
Assignment of Oil and Gas Leases			
Robert L. Matthey, Jr. acquired rights under the original lease by mesne and sundry conveyances, mergers, and/or assignments from the original lessee, James I. Shearer.			
Robert L. Matthey, Jr.	Antero Resources Appalachian Corp	*Partial	0215/0388
Assignment of Oil and Gas Leases			
Genesis Exploration & Production Co., LLC, Inc. acquired rights under the original lease by mesne and sundry conveyances, mergers, and/or assignments from the original lessee, James I. Shearer.			
Genesis Exploration & Production Co., LLC	Antero Resources Appalachian Corp	*Partial	0217/0438
Assignment of Oil and Gas Leases			

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

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**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
Ralph Valentine et ux Lease			
Ralph J. Valentine & Judith G. Valentine, his wife	Key Oil Company	1/8	0178/0155
Key Oil Company	Antero Resources Appalachian Corp	*Partial Assignment of Oil and Gas Leases	0256/0285

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

**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 Appalachian Corporation
 By: Randy Kloberdanz
 Its: Director of Regulatory and Environmental Affairs

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17-06187

January 4, 2013

Antero Resources
1625 17th Street
Denver, Colorado 80202
Office 303.357.7310
Fax 303.357.7315

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

RE: Dotson Unit 1H
Quadrangle: West Union 7.5'
Doddridge County/ Central District, West Virginia

Mr. Martin:

Antero Resources Appalachian Corporation (Antero) is submitting the following application for a new well work permit for the Dotson Unit 1H 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 Dotson Unit 1H horizontal lateral will drill through including any and all roads crossed under as identified on the attached survey plat.

Sincerely,

Tim Rady
Senior Landman

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

Date of Notice Certification: 01/03/2013

API No. 47- 017 - 06187

Operator's Well No. Dotson Unit 1H

Well Pad Name: Existing Jonathan Davis 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>514759m</u>
County: <u>Doddridge</u>	UTM NAD 83 Northing: <u>4350017m</u>
District: <u>Central</u>	Public Road Access: <u>CR 11</u>
Quadrangle: <u>West Union 7.5'</u>	Generally used farm name: <u>Davis, Jonathan L.</u>
Watershed: <u>Arnold Creek</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: (1) 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

- 1. NOTICE OF SEISMIC ACTIVITY or NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED
- 2. NOTICE OF ENTRY FOR PLAT SURVEY or NO PLAT SURVEY WAS CONDUCTED
**Not applicable, Plat Survey was done prior to Implementation of WV Code 22-6A
- 3. NOTICE OF INTENT TO DRILL or NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or
 WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)
- 4. NOTICE OF PLANNED OPERATION
- 5. PUBLIC NOTICE
- 6. NOTICE OF APPLICATION

OOG OFFICE USE ONLY

RECEIVED/ NOT REQUIRED

RECEIVED

RECEIVED/ NOT REQUIRED

RECEIVED

RECEIVED

RECEIVED

Required Attachments:

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

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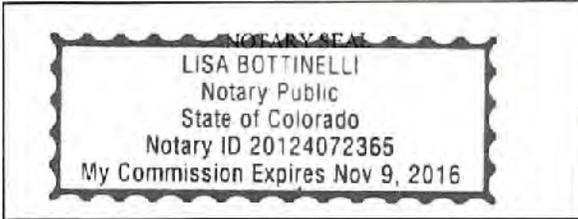
17-06187

Certification of Notice is hereby given:

THEREFORE, I Randy Kloberdanz, 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: Antero Resources Appalachian Corporation
By: Randy Kloberdanz
Its: Director of Regulatory & Environmental Affairs
Telephone: (303) 357-7310

Address: 1625 17th Street
Denver, CO 80202
Facsimile: 303-357-7315
Email: amihalcin@anteroresources.com



Subscribed and sworn before me this 3 day of January 2013
Lisa Bottinelli Notary Public
My Commission Expires Nov. 9, 2016

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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**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: 01/04/2013 **Date Permit Application Filed:** 01/04/2013

Notice of:

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

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

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

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

Notice is hereby provided to:

SURFACE OWNER(s)
 Name: Jonathan L. Davis ✓
 Address: 3175 Sam Cavins Road
West Union, WV 26456

Name: _____
 Address: _____

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

Name: _____
 Address: _____

SURFACE OWNER(s) (Impoundments/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: None identified within 1500 feet
 Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
 Name: _____
 Address: WV Department of

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*Please attach additional forms if necessary

09/24/2021

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 also 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.

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.

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.

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.

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 wellpad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such

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factors, if necessary.

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.**

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.

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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.

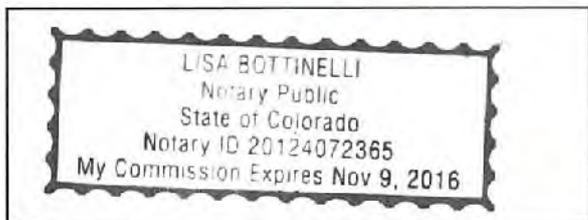
Notice is hereby given by:

Well Operator: Antero Resources Appalachian Corporation
Telephone: 303-357-7310
Email: amihalcin@anteroresources.com

Address: 1625 17th 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 3 day of January 2013
Lisa Bottinelli Notary Public
My Commission Expires Nov 9, 2016

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WV Department of
Environmental Protection
09/24/2021

17-06187

SIGNED 10 DAY NOTICE WAIVER
to fulfill WV Code 22, Article 6A, Section 16(b)



January 13, 2012

Jonathan Davis
Rural Route 1 Box 271
West Union, WV 26456

Antero Resources
1625 17th Street
Denver, Colorado 80202
Office 303.357.7310
Fax 303.357.7315

RE: Advance Surface Owner Notice Waiver
West Virginia Code - Chapter 22, Article 6A, Section 16(b)
Well Pad: Jonathan Davis
Quadrangle: West Union
Doddridge County/Central District, West Virginia

Dear Mr. Davis:

You are the surface owner of lands on which Antero Resources Appalachian Corporation intends to drill horizontal shallow wells on the subject pad location.

Chapter 22, Article 6A, Section 16(b) of the Code of West Virginia provides that the operator shall give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well. This notice is required to be given at least ten (10) days prior to the filing of a permit application. The rule further provides that the notice requirements may be waived in writing by the surface owner.

To facilitate our operations, we are requesting your waiver of WV Code §22-6A-16(b) as it applies to multiple wells located on the subject pad. If you agree with providing such waiver, please so indicate by signing in the space provided at the bottom of this letter.

Please note that you will be receiving an additional notification including a copy of Antero's permit application for each well once it has been submitted to the West Virginia Department of Environmental Protection, Office of Oil and Gas, as required by WV Code §22-6A-10(b).

Thank you for your cooperation in this matter. If you have any questions, please feel free to contact me at (303) 357-7323 or amihalcin@anteroresources.com.

Sincerely,

Ashlie Mihalcin
Permit Representative
Antero Resources Appalachian Corporation

The undersigned surface owner hereby waives the 10-day notice period for drilling operations per WV Code §22-6A-16(b) as it relates to the above referenced location in Doddridge County, West Virginia.

JONATHAN DAVIS
Printed Name

Jonathan Davis
Signature

1-19-12
Date

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WV Department of
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17-06187

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: 01/04/2013 **Date Permit Application Filed:** 01/04/2013

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

CERTIFIED MAIL HAND
RETURN RECEIPT REQUESTED DELIVERY

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

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

Name: Jonathan L. Davis Name: _____
Address: 3175 Sam Cavins Road Address: _____
West Union, WV 26456 _____

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: 514759m
County: Doddridge Northing: 4350017m
District: Central Public Road Access: CR 11
Quadrangle: West Union 7.5' Generally used farm name: Davis, Jonathan L.
Watershed: Arnold Creek

This Notice Shall Include:

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

Well Operator: Antero Resources Appalachia Corporation Address: 1625 17th Street
Telephone: 303-357-7310 Denver, CO 80202
Email: amihalcin@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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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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-nitropropionamide	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
Silica, 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

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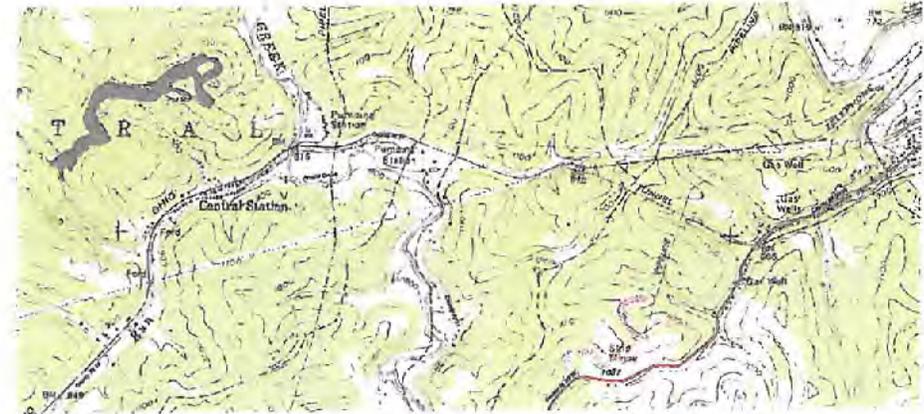
JUN 11 2021

WV Department of
Environmental Protection

09/24/2021

17-06187

JONATHAN DAVIS PAD AS-BUILT ANTERO RESOURCES APPALACHIAN CORPORATION



West Virginia State Plane Coordinate System 1
North Zone, 44027
Elevations Based on NAVD83
Elevations by Survey Grade GPS & GPS Post-Processing

**AFFECTED TAX PARCELS: 2/1
CENTRAL DISTRICT**

**TR 7 - Pad 1
SANDRA L. DOWE
OR ETAL**
242.77 Acres
(Affected area from Assessed Flood A = 12.57 Acres, 1.47% of RD A)
(Affected area from DR Pad = 7.42 Acres)
(Affected area from Water Tank Pad = 3.29 Acres)
(Affected area from Spoil Pad = 1.16 Acres)

LOD Area (ac)	
Road A (383) Feet	12.57
Ditch Pad	7.42
Water Tank Pad	3.29
Spoil Pad	1.16
Total Affected Area	24.44
Total Road Length	2400

Project Contacts

Antero Resources

Tom Wilson - Construction Manager
204 892-2408 Cell 204-431-0923 Cell

Mike Ash - Survey Coordinator
204-304-8181 Cell

Roger Dornier - Survey Coordinator
204-651-0598

JD Wiggins, Environmental Engineer
204-822-2426 Cell 211 Cell 204-478-1772 Cell

John Rowland, Engineer
617-268-0553

Clay Winters
617-791-1428

Kevin Kessler, Construction Supervisor
636-723-8164

Anthony Smith, Field Engineer
204-896-3428 Cell 204-473-4194 Cell

Survey & Elevation

BB Yates, PLS, BS - Allegheny Surveys, Inc.
204-648-0233 Cell 204-478-4937 Cell

Kim Wilson, PE - L&W Enterprises, Inc.
204-237-4518 Cell 204-892-0262 Cell

Well Location Restrictions:

All pad and fracture pit construction complies with the following restrictions:

- * 250' from an existing well or developed spring used for human or domestic animals
- * 437' from existing dwelling or built greater than 2500 SF used for poultry or dairy livestock from the center of the plot.
- * 100' from edge of disturbance to wetland, perennial stream, natural or artificial lake, pond or reservoir.
- * 200' from edge of disturbance to a naturally reproducing trout stream.
- * 1000' of a surface or ground water intake to a public water supply.

WEST UNION QUAD

SITE LOCATION		
SECTION	TOWNSHIP	COUNTY
Section 16 of Pad	29° 25' 28.84" N	28° 28' 23.07" W
Section 16 of Pad	29° 25' 28.84" N	28° 28' 23.07" W



Well Table

Well ID	Well Type	Well Status
W1000001	Production	Active
W1000002	Production	Active
W1000003	Production	Active
W1000004	Production	Active
W1000005	Production	Active
W1000006	Production	Active
W1000007	Production	Active
W1000008	Production	Active
W1000009	Production	Active
W1000010	Production	Active
W1000011	Production	Active
W1000012	Production	Active
W1000013	Production	Active
W1000014	Production	Active
W1000015	Production	Active
W1000016	Production	Active
W1000017	Production	Active
W1000018	Production	Active
W1000019	Production	Active
W1000020	Production	Active
W1000021	Production	Active
W1000022	Production	Active
W1000023	Production	Active
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W1000093	Production	Active
W1000094	Production	Active
W1000095	Production	Active
W1000096	Production	Active
W1000097	Production	Active
W1000098	Production	Active
W1000099	Production	Active
W1000100	Production	Active

FLOODPLAIN CONDITIONS

DO SITE CONSTRUCTION ACTIVITIES TAKE PLACE IN FLOODPLAIN:	NO
PERMIT NEEDED FROM COUNTY FLOODPLAIN COORDINATOR:	NO
IBC-RAS STUDY COMPLETED:	N/A
FLOODPLAIN SHOWN ON DRAWINGS:	N/A
FORM MAP NUMBER(S) FOR SITE:	2417C2815C
ACREAGES OF CONSTRUCTION IN FLOODPLAIN:	N/A

SDW
10/22/2012

DATE	REVISIONS
8-17-12	Updated Well Configuration

Allegheny Surveys, Inc.
172 Thompson Drive
Bridgeton, WV 26000
(304) 494-8030

LAW ENTERPRISES, INC.
1000 10th St
Martinsburg, WV 26150
(304) 261-1111

ANTERO RESOURCES
THIS DOCUMENT PREPARED FOR
ANTERO RESOURCES APPALACHIAN CORP.

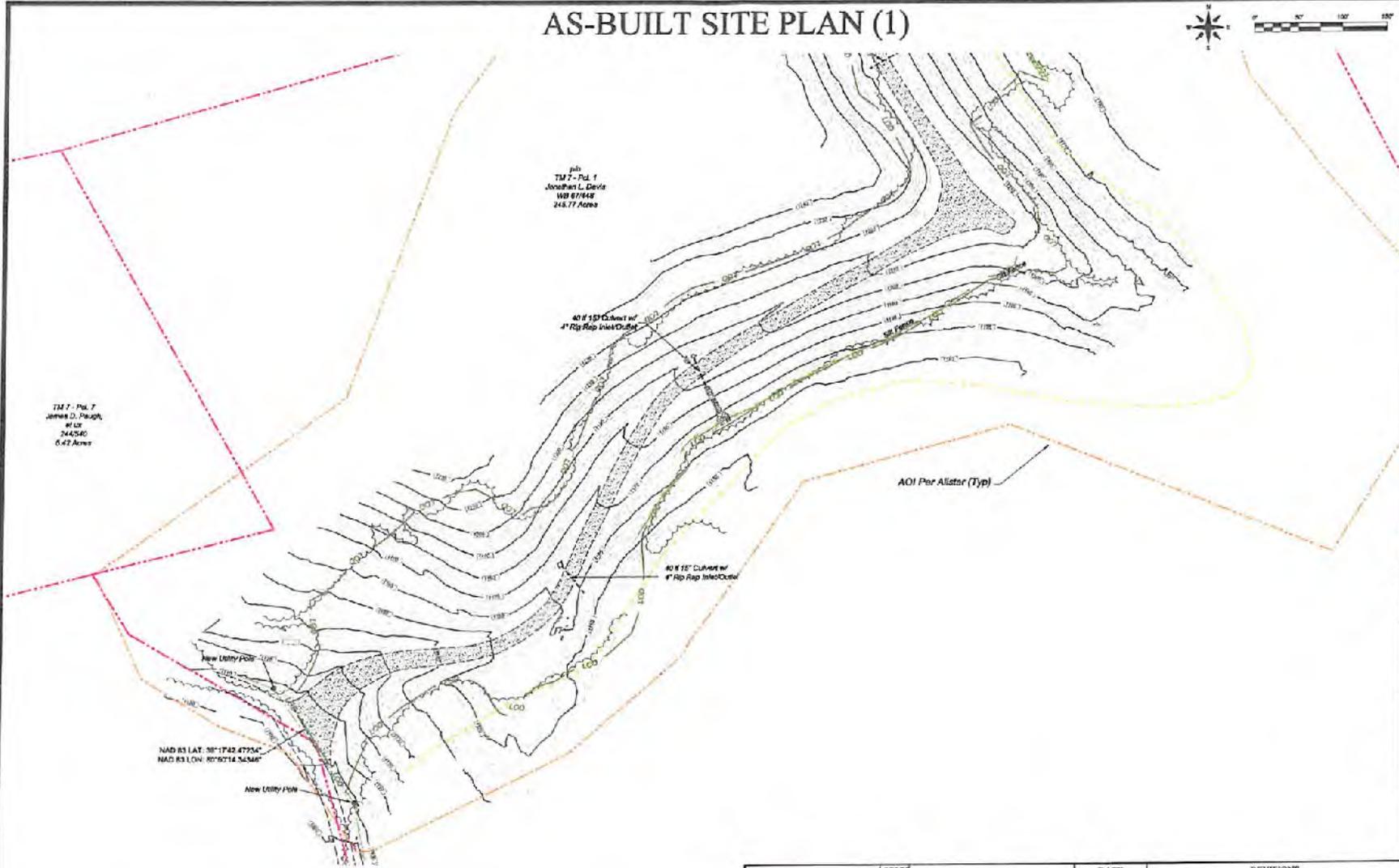
COVER SUBLOCATION MAP
JONATHAN DAVIS PAD AS-BUILT
CENTRAL DISTRICT
BOONE COUNTY, WV

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!!



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JAN 28 2013
WV Department of
Environmental Protection

AS-BUILT SITE PLAN (1)



Jonathan L. Davis
No. 877648
State of WV



Joseph L. Davis
No. 877648
State of WV



L&W ENTERPRISES, INC.
Professional Engineer
No. 877648
State of WV

AS-BUILT SITE PLAN (1)
JONATHAN DAVIS PAD AS-BUILT
CENTRAL DISTRICT
POODRIDGE COUNTY, WV

Date: 8/14/12
Scale: 1" = 50'
Designed by: GW/CLM
P/CLM
8/14/12

Legend	
As-Built 2' Contour	Limits of Disturbance
As-Built 50' Contour	Site Fence
Tree Line	Quiver
Surface Owner Property Line	
Existing Gas Line CL	

DATE	REVISIONS

TM 7 - Pl. 7
James D. Prough
61 LP
244540
0.42 Acres

pl. 1
TM 7 - Pl. 1
Jonathan L. Davis
No. 877648
246.77 Acres

NAD 83 LAT: 38°17'43.87754"
NAD 83 LON: 80°52'14.56348"

New Utility /SW

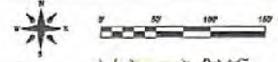
New Utility /SW

40" 150' CURVEW/ 4" RP Rap Inlet/Outlet

40" 150' CURVEW/ 4" RP Rap Inlet/Outlet

AOI Per Alistar (Typ)

AS-BUILT SITE PLAN (2)



Alphany Survey, Inc.
17708
Baltimore, MD 21286
(301) 848-5035



L&W ENTERPRISES, INC.
1000 W. GREENSBORO BLVD.
GREENSBORO, NC 27409
TEL: 336-733-1111
FAX: 336-733-1112
WWW.L&WENTR.COM



ANTERO RESOURCES
THIS DOCUMENT IS PREPARED FOR
ANTERO RESOURCES
APFALCAN CO. INC.

AS-BUILT SITE PLAN (2)
JONATHAN DAVIS PAD AS-BUILT
CENTRAL DISTRICT
DOORIDGE COUNTY, WV

AOI Per Allstar (Typ)

PL 7
TM 7 - PG. 1
Jonathan L. Davis
MS 67248
245.77 Acres

PL 7
TM 7 - PG. 1
Jonathan C. Dines
MS 67248
245.77 Acres

40 # 15" Culvert w/
4" Rip Rap Inlet/Culvert

16" EOT Gastine

4" Coastal Gastine

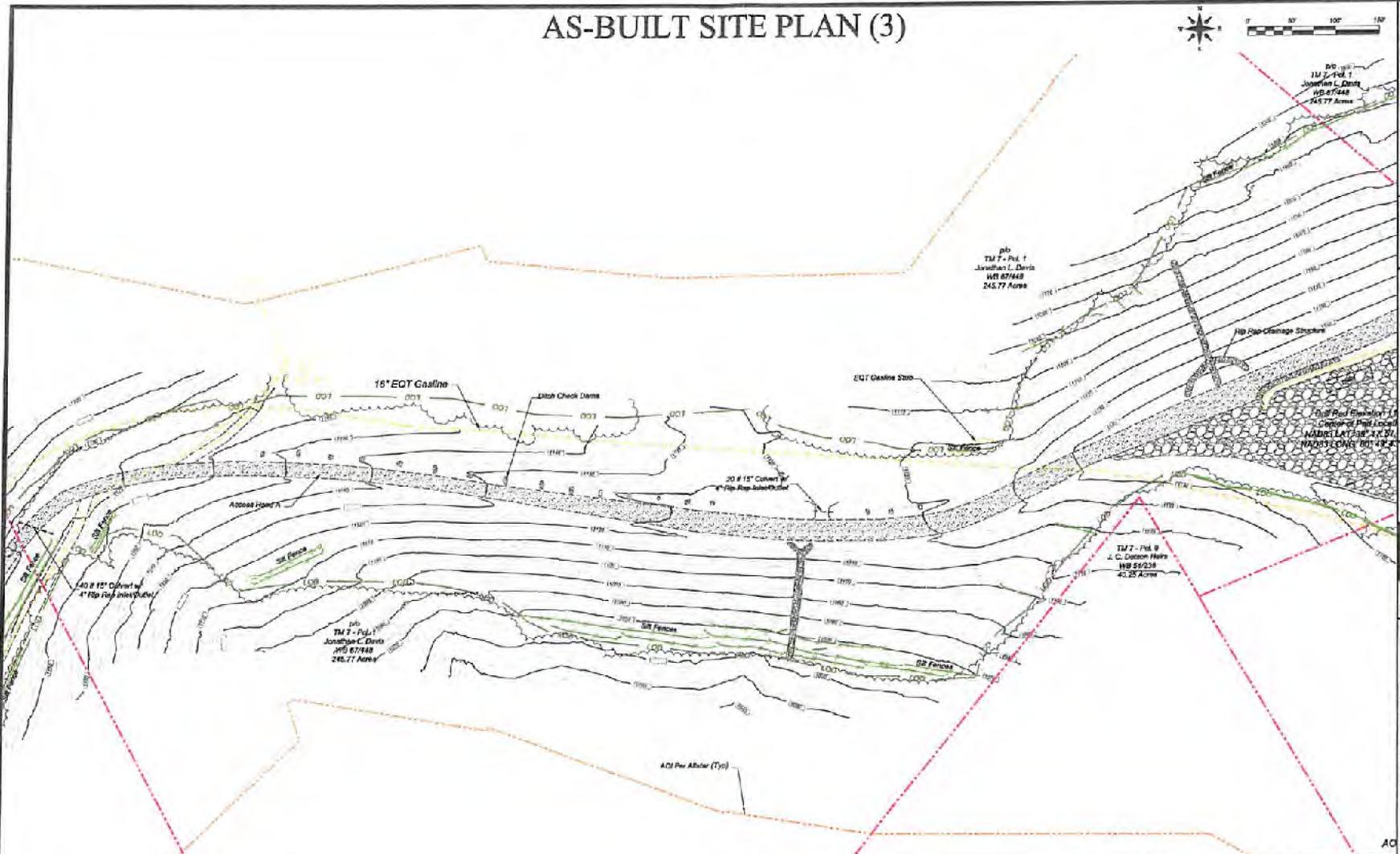
40 # 16" Culvert w/
4" Rip Rap Inlet/Culvert

Legend	
--- (solid line)	As-Built 2" Contour
--- (dashed line)	As-Built 10" Contour
--- (dotted line)	Tree Line
--- (dash-dot line)	Surface Owner Property Line
--- (long-dash line)	existing Gas Line G
--- (line with 'LCO')	LCO
--- (line with 'L')	Limits of Disturbance
--- (line with 'S')	5ft Fence
--- (line with 'C')	Culvert

DATE	REVISIONS

Date: 8/14/12
Scale: 1" = 50'
Designed by: CENKEM
Pb No. : A000 228 11
Page: 3 of 8

AS-BUILT SITE PLAN (3)



Joseph L. Davis
No. 67448
State of West Virginia



Jonathan C. Davis
No. 67448
State of West Virginia

L&W ENTERPRISES, INC.
LAWYERS
172 THOMPSON DRIVE
BRIDGEPORT, WV 26733
(304) 848-5028



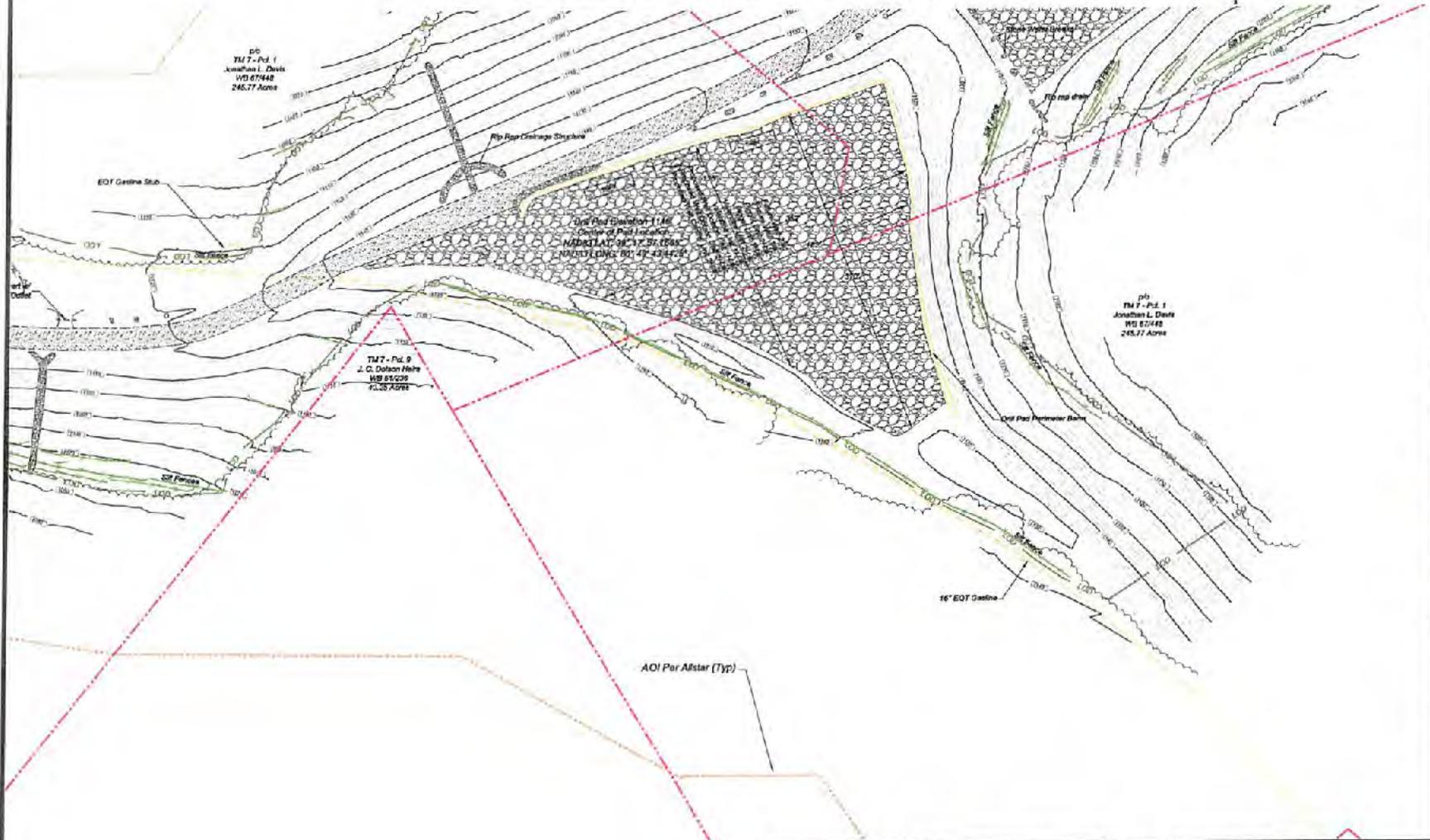
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ANTERO RESOURCES
APPALACHIAN COOP

AS-BUILT SITE PLAN (3)
JONATHAN DAVIS PAD AS-BUILT
CENTRAL DISTRICT
DOUGLASS COUNTY, WV

Legend		DATE	REVISIONS
--- 100 ---	As-Built 2' Contour		
--- 100 ---	As-Built 10' Contour		
---	Tie Line		
---	Surface Owner Property Line		
---	Existing Gas Line CL		
---	Limits of Disturbance		
---	Silt Fence		
---	Culvert		

Date: 8/14/12
Scale: 1" = 50'
Designed By: CEW/ACM
File No. A-108-11
Page 4 of 6

AS-BUILT SITE PLAN (5)



plc
TM7 - Plc 1
Jonathan L. Davis
WS 87648
245.77 Acres

Rip Rap Drainage Structure

One-Red Elevator 1.46
Center of Pad Location
NAD83/LAT 38° 17' 37.024\"/>

plc
TM7 - Plc 1
Jonathan L. Davis
WS 87648
245.77 Acres

TM7 - Plc 9
J. C. Dalton Mine
WS 61235
71.25 Acres

AOI Per Alistar (Typ)

Legend	
— 1:00 —	As-Built 2' Contour
— 1:00 —	As-Built 1/2' Contour
— — — — —	Tree Line
— · · · · ·	Surface Owner Property Line
— · · · · ·	Existing Gas Line CL
— 0:00 —	L.O.C. — Limits of Disturbance
— · · · · ·	Silt Fence
— · · · · ·	Culvert

DATE	REVISIONS
12-5-12	Updated Well Configuration

Jonathan L. Davis
Professional Surveyor
No. 12777
State of West Virginia

L&W ENTERPRISES, INC.
Professional Engineer
No. 12777
State of West Virginia

ANTERO RESOURCES
Professional Engineer
No. 12777
State of West Virginia

AS-BUILT SITE PLAN (5)
JONATHAN DAVIS PAD AS-BUILT
CENTRAL DISTRICT
BOONVILLE COUNTY, WV

Date: 8/14/12
Scale: 1" = 50'
Designed By: CEV/CEM
Plc No.: Alistar 124-13
Page 8 of 8