



west virginia department of environmental protection

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

Jim Justice , Governor  
Austin Caperton , Cabinet Secretary  
www.dep.wv.gov

Monday, July 31, 2017  
WELL WORK PERMIT  
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit approval for BURGESS UNIT 1H  
47-017-06850-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin  
Chief

Operator's Well Number: BURGESS UNIT 1H  
Farm Name: STANLEY WEBB ET AL  
U.S. WELL NUMBER: 47-017-06850-00-00  
Horizontal 6A / New Drill  
Date Issued: 7/31/2017

Promoting a healthy environment.

08/04/2017

# 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

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

08/04/2017

## PERMIT CONDITIONS

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

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

1) Well Operator: Antero Resources Corporation 494507062 017 - Dodd Central Pullman 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: Burgess Unit 1H Well Pad Name: Existing Stanley Pad

3) Farm Name/Surface Owner: Stanley Webb et al Public Road Access: Cabin Run Rd (CR 21/1)

4) Elevation, current ground: 1095' Elevation, proposed post-construction: 1095'

5) Well Type (a) Gas  Oil  Underground Storage

Other \_\_\_\_\_

(b) If Gas Shallow  Deep

Horizontal

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus Shale: 7400' TVD, Anticipated Thickness- 50 feet, Associated Pressure- 3000#

8) Proposed Total Vertical Depth: 7400' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 19000' MD

11) Proposed Horizontal Leg Length: 10809'

12) Approximate Fresh Water Strata Depths: 168', 322', 433'

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

14) Approximate Saltwater Depths: 660', 1083', 2090'

15) Approximate Coal Seam Depths: 170', 877'

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

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

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

*DAF*  
*6/15/17*

18)

**CASING AND TUBING PROGRAM**

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	H-40	94#	80'	80'	CTS, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	485' *see #19	485' *see #19	CTS, 674 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500'	2500'	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	23#	19000'	19000'	4817 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	24"	0.438"	1530	50	Class A	~1.18
Fresh Water	13-3/8"	17-1/2"	0.38"	2730	1000	Class A	~1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A	~1.18
Intermediate							
Production	5-1/2"	8-3/4" & 8-1/2"	0.415"	12,630	2500	LMC-H/POZ & TMI-II	H/POZ~1.44 & H~1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

**PACKERS**

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

DAR  
5/15/17

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

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

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

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

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

Anticipated Max Pressure - 9300 lbs

Anticipated Max Rate - 80 bpm

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 43.30 Existing Acres

22) Area to be disturbed for well pad only, less access road (acres): 9.00 Existing Acres

23) Describe centralizer placement for each casing string:

Conductor: no centralizers

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

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

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

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

Conductor: no additives, Class A cement.

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

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

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

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

25) Proposed borehole conditioning procedures:

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

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

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

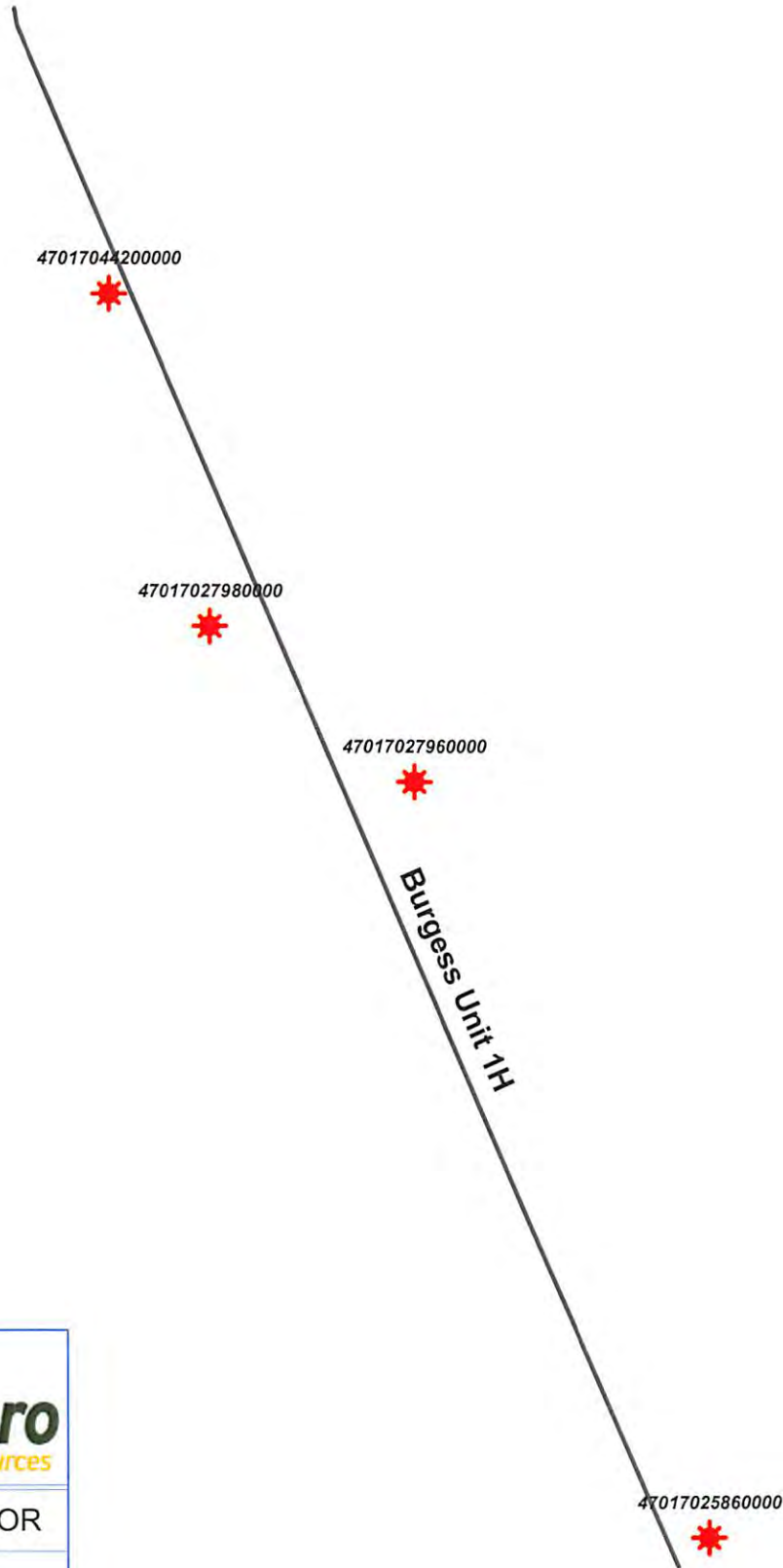
Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls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

\*Note: Attach additional sheets as needed.



17-06850

BURGESS UNIT 1H (STANLEY PAD) - AREA OF REVIEW 35-8-5.11 PAGE 1



Burgess Unit 1H - AOR



WELL SYMBOLS  
 Gas Well

March 30, 2017

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BURGESS UNIT 1H (STANLEY PAD) - AREA OF REVIEW 35-8-5.11 PAGE 2

UWI (API/UM)	Well Name	Well Number	Operator	Historical Operator	TD
47017027960000	ROSS S BYRL ETAL	2	ABARTA O&G CO INC	CHASE PETROLEUM CO	5532
47017027960000	ROSS S BYRL ETAL	4	ABARTA O&G CO INC	CHASE PETROLEUM CO	5469
47017044200000	DAVIS H B & NELLIE JTOS H & W ET AL	2	KEY OIL COMPANY	KEY OIL INCORPORATED	5316
47017025860000	BROADWATER LEONA	2	ALLIANCE PETR CORP	PETROLEUM DEV CORP	5260

ELEV. GR	Approx distance to well	TD (SSVD)	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Produccible Formation(s) not perf'd
1030	421	-4502	3394-5227	Speechley, Balltown, Bradford, Riley, Benson, Alexander	Big Injun, Weir, Warren, Eli
950	388	-4519	3942-5172	Speechley, Balltown, Bradford, Riley, Benson, Alexander	Big Injun, Weir, Warren, Eli
906	124	-4410	3451-5137	Balltown, Riley, Benson, Elk, Alexander	Big Injun, Weir, Warren, Speechley, Bradford
970	248	-4290	5142	Alexander	Big Injun, Weir, Warren, Speechley, Balltown, Bradford, Riley, Benson, Eli

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WW-9  
(4/16)

API Number 47 - 017 - \_\_\_\_\_  
Operator's Well No. Burgess Unit 1H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Antero Resources Corporation OP Code 494507062

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

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

Will a pit be used? Yes  No

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

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

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number \*UIC Permit # will be provided on Form WR-34 )
- Reuse (at API Number Future permitted well locations when applicable. API# will be provided on Form WR-34 )
- Off Site Disposal (Supply form WW-9 for disposal location) (Meadowfill Landfill Permit #SWF-1032-98)
- Other (Explain Northwestern Landfill Permit #SWF-1025/WV0109410)

Will closed loop system be used? If so, describe: Yes, fluids stored in tanks, cuttings removed offsite and taken to landfill.

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

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

Additives to be used in drilling medium? Please See Attachment

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Drill cuttings stored in tanks, removed offsite and taken to landfill.

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) N/A

-Landfill or offsite name/permit number? Meadowfill Landfill (Permit #SWF-1032-98), Northwestern Landfill (Permit # SWF-1025/WV0109410)

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

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

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

Company Official Signature Gretchen Kohler

Company Official (Typed Name) Gretchen Kohler

Company Official Title Senior Environmental & Regulatory Manager

Subscribed and sworn before me this 9 day of JUNE, 20 17

[Signature] Notary Public

My commission expires 7/8/2020

OFFICE OF OIL & GAS JUN 16 2017

DAC  
6/15/17



08/04/2017

**Antero Resources Corporation**

Proposed Revegetation Treatment: Acres Disturbed 43.30 Acres Prevegetation pH \_\_\_\_\_

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

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

Fertilizer amount 500 lbs/acre

Mulch 2-3 Tons/acre

Well Pad (9.00 Acres) + Water Containment Pad (5.51 Acres) + Access Road 1 (25.30 Acres) + Access Road 2 (1.12 Acres) + James Webb Access Road (2.37 Acres) = 43.30 Acres

**Seed Mixtures**

**Temporary**

**Permanent**

Seed Type	lbs/acre
Tall Fescue	45
Perennial Rye Grass	20

Seed Type	lbs/acre
Tall Fescue	45
Perennial Rye Grass	20

\*See General Erosion & Sediment Control Notes (Stanley Pad Final Design Pg 4)

\*See General Erosion & Sediment Control Notes (Stanley Pad Final Design Pg 4)

\*or type of grass seed requested by surface owner

\*or type of grass seed requested by surface owner

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: \_\_\_\_\_



Comments: \_\_\_\_\_

Title: Oil & Gas Inspector

Date: 6/15/17

Field Reviewed? ( ) Yes ( ) No

## ***Form WW-9 Additives Attachment***

### **SURFACE INTERVAL**

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

### **INTERMEDIATE INTERVAL**

#### ***STIFF FOAM RECIPE:***

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

### **PRODUCTION INTERVAL**

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

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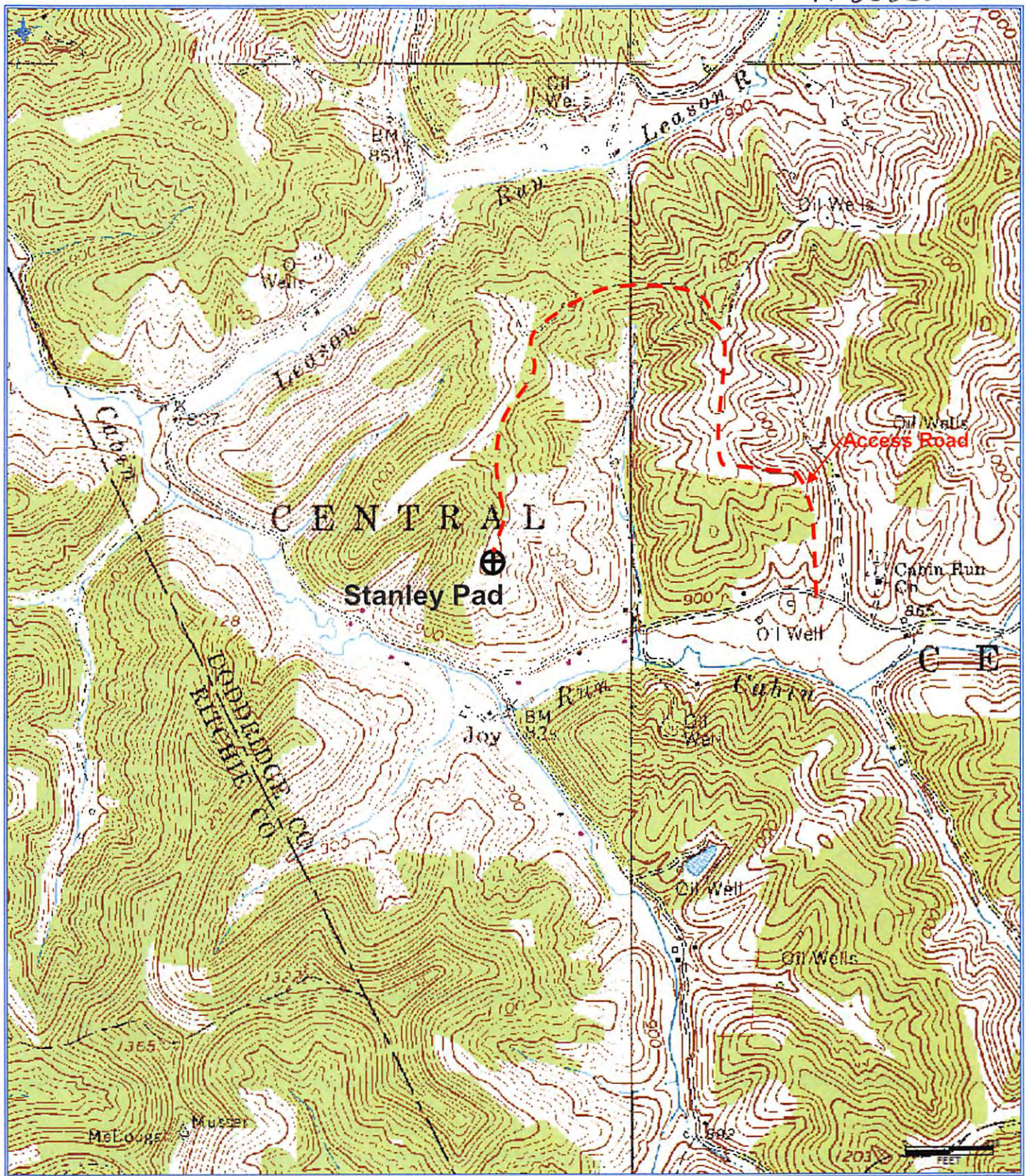
08/04/2017

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

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**Antero Resources Corporation**  
 Appalachian Basin  
 Burgess Unit 1H  
 Doddridge County  
 Quadrangle: Pullman 7.5'  
 Watershed: North Fork Hughes River  
 District: Central  
 Date: 3-12-2015

08/04/2017



**911 Address**  
**428 Cabin Run Rd.**  
**West Union, WV 26456**

## Well Site Safety Plan

### Antero Resources

**Well Name:** Burgess Unit 1H-2H; Cool Unit 1H-2H; Hattie Unit 1H-3H;

**Pad Location:** STANLEY PAD  
 Doddridge County/ Central District

**GPS Coordinates:**

**Entrance** - Lat 39°14'19.3092"/Long -80°52'8.4606" (NAD83)

**Pad Center** - Lat 39°14'13.5702"/Long -80°52'46.1208" (NAD83)

**Driving Directions:**

From Greenwood WV: Head southeast on Co Route 50/30/Old U.S. 50 W/Sunnyside Rd for 3.4 miles. Turn right onto Co Route 21/Oxford Rd and continue for 2 miles. Turn right onto Co Route 21/1/Cabin Run. After approximately 0.4 miles, access road will be on the right.

**Alternate Route:**

From William R Sharpe Jr Hospital near the town of Weston WV: Turn left onto US-119 S/US – 33 W for 15.6 miles. Turn right onto WV-47 W for 3.6 miles. Continue forward onto WV-18 N for 9.4 miles. Turn left onto Grove Summers Rd for 5.9 miles. Grove summers Rd turns right and becomes Taylor Drain Rd, follow for 4.2 miles. Turn right onto S Fork of Hughes River for 0.9 miles. Continue straight onto Co Rte 21 for 2.5 miles. Turn left onto Co Rte 21/1 for 0.4 miles. The access road will be on the right.

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

*[Handwritten signature]*  
 6/15/17

LATITUDE 39°15'00" -1,305'

8,830' TO BOTTOM HOLE

LATITUDE 39°15'00"

LONGITUDE 80°50'00"

4,782'

LONGITUDE 80°52'30"

14,829' TO BOTTOM HOLE

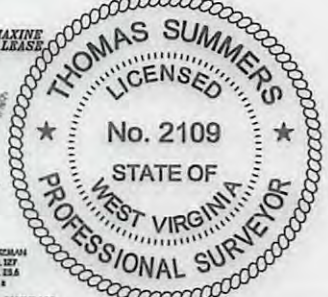
### Antero Resources Corporation Well No. Burgess Unit 1H

LINE	BEARING	DISTANCE
L1	S 77°58' E	1,375.64'
L2	S 76°33' E	1,804.51'
L3	S 75°04' E	1,954.60'
L4	S 65°46' E	1,596.34'
L5	S 64°01' E	1,381.04'
L6	S 63°52' E	1,636.75'
L7	S 60°31' E	1,513.41'
L8	S 56°06' E	1,345.06'
L9	S 51°10' E	1,175.81'
L10	S 48°41' E	1,080.78'
L11	S 44°24' E	1,202.08'
L12	S 41°57' E	1,125.94'
L13	S 32°54' E	947.63'
L14	S 26° E	1,151.29'
L15	S 17°06' E	1,113.08'
L16	S 08°23' E	1,115.22'
L17	S 01°58' W	1,414.85'
L18	S 05°17' W	1,426.29'
L19	S 23°05' W	1,806.45'
L20	S 42°21' W	1,298.64'
L21	S 67°20' W	1,416.97'
L22	S 73°44' W	1,425.05'

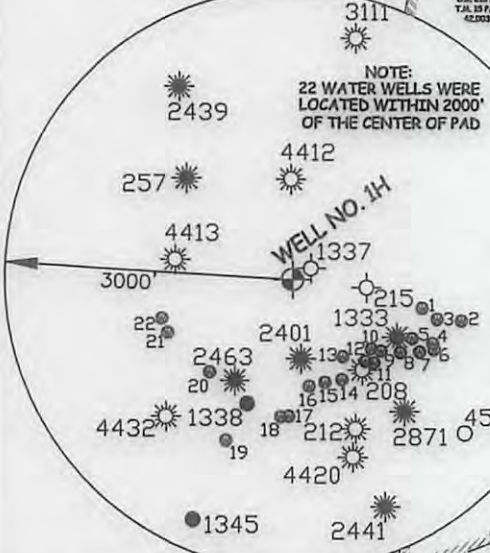
A - STANLEY WEBB D.A. 242 PG. 203 T.A. 13 PAR. 01.2 0.73 AC.±  
 B - STANLEY WEBB D.A. 192 PG. 322 T.A. 13 PAR. 02.8 4.038 AC.±  
 C - BRIAN WEBB D.A. 192 PG. 327 T.A. 13 PAR. 02.7 2.11 AC.±  
 D - BRIAN WEBB D.A. 192 PG. 327 T.A. 13 PAR. 02.4 0.47 AC.±  
 E - ROBERT F. HARRIS ET AL D.A. 249 PG. 404 T.A. 13 PAR. 02.5 1 AC.±  
 F - EDWARD WEBB ET AL D.A. 253 PG. 163 T.A. 13 PAR. 02.6 1.334 AC.±  
 G - DANIEL D. WINDENLLE ET AL D.A. 246 PG. 390 T.A. 13 PAR. 02.15 0.19 AC.±  
 H - JAMES E. WEBB D.A. 273 PG. 449 T.A. 13 PAR. 02.13 0.23 AC.±

NOTES:  
 WELL 1H TOP HOLE INFORMATION:  
 N: 271,384ft E: 1,609,237ft  
 LAT: 39°14'12.73" LON: 80°52'46.58"  
 BOTTOM HOLE INFORMATION:  
 N: 261,273ft E: 1,613,364ft  
 LAT: 39°12'33.43" LON: 80°51'52.19"  
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE.  
 ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

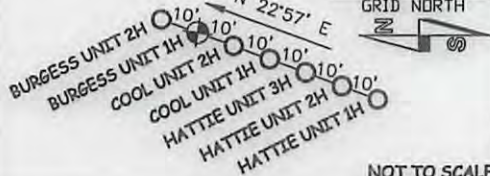
(NAD) 83 (UTM) ZONE 17 COORDS:  
 WELL 1H TOP HOLE INFORMATION:  
 N: 4,343,079m E: 510,405m  
 BOTTOM HOLE INFORMATION:  
 N: 4,340,020m E: 511,714m



(NAD) 27 (UTM) ZONE 17 COORDS:  
 WELL 1H TOP HOLE INFORMATION:  
 N: 14,248,204ft E: 1,674,506ft  
 POINT OF ENTRY INFORMATION:  
 N: 14,248,092ft E: 1,674,528ft  
 BOTTOM HOLE INFORMATION:  
 N: 14,238,167ft E: 1,678,800ft



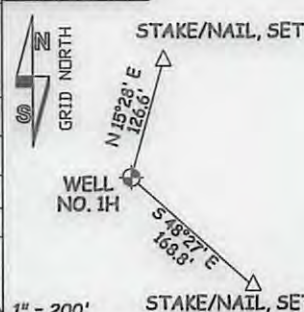
#### PAD LAYOUT



#### LEGEND

- Surface Owner Boundary Lines +/-
- Interior Surface Tracts +/-
- Existing Fence
- Iron Pipe, Found

#### REFERENCES



THOMAS SUMMERS P.S. 2109  
 DATE 03/28/17  
 OPERATOR'S WELL# BURGESS UNIT #1H  
 API WELL # 47 - 017 - 06850  
 STATE COUNTY PERMIT#

JOB # 14-067WA  
 DRAWING # BURGESS1HR2  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY SUBMETER  
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS



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

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS  
 WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL  
 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X

LOCATION: ELEVATION 1,108' ORIGINAL - 1,095' PROPOSED WATERSHED NORTH FORK HUGHES RIVER  
 QUADRANGLE PULLMAN 7.5 (TOP HOLE) OXFORD 7.5 (BOTTOM HOLE) DISTRICT CENTRAL COUNTY DODDRIDGE

SURFACE OWNER STANLEY WEBB ET AL ACREAGE 59.18 ACRES +/-  
 OIL & GAS ROYALTY OWNERS RALPH LEGGETT ET UX; C.E. ROSS; SUE ELLEN ABERNATHY; S. BYRL ROSS ET UX; F.R. INGRAM ET AL; JEFFREY C. POLAN; RUSSELL GRAY ET AL; LEONA BROADWATER  
 LEASE ACREAGE 75 ACRES±; 60 ACRES±; 65 ACRES±; 195 ACRES±; 130 ACRES±; 50 ACRES±; 225 ACRES±; 160 ACRES±  
 PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X  
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY)  
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,400' TVD 19,000' MD  
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER  
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD  
 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

08/04/2017

COUNTY NAME PERMIT

WW-6A1

Operator's Well Number Burgess Unit 1H

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
<b><u>Ralph Leggett et ux Lease</u></b>			
Ralph Leggett, et ux	Harold B. Smith	1/8	0088/0228
Harold B. Smith	Reeves Lewenthal	Assignment	0088/0232
Reeves Lewenthal	Ray Resources Corporation	Assignment	0099/0332
Ray Resources Corporation	Bow Valley Petroleum, Inc.	Assignment	0115/0031
Bow Valley Petroleum, Inc.	G.W. Petroleum Inc.	Name Change	Recital in 0166/0312
G.W. Petroleum Inc.	Great Western Onshore, Inc.	Name Change	Recital in 0166/0312
Great Western Onshore, Inc.	Eastern American Energy Corporation	Assignment	0166/0312
Eastern American Energy Corporation	Targa Development, Inc.	Assignment	0219/0529
Targa Development, Inc.	Antero Resources Appalachian Corporation	Assignment	0257/0362
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>C.E. Ross Lease</u></b>			
C. E. Ross	Carnegie Natural Gas Company	1/8	0031/0272
Carnegie Natural Gas Company	H.L. Pernell & Luther Davis	Assignment	0058/0329
H.L. Pernell & Luther Davis	David M. Harrison & Charles E. Young	Assignment	DB 0128/0453
David M. Harrison : Helen F. Young And James E. Young Executors of the estate of Charles E. Young	Don D. Debrular & Charles Brady Debrular	Assignment	0095/0485
Don D. Debrular & Charles Brady Debrular	Vinson Gas & Oil Drilling Co.	Assignment	0108/0458
Vinson Gas & Oil Drilling Co.	West Virginia Joint Venture No. Two Limited	Assignment	0112/0552
West Virginia Joint Venture No. Two Limited	Key Oil Company	Assignment	0181/0729
Key Oil Company	Antero Resources Appalachian Corporation	Assignment	0256/0285
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>Sue Ellen Abernathy Lease</u></b>			
Sue Ellen Abernathy	Antero Resources Appalachian Corporation	1/8+	0303/0363
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>S. Byrl Ross et ux Lease</u></b>			
S. Byrl Ross and Elinor K. Ross	Alton Skinner	1/8	0114/0441
Alton L. Skinner, II, et al, as co-administrators of the estate of Alton L. Skinner, deceased	Crystal Skinner, et al	Assignment	0169/0193
Crystal Skinner, et al	DC Petroleum, Inc., et al	Assignment	0170/0583
DC Petroleum, Inc. and Chase Petroleum, Inc.	Antero Resources Appalachian Corporation	Assignment	0257/0062
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1

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

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WV Department of  
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\*\*CONTINUED ON NEXT PAGE\*\*

08/04/2017



WW-6A1

Operator's Well Number Burgess Unit 1H

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6A, Section 5(a)(5)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

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- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<b><u>F. R. Ingram et al Lease</u></b>			
F.R. Ingram, et al	Pennzoil Company	1/8	0103/0172
Pennzoil Company	Consolidated Gas Supply Corporation	Assignment	0108/0206
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	0135/0583
Consolidated Gas Transmission Corporation	CNG Transmission Corporation	Amended Certificate of Authority	AOI 0051/0795
CNG Transmission Corporation	Dominion Transmission, Inc.	Amended Certificate of Authority	AOI 0058/0362
Dominion Transmission, Inc.	CONSOL Energy Holdings, LLC XVI	Assignment	0245/0001
CONSOL Energy Holdings, LLC XVI	CNX Gas Company, LLC	Affidavit of Name Changes and Merger	DC 0293/0252
CNX Gas Company, LLC and Noble Energy, Inc.	Antero Resources Corporation	Assignment	0325/0507
<b><u>Jeffrey C. Polan Lease</u></b>			
Jeffrey C. Polan	Antero Resources Corporation	1/8+	0356/0537
<b><u>Russel Gray et al Lease</u></b>			
Russel Gray and Edith Gray et ux	Alton Skinner	1/8	0121/0123
Alton L. Skinner, II, et al, as co-administrators of the estate of Alton L. Skinner, deceased	Crystal Skinner, et al	Assignment	0169/0193
Crystal Skinner, et al	DC Petroleum, Inc., et al	Assignment	0170/0583
DC Petroleum, Inc. & Chase Petroleum, Inc.	Antero Resources Appalachian Corporation	Assignment	0257/0062
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1

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

\*\*CONTINUED ON NEXT PAGE\*\*  
08/04/2017

WW-6A1  
(5/13)Operator's Well No. Burgess Unit 1H

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6A, Section 5(a)(5)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

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(2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<b>Leona Broadwater Lease</b>				
	Leona Broadwater	Clarence W. Mutschelknaus	1/8	0102/0592
	Clarence W. Mutschelknaus	J. Robert Hornor	Assignment	0105/0277
	J. Robert Hornor	Petroleum Development Corporation	Assignment	0112/0664
	Petroleum Development Corporation	PDC Mountaineer, LLC	Assignment	0240/0118
	PDC Mountaineer, LLC	Antero Resources Appalachian Corporation	Assignment	0278/0607
	<b>Antero Resources Appalachian Corporation</b>	<b>Antero Resources Corporation</b>	<b>Name Change</b>	<b>Exhibit 1</b>

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

**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

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

Well Operator: Antero Resources Corporation

By: Kevin Kilstrom

Its: Senior Vice President - Production

FORM WW-6A1  
EXHIBIT 1

FILED

JUN 10 2013

Natalie E. Tennant  
Secretary of State  
1900 Kanawha Blvd E  
Bldg 1, Suite 157-K  
Charleston, WV 25305



Penney Barker, Manager  
Corporations Division  
Tel: (304)558-8000  
Fax: (304)558-8381  
Website: [www.wvsos.com](http://www.wvsos.com)  
E-mail: [business@wvsos.com](mailto:business@wvsos.com)

APPLICATION FOR  
AMENDED CERTIFICATE  
OF AUTHORITY

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

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

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

- Name under which the corporation was authorized to transact business in WV: Antero Resources Appalachian Corporation
- Date Certificate of Authority was issued in West Virginia: 6/25/2008
- Corporate name has been changed to: Antero Resources Corporation  
(Attach one Certified Copy of Name Change as filed in home State of Incorporation.)
- Name the corporation elects to use in WV: Antero Resources Corporation  
(due to home state name not being available)
- Other amendments: \_\_\_\_\_  
(attach additional pages if necessary)
- Name and phone number of contact person. (This is optional, however, if there is a problem with the filing, listing a contact person and phone number may avoid having to return or reject the document.)  
Alvyn A. Schopp (303) 357-7310  
Contact Name Phone Number
- Signature information (See below \*Important Legal Notice Regarding Signature\*):  
Print Name of Signer: Alvyn A. Schopp Title/Capacity: Authorized Person  
Signature: [Handwritten Signature] Date: June 10, 2013

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

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Office of Oil and Gas  
JUN 12 2017  
Revised 7/13  
WV Department of  
Environmental Protection



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

June 9, 2017

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

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

Mr. Martin:

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

Sincerely,

A handwritten signature in black ink that reads "H West".

Haley West  
Landman

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JUN 12 2017  
WV Department of  
Environmental Protection

08/04/2017

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

Date of Notice Certification: 06/08/2017

API No. 47- 017 - 06850  
Operator's Well No. Burgess Unit 1H  
Well Pad Name: Stanley 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>510405m</u>
County: <u>Doddridge</u>		Northing: <u>4343079m</u>
District: <u>Central</u>	Public Road Access: <u>Cabin Run Rd (CR 21/1)</u>	
Quadangle: <u>Pullman 7.5'</u>	Generally used farm name: <u>Stanley Webb et al</u>	
Watershed: <u>North Fork Hughes River</u>		

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

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p><b>OOG OFFICE USE ONLY</b></p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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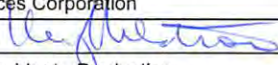
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**JUN 12 2017**  
WV Department of  
Environmental Protection

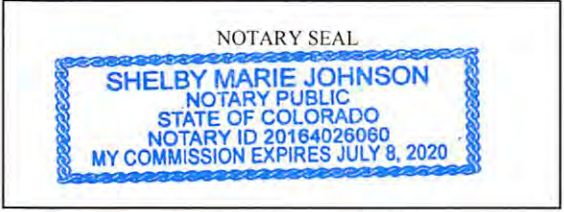
**Required Attachments:**

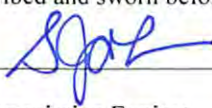
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication 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.

**Certification of Notice is hereby given:**

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

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



Subscribed and sworn before me this 8 day of June 2017.  
 Notary Public  
 My Commission Expires 7/8/2020

**Oil and Gas Privacy Notice:**

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

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 JUN 12 2017  
 WV Department of  
 Environmental Protection

WW-6A  
(9-13)

API NO. 47- 017 - 06850  
OPERATOR WELL NO. Burgess Unit 1H  
Well Pad Name: Stanley Pad

**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:** 6/9/2017    **Date Permit Application Filed:** 6/9/2017

**Notice of:**

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

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

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

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

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

SURFACE OWNER(s)  
Name: PLEASE SEE ATTACHMENT  
Address: \_\_\_\_\_

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

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

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

SURFACE OWNER(s) (Impoundments or Pits)  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

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

COAL OPERATOR  
Name: NO DECLARATIONS ON RECORD WITH COUNTY  
Address: \_\_\_\_\_

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

OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

\*Please attach additional forms if necessary

**RECEIVED**  
**Office of Oil and Gas**  
**JUN 12 2017**  
**WV Department of Environmental Protection**

08/04/2017

**Notice is hereby given:**

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

**This Notice Shall Include:**

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

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

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

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

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

**Well Location Restrictions**

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

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

**Water Well Testing:**

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

**Water Testing Laboratories:**

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

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

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

**Written Comment:**

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

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

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

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

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

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

**Comment Requirements**

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

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

**Permit Denial or Condition**

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

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

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

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

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WW-6A  
(8-13)

API NO. 47-017 - 06850  
OPERATOR WELL NO. Burgess Unit 1H  
Well Pad Name: Stanley Pad

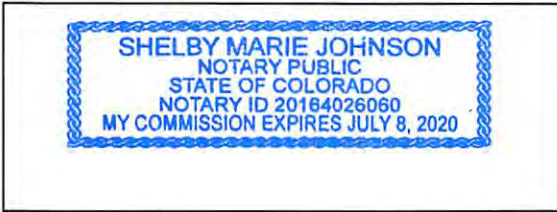
**Notice is hereby given by:**

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

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

**Oil and Gas Privacy Notice:**

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



Subscribed and sworn before me this 9 day of June 2017.

[Signature] Notary Public

My Commission Expires 7/8/2020

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08/04/2017

**WW-6A Notice of Application Attachment (Burgess Unit 1H):****List of Owners with Proposed Disturbance associated with Burgess Unit 1H (Stanley Pad):**

**WELL PAD** – These owners were notified of all well work permit applications and have executed signed Surface Use Agreements with Antero Resources Corporation.

**TM 15 PCL 2**

**Owner:** Stanley Webb, et al (James E. Webb,  
Richard L. Webb, Brian M. Webb) ✓  
**Address:** 945 Cabin Run Rd.  
West Union, WV 26456

**ROAD AND/OR OTHER DISTURBANCE** – These owners were only notified if their tract is overlying the oil and gas leasehold being developed by the proposed well work as outlined in WV Code 22-6A-10(b)(2).

**TM 15 PCL 2** (On-Lease)

**Owner:** Stanley Webb, et al (James E. Webb,  
Richard L. Webb, Brian M. Webb)  
**Address:** 945 Cabin Run Rd.  
West Union, WV 26456

**TM 12 PCL 38** (Off-Lease)

**TM 12 PCL 37.2** (Off-Lease)  
**Owner:** Shirley Jean Williams  
**Address:** 296 Cabin Run Rd  
West Union, WV 26456

**TM 15 PCL 1.1** (Off-Lease)

**Owner:** William P & Sharon D Britton  
**Address:** RR 1 Box 203  
West Union, WV 26456

**TM 12 PCL 26** (Off-Lease)

**TM 12 PCL 25** (Off-Lease)  
**Owner:** Randy Reese & Gary Wheeler  
ET AL  
**Address:** 1636 Lesson Rn.  
Greenwood, WV 26415

**Owner:** William P & Sharon D Britton  
(2<sup>nd</sup> Address)  
**Address:** 34 Britton Lane  
West Union, WV 26456

**TM 11 PCL 8** (Off-Lease)

**Owner:** I. L. (Ike) Morris  
**Address:** PO Box 397  
Glennville, WV 26351

**Owner:** I. L. (Ike) Morris (2<sup>nd</sup> Address)  
**Address:** 1595 US Highway 33 E  
Glennville, WV 26351

**TM 15 PCL 3** (Off-Lease)

**Owner:** James E. Webb (Life)  
**Address:** 813 Cabin Run Rd  
West Union, WV 26456

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**WATER SOURCE OWNERS:** These owners of water sources, within 1500' of the well pad, were notified of all well work permit applications.

1 Water Well: 1376' (WW1)  
**Owner:** Robert L. Britton, et ux  
**Address:** 2641 Leeson Run  
Pennsboro, WV 26415

5 Water Wells: 1113' (WW15), 1115'  
(WW16), 1415' (WW17), 1426' (WW18),  
1425' (WW22)  
**Owner:** James E. Webb  
**Address:** RR 1 Box 208A  
West Union, WV 26456

1 Water Well: 1381' (WW5)  
**Owner:** William P. Britton, et al  
**Address:** RR 1 Box 203  
West Union, WV 26456  
**Owner:** William P & Sharon D Britton  
(2<sup>nd</sup> Address)  
**Address:** 34 Britton Lane  
West Union, WV 26456

1 Water Well: 1417' (WW21)  
**Owner:** Daniel M. Webb  
**Address:** 945 Cabin Run Rd  
West Union, WV 26456

3 Water Wells: 1345' (WW8), 1176' (WW9),  
1081' (WW10)  
**Owner:** Stanley Webb, et al (James E. Webb,  
Richard L. Webb, Brian M. Webb) (3 Water Sources)  
**Address:** 945 Cabin Run Rd.  
West Union, WV 26456

2 Water Wells: 1202' (WW11) & 1299' (WW20)  
**Owner:** Brian Webb  
**Address:** RR 1 Box 207  
West Union, WV 26456

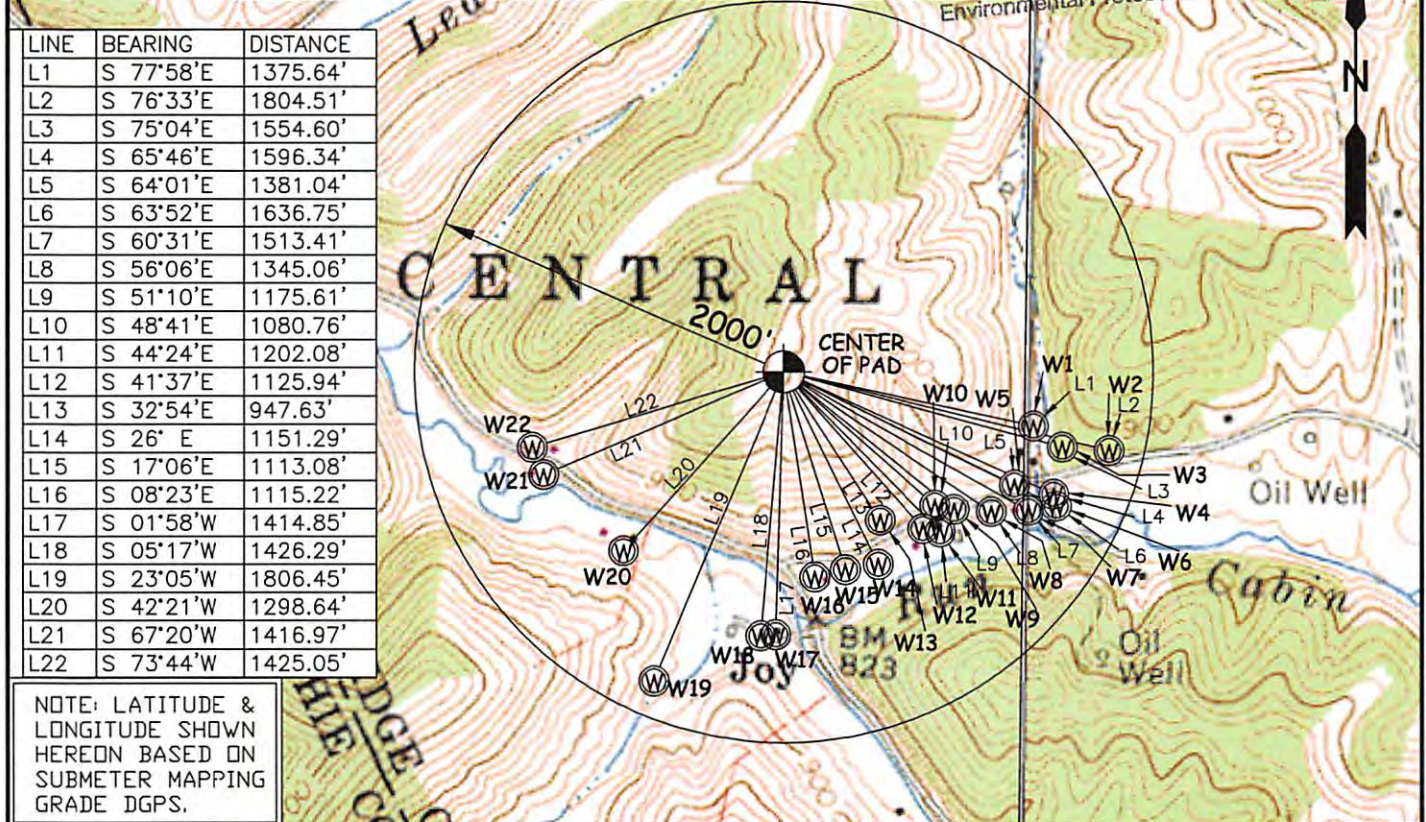
1 Water Well: 1126' (WW12)  
**Owner:** Edward Webb, et al  
**Address:** RR 1 Box 208  
West Union, WV 26456

1 Water Well: 948' (WW13)  
**Owner:** Robert P. Harris, et al  
**Address:** RR 1 Box 207  
West Union, WV 26456

1 Water Well: 1151' (WW14)  
**Owner:** Darlene D. Winemiller, et al  
**Address:** 858 Cabin Run Rd  
West Union, WV 26456

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Please note there are 6 additional water sources identified on the attached map, however they are located greater than 1500' from the proposed well location.



WELL	SURFACE OWNER	ADDRESS	DISTRICT-TAX MAP-PARCEL	WELL LATITUDE	WELL LONGITUDE
W1	ROBERT L. BRITTON ET UX	2641 LEESON RUN PENNSBORO, WV 26415	1-15-1.3	39° 14' 08.40"	80° 53' 03.98"
W2	JOSEPH E. BRITTON ET AL	3624 CABIN RUN RD WEST UNION, WV 26456	1-15-1.2	39° 14' 06.95"	80° 53' 03.19"
W3	WILLIAM P. BRITTON ET AL	RT 1 BOX 203 WEST UNION, WV 26456	1-15-1	39° 14' 02.93"	80° 52' 57.61"
W4	WILLIAM P. BRITTON ET AL	RT 1 BOX 203 WEST UNION, WV 26456	1-15-10	39° 13' 56.02"	80° 52' 55.35"
W5	WILLIAM P. BRITTON ET AL	RT 1 BOX 203 WEST UNION, WV 26456	1-15-10	39° 13' 58.49"	80° 52' 48.07"
W6	WILLIAM P. BRITTON ET AL	RT 1 BOX 203 WEST UNION, WV 26456	1-15-10	39° 13' 58.57"	80° 52' 47.02"
W7	STANLEY WEBB	945 CABIN RUN RD WEST UNION, WV 26456	1-15-2.2	39° 14' 01.67"	80° 52' 44.40"
W8	STANLEY WEBB	945 CABIN RUN RD WEST UNION, WV 26456	1-15-2.8	39° 14' 02.08"	80° 52' 42.31"
W9	STANLEY WEBB	945 CABIN RUN RD WEST UNION, WV 26456	1-15-2.8	39° 14' 02.40"	80° 52' 40.06"
W10	STANLEY WEBB ET AL	945 CABIN RUN RD WEST UNION, WV 26456	1-15-2	39° 14' 04.76"	80° 52' 39.98"
W11	BRIAN WEBB	RT 1 BOX 207 WEST UNION, WV 26456	1-15-2.7	39° 14' 04.34"	80° 52' 37.01"
W12	EDWARD WEBB ET AL	RT 1 BOX 208 WEST UNION, WV 26456	1-15-2.6	39° 14' 04.19"	80° 52' 35.82"
W13	ROBERT P. HARRIS ET AL	RT 1 BOX 207 WEST UNION, WV 26456	1-15-2.9	39° 14' 05.62"	80° 52' 36.22"
W14	DARLENE D. WINEMILLER ET AL	RT 1 BOX 207A WEST UNION, WV 26456	1-15-2.12	39° 14' 05.40"	80° 52' 34.90"
W15	JAMES E. WEBB	RT 1 BOX 208A WEST UNION, WV 26456	1-15-2.5	39° 14' 05.30"	80° 52' 32.34"
W16	JAMES E. WEBB	RT 1 BOX 208A WEST UNION, WV 26456	1-15-2.5	39° 14' 05.39"	80° 52' 29.79"
W17	JAMES E. WEBB	RT 1 BOX 208A WEST UNION, WV 26456	1-15-3	39° 14' 05.65"	80° 52' 27.86"
W18	JAMES E. WEBB	RT 1 BOX 208A WEST UNION, WV 26456	1-15-3	39° 14' 06.77"	80° 52' 30.78"
W19	JAMES E. WEBB	RT 1 BOX 208A WEST UNION, WV 26456	1-15-3	39° 14' 06.29"	80° 52' 28.05"
W20	BRIAN M. WEBB	RT 1 BOX 207 WEST UNION, WV 26456	1-15-3.5	39° 14' 08.82"	80° 52' 27.51"
W21	DANIEL M. WEBB	945 CABIN RUN RD WEST UNION, WV 26456	1-15-3.6	39° 14' 08.67"	80° 52' 24.29"
W22	JAMES E. WEBB	RT 1 BOX 208A WEST UNION, WV 26456	1-15-3	39° 14' 09.92"	80° 52' 29.52"

<b>WILLOW LAND SURVEYING, PLLC</b> P.O. BOX 17, PENNSBORO, WV 26415 (304) 659-1717	TOPO SECTION(S) OF : OXFORD 7.5' QUAD. & PULLMAN 7.5' QUAD. JOB #: 14-066WA	SCALE : 1-INCH = 1000-FEET 
DATE: 03/28/17	DRAWN BY: A.L.B.	FILE: STANLEYWATERMAP

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

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

**Notice Time Requirement:** Notice shall be provided at least **TEN (10)** days prior to filing a permit application.

**Date of Notice:** 05/25/2017      **Date Permit Application Filed:** 06/09/2017

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

HAND DELIVERY       CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

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

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

Name: Stanley Webb, et al (James E. Webb, Richard L. Webb, Brian M. Webb)  
Address: 945 Cabin Run Rd.  
West Union, WV 26456

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

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**Notice is hereby given:**

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

State: West Virginia      UTM NAD 83      Easting: 510401.4184m (Approximate Pad Center)  
County: Doddridge      Northing: 4343095.4306m (Approximate Pad Center)  
District: Central      Public Road Access: Cabin Run Rd (CR 21/1)  
Quadrangle: Pullman 7.5'; Oxford 7.5'      Generally used farm name: Stanley Webb et al  
Watershed: North Fork Hughes River

**This Notice Shall Include:**

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

**Notice is hereby given by:**

Well Operator: Antero Resources Appalachian Corporation  
Address: 1615 Wynkoop St.  
Denver, CO 80202  
Telephone: 303-357-6759  
Email: sklaas@anteroresources.com  
Facsimile: 303-357-7315

Authorized Representative: Samantha Klaas  
Address: 1615 Wynkoop St.  
Denver, CO 80202  
Telephone: 303-357-6759  
Email: sklaas@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](mailto:depprivacyofficer@wv.gov).

17-06850

WW-6A5  
(1/12)

Operator Well No. Burgess Unit 1H

**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:** 06/09/2017      **Date Permit Application Filed:** 06/09/2017

**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: Stanley Webb, et al (James E. Webb, Richard L. Webb, Brian M. Webb)  
Address: 945 Cabin Run Rd.,  
West Union, WV 26456

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

RECEIVED  
Office of Oil and Gas  
**JUN 12 2017**  
WV Department of  
Environmental Protection

**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: <u>West Virginia</u>	UTM NAD 83	Eastings: <u>510405m</u>
County: <u>Doddridge</u>		Northing: <u>4343079m</u>
District: <u>Central</u>	Public Road Access: <u>Cabin Run Rd (CR 21/1)</u>	
Quadrangle: <u>Pullman 7.5'</u>	Generally used farm name: <u>Stanley Webb et al</u>	
Watershed: <u>North Fork Hughes River</u>		

**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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

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

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

**Oil and Gas Privacy Notice:**

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

08/04/2017



17-06850



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

Jim Justice  
Governor

Thomas J. Smith, P. E.  
Secretary of Transportation/  
Commissioner of Highways

Reissued March 21, 2017

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

Subject: DOH Permit for the Stanley Webb Pad, Doddridge County  
Burgess Unit 1H Well site

47-017-06850

RECEIVED  
Office of Oil and Gas  
JUN 12 2017  
WV Department of  
Environmental Protection

Dear Mr. Martin,

This well site will be accessed from a DOH permit 04-2012-1097 issued to Antero Resources Corporation for access to the State Road for a well site located off of Doddridge County Route 21/1 SLS.

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

Very Truly Yours,

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

Cc: Shelby Johnson  
Antero Resources Corporation  
CH, OM, D-4  
File

# List of Anticipated Additives Used for Fracturing or Stimulating Well

Additives	Chemical Abstract Service Number (CAS #)
Fresh Water	7732-18-5
2 Phosphobutane 1,2,4 tricarboxylic acid	37971-36-1
Ammonium Persulfate	7727-54-0
Anionic copolymer	Proprietary
Anionic polymer	Proprietary
BTEX Free Hydrotreated Heavy Naphtha	64742-48-9
Cellulase enzyme	Proprietary
Demulsifier Base	Proprietary
Ethoxylated alcohol blend	Mixture
Ethoxylated Nonylphenol	68412-54-4
Ethoxylated oleylamine	26635-93-8
Ethylene Glycol	107-21-1
Glycol Ethers	111-76-2
Guar gum	9000-30-0
Hydrogen Chloride	7647-01-0
Hydrotreated light distillates, non-aromatic, BTEX free	64742-47-8
Isopropyl alcohol	67-63-0
liquid, 2,2-dibromo-3-nitrilopropionamide	10222-01-2
Microparticle	Proprietary
Petroleum Distillates (BTEX Below Detect)	64742-47-8
Polyacrylamide	57-55-6
Propargyl Alcohol	107-19-7
Propylene Glycol	57-55-6
Quartz	14808-60-7
Sillica, crystalline quartz	7631-86-9
Sodium Chloride	7647-14-5
Sodium Hydroxide	1310-73-2
Sugar	57-50-1
Surfactant	68439-51-0
Suspending agent (solid)	14808-60-7
Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7
Solvent Naphtha, petroleum, heavy aliph	64742-96-7
Soybean Oil, Me ester	67784-80-9
Copolymer of Maleic and Acrylic Acid	52255-49-9
DETA phosphonate	15827-60-8
Hexamethylene Triamine Penta	34690-00-1
Phosphino Carboxylic acid polymer	71050-62-9
Hexamethylene Diamine Tetra	23605-75-5
2-Propenoic acid, polymer with 2 propenamide	9003-06-9
Hexamethylene diamine penta (methylene phosphonic acid)	23605-74-5
Diethylene Glycol	111-46-6
Methenamine	100-97-0
Polyethylene polyamine	68603-67-8
Coco amine	61791-14-8
2-Propyn-1-olcompound with methyloxirane	38172-91-7

RECEIVED  
Office of Oil and Gas  
JUN 12 2017  
WV Department of  
Environmental Protection



# STANLEY WELL AND WATER CONTAINMENT PAD AS BUILT PLANS

**WVDEP OOG  
ACCEPTED AS-BUILT**

*WJL* 6/30/2017

ANTERO RESOURCES CORPORATION



## PROJECT CONTACTS

### PROJECT OWNER

ANTERO RESOURCES  
1815 WYNKOOP STREET  
DENVER, CO 80202

CONTACT: BOB WIRKS  
DESIGN MANAGER  
304.842.4100 OFFICE  
304.627.7405 CELL

CONTACT: ELI WAGNER  
ENVIRONMENTAL  
ENGINEER  
304.842.4088 OFFICE  
304.478.9770 CELL

CONTACT: JON MCEVERS  
OPERATIONS  
SUPERINTENDENT  
304.842.4739 OFFICE  
303.808.2423 CELL

CONTACT: AARON KUNZLER  
CONSTRUCTION MANAGER  
304.641.8242

### LOCATION SURVEYOR

TRIPLE H ENTERPRISES  
CONTACT: DARELL BOICE, PS  
845 CABIN RUN ROAD  
WEST UNION, WV 26068  
304.295.6493

### ENGINEER OF RECORD

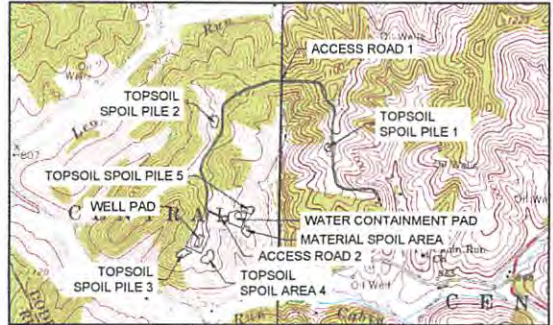
KLEINFELDER EAST, INC  
CONTACT: JOSH D. FREGOSI, PE  
WV PE #20281  
230 EXECUTIVE DRIVE, SUITE 122  
CRANBERRY TOWNSHIP, PA 16006  
724.772.7072 OFFICE  
724.772.7079 FAX

### ENVIRONMENTAL/ DELINEATION BOUNDARY

ALLSTAR ECOLOGY LLC  
CONTACT: TERRY BURHANS  
1562 MEADOWDALE ROAD  
FAIRMONT, WV 26564  
304.818.3480 OFFICE  
858.243.9600 CELL

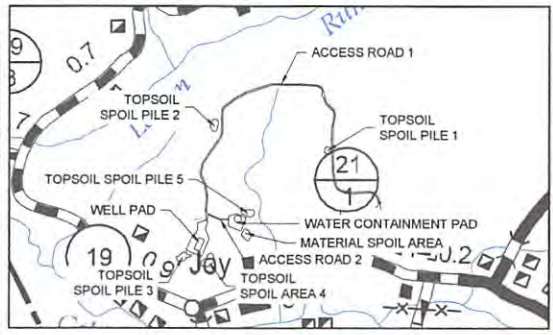
### TOPO SURVEYOR

BLUE MOUNTAIN AERIAL MAPPING  
CONTACT: CRAIG FRY  
11023 MASON DIXON HIGHWAY  
BURTON, WV 26562  
304.852.2838 OFFICE  
304.815.4860 CELL



NORTH MERIDIAN REFERENCED TO NAD83 WEST VIRGINIA STATE PLANE NORTH ZONE

OXFORD'S PULLMAN 7.5 QUAD  
LITTLE MUSKOGUE  
MIDDLE ISLAND  
WATERSHED



SHEET INDEX	
PAGE NO.	DESCRIPTION
1	COVER PAGE & LOCATION MAP
2	OVERALL SITE PLAN
3-8	SITE PLAN
10-12	PROFILES

WELL HEAD LAYOUT					
NAD 83 (WV NORTH ZONE)					
WELL NAME	NORTHING	EASTING	LATITUDE	LONGITUDE	API
BURGESS UNIT 2H	271427.3202	1577798.5884	39.23897829	-80.87942195	47.017-08732-00
BURGESS UNIT 1H	271418.1116	1577795.6678	39.23895204	-80.87943516	47.017-08731-00
COOL UNIT 2H	271408.9029	1577791.7888	39.23892720	-80.87944843	47.017-08534-00
COOL UNIT 1H	271399.6943	1577787.8899	39.23890175	-80.87946169	47.017-08533-00
HATTIE UNIT 3H	271390.4856	1577783.0911	39.23887631	-80.87947495	47.017-08537-00
HATTIE UNIT 2H	271381.2770	1577780.0923	39.23885087	-80.87948822	47.017-08536-00
HATTIE UNIT 1H	271372.0683	1577776.1935	39.23882542	-80.87950148	47.017-08535-00

WELL HEAD LAYOUT					
NAD 27 (WV NORTH ZONE)		UTM ZONE 17 (METERS)		API	
WELL NAME	NORTHING	EASTING	NORTHING	EASTING	API
BURGESS UNIT 2H	271392.7644	1809240.6599	4343081.7582	510408.1527	47.017-08732-00
BURGESS UNIT 1H	271374.5558	1809236.7560	4343076.9330	510405.0118	47.017-08731-00
COOL UNIT 2H	271374.3472	1809232.6591	4343076.078	510403.8708	47.017-08534-00
COOL UNIT 1H	271365.1386	1809228.5602	4343073.2625	510402.7299	47.017-08533-00
HATTIE UNIT 3H	271355.0301	1809228.0813	4343070.4573	510401.5889	47.017-08537-00
HATTIE UNIT 2H	271346.7215	1809221.1624	4343067.6521	510400.4480	47.017-08536-00
HATTIE UNIT 1H	271337.5129	1809217.2634	4343064.8088	510399.3073	47.017-08535-00

LIMITS OF DISTURBANCE		
DESCRIPTION	AREA (ACRES)	AFFECTED TAX PARCELS
ACCESS ROAD 1	0.89	JAMES E WEBB TAX MAP # 15 DB 201 PG 17
JAMES WEBB ACCESS ROAD	2.37	
ACCESS ROAD 1	1.17	SHIRLEY J WILLIAMS TAX MAP # 12 PARCEL # 28 WB #17 PG 168
ACCESS ROAD 1	18.34	
ACCESS ROAD 2	0.43	TAX MAP # 11 PARCEL # 5 DB 200 PG 307
WATER CONTAINMENT PAD	1.14	
TOPSOIL SPOIL PILE 1	0.76	
TOPSOIL SPOIL PILE 2	1.18	
TOPSOIL SPOIL PILE 5	0.93	
DIVERSION DITCHES	0.18	
ACCESS ROAD 1	0.33	ROBERT WILLIAMS TAX MAP # 12 PARCEL # 37 DB 201 / PG 408
ACCESS ROAD 1	2.39	SHIRLEY J WILLIAMS TAX MAP # 12 PARCEL # 27 WB #17 PG 168
ACCESS ROAD 1	0.88	RANDY REESE & GARY WHEELER TAX MAP # 12 PARCEL # 28 WB 38 PG 218
ACCESS ROAD 1	0.22	RANDY REESE & GARY WHEELER TAX MAP # 12 PARCEL # 25 WB 38 PG 218
ACCESS ROAD 1	1.06	WM F & SHARON DE BRITTON TAX MAP # 15 PARCEL # 11 DB 149 PG 33
ACCESS ROAD 2	0.04	
ACCESS ROAD 1	0.48	STALEY R WEBB ET AL TAX MAP # 15 PARCEL # 2 DB 162 PG 342
ACCESS ROAD 2	0.88	
WATER CONTAINMENT PAD	1.80	
MATERIAL SPOIL PILE 1	0.93	
WELL PAD	8.37	
TOPSOIL SPOIL AREA 3	1.23	
TOPSOIL SPOIL AREA 4	1.40	
DIVERSION DITCHES	0.55	
TOTAL	43.30	
TOTAL WOODED ACRES DISTURBED	22.61	
TOTAL NON WOODED ACRES DISTURBED	20.69	

LIMITS OF DISTURBANCE	
DESCRIPTION	AREA (ACRES)
WELL PAD	9.00
WATER CONTAINMENT PAD	5.51
ACCESS ROAD 1	25.30
ACCESS ROAD 2	1.12
JAMES WEBB ACCESS ROAD	2.37
TOTAL	43.30

SITE LOCATIONS				
DESCRIPTION	NAD 83 (WV NORTH)		UTM ZONE 17 (METERS)	
	LATITUDE	LONGITUDE	NORTHING	EASTING
CENTER OF WELL PAD	39.23710135	-80.87947654	4343095.4306	510401.4164
CENTER OF WATER CONTAINMENT PAD	39.23797324	-80.87732122	4343192.4394	510587.2961
STANLEY ACCESS ROAD ENTRANCE	39.23895666	-80.86901707	4343273.7250	511303.8363
JAMES WEBB ACCESS ROAD ENTRANCE	39.23822000	-80.86847100	4342998.9441	511351.3815

FLOODPLAIN CONDITIONS	
DO SITE CONSTRUCTION ACTIVITIES TAKE PLACE IN FLOODPLAIN:	NO
PERMIT NEEDED FROM COUNTY FLOODPLAIN COORDINATOR:	NO
HEC-RAS STUDY COMPLETED:	N/A
FLOODPLAIN SHOWN ON DRAWINGS:	N/A
FIRM MAP NUMBER(S) FOR SITE:	54017C0220C & 54017C0225C
ACREAGES OF CONSTRUCTION IN FLOODPLAIN:	N/A

ACCESS ROAD LENGTH (FEET)	
DESCRIPTION	FEET
ACCESS ROAD 1	6,347
ACCESS ROAD 2	368
TOTAL	6,715

### DESIGN CERTIFICATION

THE DRAWINGS, CONSTRUCTION NOTES, AND REFERENCE DIAGRAMS ATTACHED HERETO HAVE BEEN PREPARED IN ACCORDANCE WITH THE WEST VIRGINIA CODE OF STATE RULES, DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS §33-8.

### MM-109 PERMIT

ANTERO RESOURCES WILL OBTAIN AN ENHANCEMENT PERMIT (MM-109) FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

### WELL LOCATION RESTRICTIONS

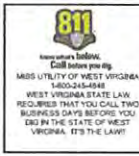
- DRILL PAD IS TO COMPLY WITH WELL LOCATION RESTRICTIONS OF WV CODE 22-6A-12 THE PADS COMPLY WITH THE FOLLOWING RESTRICTIONS
- 250' FROM AN EXISTING WELL OR DEVELOPED SPRING USED FOR HUMAN OR DOMESTIC CONSUMPTION
  - 825' FROM AN OCCUPIED DWELLING OR BARN GREATER THAN 2000 SF USED FOR POULTRY OR DAIRY MEASURED FROM THE CENTER OF THE PAD
  - 100' FROM EDGE OF DISTURBANCE TO WETLANDS, PERENNIAL STREAMS, NATURAL OR ARTIFICIAL LAKE, POND OR RESERVOIR
  - 300' FROM EDGE OF DISTURBANCE TO NATURALLY REPRODUCING TROUT STREAMS
  - 1500' OF SURFACE OR GROUND WATER INTAKE TO A PUBLIC WATER SUPPLY

### PLAN REPRODUCTION WARNING

THE PLANS HAVE BEEN CREATED ON A80 D (22x34) SHEETS. FOR REDUCTIONS, REFER TO GRAPHIC SCALE.

THE PLANS HAVE BEEN CREATED FOR FULL COLOR PLOTTING. ANY SET OF THE PLANS THAT IS NOT PLOTTED IN FULL COLOR SHALL NOT BE CONSIDERED ADEQUATE FOR CONSTRUCTION PURPOSES.

WARNING: THE INFORMATION MAY BE LOST IN COPYING AND/OR GRAPHIC SCALE PLOTTING.



NO.	REVISION	BY	DATE
1	API & JAMES WEBB ACCESS ROAD	DHF	05/24/2017
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			



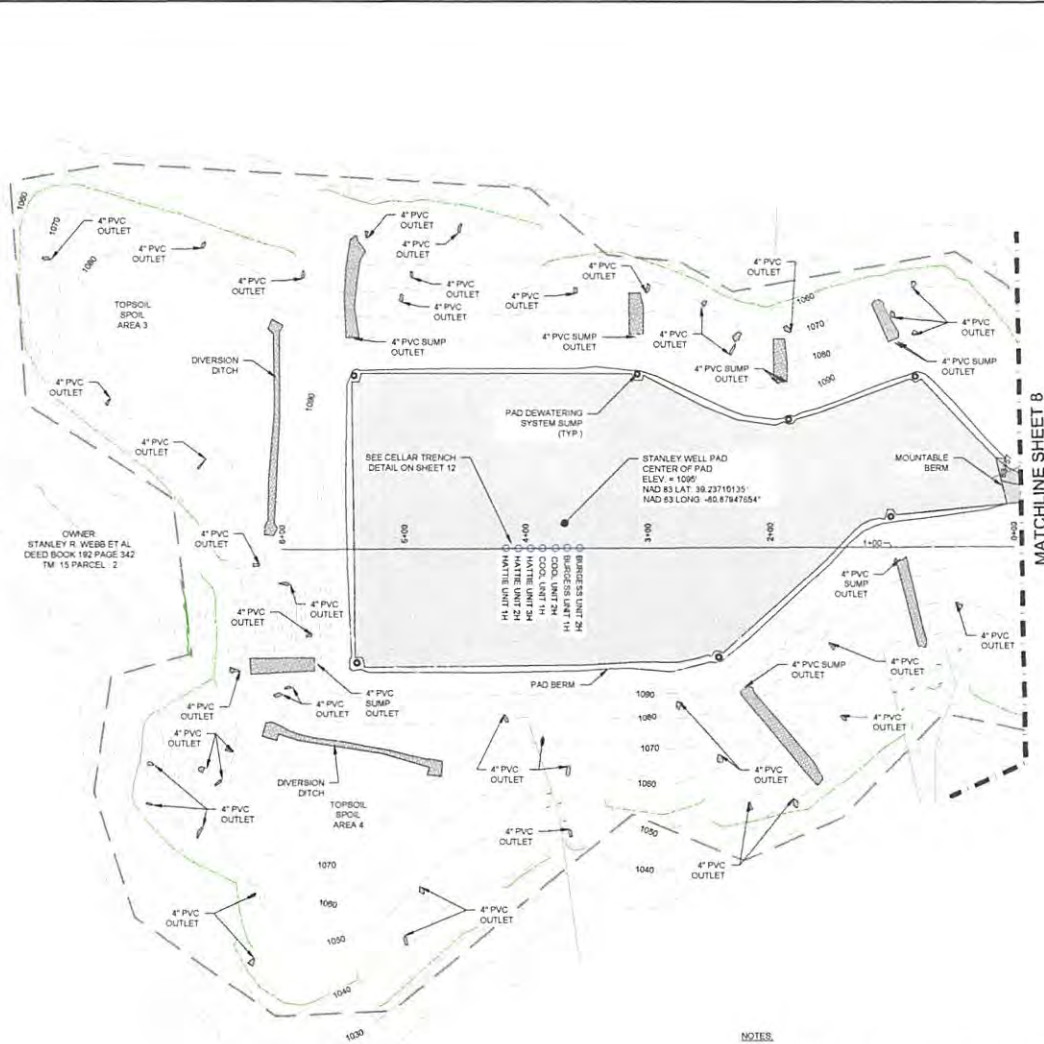
**STANLEY WELL & W.C. PAD  
COVER PAGE & LOCATION MAP**

ANTERO RESOURCES CORPORATION  
STANLEY WELL & WATER CONTAINMENT PAD  
CENTRAL DISTRICT  
WEST VIRGINIA  
DODDRIIDGE COUNTY

DESIGNED BY: CHT  
MODIFIED BY: DHF  
CHECKED BY: JDF  
DATE: 05/24/2017  
SCALE:  
ORIGINAL SCALE IN INCHES FOR REDUCED PLAN:  
1" = 50' 10" 15' 20'  
AS BUILT  
1 of 12 sheets

ATTENTION: THESE PLANS WERE PREPARED BY AN UNLICENSED PERSON. ANYONE WHOSE NAME IS LISTED AS A DESIGNER OR ENGINEER ON THESE PLANS IS NOT A LICENSED PROFESSIONAL ENGINEER OR ARCHITECT IN THE STATE OF WEST VIRGINIA. ANYONE WHOSE NAME IS LISTED AS A DESIGNER OR ENGINEER ON THESE PLANS IS NOT A LICENSED PROFESSIONAL ENGINEER OR ARCHITECT IN THE STATE OF WEST VIRGINIA.

ATTACHED MAPS: STANLEY WELL & W.C. PAD SITE PLAN, STANLEY WELL & W.C. PAD WATER CONTAINMENT PAD, STANLEY WELL & W.C. PAD DEWATERING SYSTEM (TYP), STANLEY WELL & W.C. PAD CELLAR TRENCH DETAIL ON SHEET 12



LEGEND		
1000	EX INDEX CONTOUR (10)	AS-BUILT MAJOR CONTOUR
1000	EX INTERMEDIATE CONTOUR (2)	AS-BUILT MINOR CONTOUR
---	EX PROPERTY LINE	AS-BUILT EDGE OF GRAVES
---	EX STREAM	EQUIPMENT PAD AND ACCESS ROAD
---	EX WETLAND	AS-BUILT ACCESS ROAD CENTERLINE
---	EX CULVERT	AS-BUILT STORM DRAINAGE PIPE
---	EX GAS LINE	AS-BUILT FETTER ROCK
---	EX ROAD	AS-BUILT GUARDRAIL
---	EX FENCE	AS-BUILT SUPER SALT FENCE
---	EX STRUCTURE	AS-BUILT PVC PIPE FOR SLUMP SYSTEM
---	LIMITS OF DISTURBANCE	FLARED END SECTION (FEET)
		AS-BUILT WELL HEAD
		AS-BUILT PAD PRIORITY SLUMP (DRAINAGE SYSTEM)
		AS-BUILT TRIP RAMP / STONE / MATCHES
		AS-BUILT GRAVEL SURFACE
		AS-BUILT PAVED SURFACE

**WVDEP OOG  
ACCEPTED AS-BUILT**  
*WJL* 5 / 30 / 2017

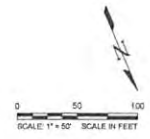
MATCHLINE SHEET 8

NO.	REVISION	BY	DATE
1	API & JAMES WEBB ACCESS ROAD	DHF	05/24/2017
2			
3			
4			

**KLEINFELDER**  
Bright People. Right Solutions.

ANTERO RESOURCES CORPORATION  
 STANLEY WELL & WATER CONTAINMENT PAD  
 CENTRAL DISTRICT  
 DODDRIDGE COUNTY  
 WEST VIRGINIA

4420 1ST  
 Stanley, VA 24163, USA  
 Phone: 724-772-7272 FAX: 724-772-7279  
 www.kleinfelder.com  
 20150902.001A



- NOTES:**
- 1 THE PRE-CONSTRUCTION TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON MAY 13, 2014 AND SEPTEMBER 5, 2014 SURVEY DATA BY BLUE MOUNTAIN AERIAL MAPPING, BURTON, WV.
  - 2 AS-BUILT INFORMATION SHOWN HEREON IS BASED ON FIELD SURVEY PERFORMED BY KELLY SURVEYING, PLLC ON FEBRUARY 9, 2017.
  - 3 THE PROPERTY LINES SHOWN HEREON DO NOT REPRESENT A BOUNDARY SURVEY ON ANY OF THE PARCELS SHOWN. PROPERTY CORNERS AND LINES PERTINENT TO WELL LOCATION ARE BASED ON A FIELD SURVEY. THE REMAINDER OF THE PROPERTY LINES ARE BASED ON COUNTY REAL ESTATE TAX MAPS, GIS INFORMATION AND DEEDS OF RECORD.
  - 4 UTILITIES AND THEIR LOCATIONS AS SHOWN HEREON ARE BASED ON:
    - 4.1 OBSERVABLE EVIDENCE OF THOSE VISIBLE, ABOVE-GROUND FACILITIES, FEATURES, AND MARKERS WHICH WERE FOUND ON THE SUBJECT PROPERTY AT THE TIME OF SURVEY PERFORMED BY WHITE BROTHERS CONSULTING, LLC
    - 4.2 FIELD MARKINGS PLACED BY UTILITY COMPANIES IN RESPONSE TO THE WV 811 TICKET SUBMITTED BY ANTERO RESOURCES CORPORATION. KLEINFELDER CANNOT GUARANTEE THE ACCURACY OF THE UTILITY MARKINGS PERFORMED BY OTHERS OR THAT ALL UTILITIES EXISTING WITHIN THE LIMITS OF THIS PLAN ARE SHOWN. ANY UTILITIES ENCOUNTERED SUBSEQUENT TO PLAN APPROVAL, OR DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE PLAN SHOULD BE REPORTED TO KLEINFELDER AND ANTERO RESOURCES CORPORATION.

DESIGNED BY: DHT	
MODIFIED BY: DHF	
CHECKED BY: JDF	
DATE: 05/24/2017	
SCALE:	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANE	
0 0.5 1.0 1.5 2.0	
AS BUILT	
<b>9</b>	
9 of 12 sheets	

PLOTTED: 25 May 2017, 2:13pm, ghegal



# STANLEY WELL AND WATER AS BUILT PLAN

**WVDEP OOG  
ACCEPTED AS-BUILT**

*WJ* 5/30/2017

ANTERO RESOURCES C



## PROJECT CONTACTS

### PROJECT OWNER

ANTERO RESOURCES  
1615 WYNKOOP STREET  
DENVER, CO 80202

CONTACT: BOB WIRKS  
DESIGN MANAGER  
304.842.4100 OFFICE  
304.627.7405 CELL

CONTACT: JON MCEVERS  
OPERATIONS  
SUPERINTENDENT  
304.842.4739 OFFICE  
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CONTACT: ELI WAGONER  
ENVIRONMENTAL  
ENGINEER  
304.842.4068 OFFICE  
304.476.9770 CELL

CONTACT: AARON KUNZLER  
CONSTRUCTION MANAGER  
304.641.8242

### LOCATION SURVEYOR

TRIPLE H ENTERPRISES  
CONTACT: DARELL BOICE, PS  
945 CABIN RUN ROAD  
WEST UNION, WV 26456  
304.266.6493

### ENGINEER OF RECORD

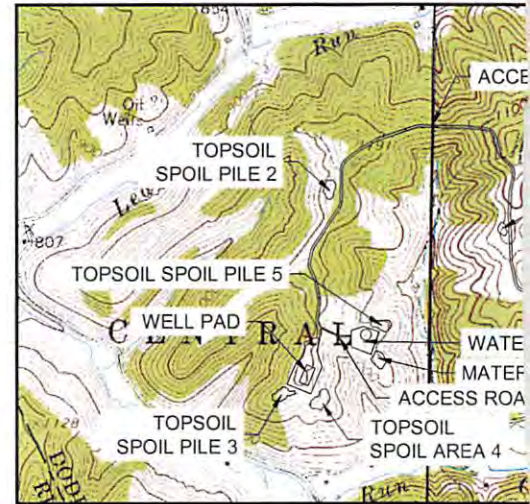
KLEINFELDER EAST, INC.  
CONTACT: JOSH D. FREGOSI, PE  
WV PE #20261  
230 EXECUTIVE DRIVE, SUITE 122  
CRANBERRY TOWNSHIP, PA 16066  
724.772.7072 OFFICE  
724.772.7079 FAX

### ENVIRONMENTAL/ DELINEATION BOUNDARY

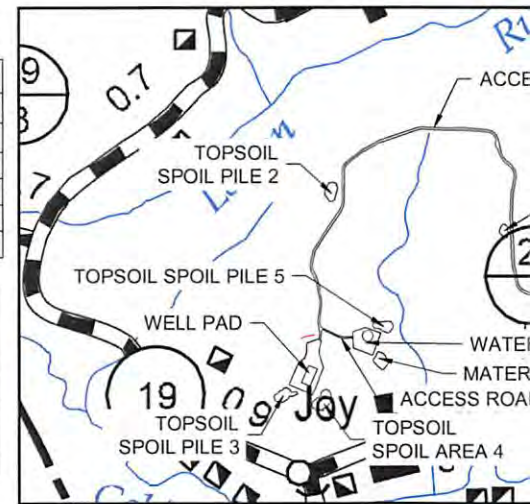
ALLSTAR ECOLOGY, LLC  
CONTACT: TERRY BURHANS  
1582 MEADOWDALE ROAD  
FAIRMONT, WV 26554  
304.816.3490 OFFICE  
858.243.9900 CELL

### TOPO SURVEYOR

BLUE MOUNTAIN AERIAL MAPPING  
CONTACT: CRAIG FRY  
11023 MASON DIXON HIGHWAY  
BURTON, WV 26562  
304.662.2626 OFFICE  
304.815.4890 CELL



NORTH MERIDIAN  
REFERENCED TO NAD83  
WEST VIRGINIA STATE  
PLANE NORTH ZONE



DESCRIPTION	SITE LOCATIONS			
	NAD 83 (WV NORTH)		UTM ZONE 17 (METERS)	
	LATITUDE	LONGITUDE	NORTHING	EASTING
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CENTER OF WATER CONTAINMENT PAD	39.23797324	-80.87732122	4343192.4394	510587.2961
STANLEY ACCESS ROAD ENTRANCE	39.23869666	-80.86901707	4343273.7250	511303.8363
JAMES WEBB ACCESS ROAD ENTRANCE	39.23622000	-80.86847100	4342998.9441	511351.3615

FLOODPLAIN CONDITIONS	
DO SITE CONSTRUCTION ACTIVITIES TAKE PLACE IN FLOODPLAIN:	NO
PERMIT NEEDED FROM COUNTY FLOODPLAIN COORDINATOR:	NO
HEC-RAS STUDY COMPLETED:	N/A
FLOODPLAIN SHOWN ON DRAWINGS:	N/A
FIRM MAP NUMBER(S) FOR SITE:	54017C0200C & 54017C0225C
ACREAGES OF CONSTRUCTION IN FLOODPLAIN:	N/A

ACCESS ROAD LENGTH (FEET)	
DESCRIPTION	FEET
ACCESS ROAD 1	6,347
ACCESS ROAD 2	368
TOTAL	6,715

**811**  
Know what's below.  
Call before you dig.  
MISS UTILITY OF WEST VIRGINIA  
1-800-245-4848  
WEST VIRGINIA STATE LAW  
REQUIRES THAT YOU CALL TWO  
BUSINESS DAYS BEFORE YOU  
DIG IN THE STATE OF WEST  
VIRGINIA. IT'S THE LAW!

### DESIGN CERTIFICATION

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

### MM-109 PERMIT

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

### WELL LOCATION RESTRICTIONS

DRILL PAD IS TO COMPLY WITH WELL LOCATION RESTRICTIONS OF WV CODE 22-6A-12. THE PADS COMPLY WITH THE FOLLOWING RESTRICTIONS:

- 250' FROM AN EXISTING WELL OR DEVELOPED SPRING USED FOR HUMAN OR DOMESTIC ANIMALS
- 625' FROM AN OCCUPIED DWELLING OR BARN GREATER THAN 2500 SF USED FOR POULTRY OR DAIRY MEASURED FROM THE CENTER OF THE PAD
- 100' FROM EDGE OF DISTURBANCE TO WETLANDS, PERENNIAL STREAMS, NATURAL OR ARTIFICIAL LAKE, POND OR RESERVOIR
- 300' FROM EDGE OF DISTURBANCE TO NATURALLY REPRODUCING TROUT STREAMS
- 1000' OF SURFACE OR GROUND WATER INTAKE TO A PUBLIC WATER SUPPLY

### PLAN REVISIONS

THE PLANS HAVE REDUCTIONS, REVISIONS, AND

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\*\*\*WARNING\*\*\* INFORMATION NOT CONSIDERED ADEQUATE FOR SCALE PLOTTING.

08/04/2017

17-06850

# WATER CONTAINMENT PAD PLANS

OFFICE OF OIL & GAS JUN 16 2017

ANTERO CORPORATION

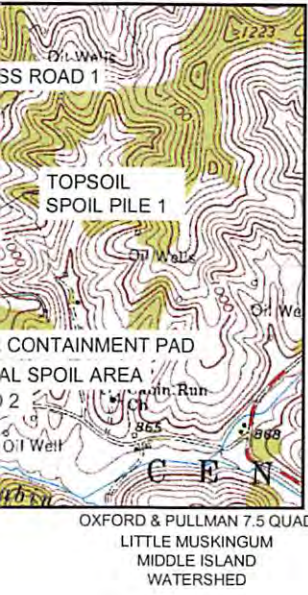
SHEET INDEX	
PAGE NO.	DESCRIPTION
1	COVER PAGE & LOCATION MAP
2	OVERALL SITE PLAN
3-9	SITE PLAN
10-12	PROFILES

Sub 2 for 6/15/17

NO.	REVISION	BY	DATE
1	API & JAMES WEBB ACCESS ROAD	DHF	05/24/2017
2			
3			
4			
5			

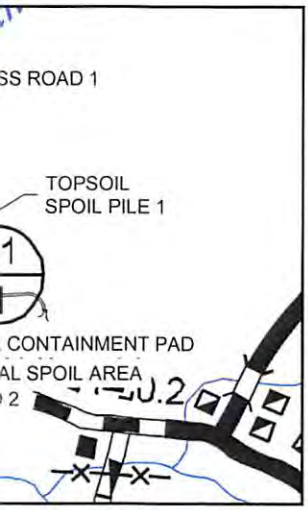
WELL HEAD LAYOUT					
WELL NAME	NAD 83 (WV NORTH ZONE)				
	NORTHING	EASTING	LATITUDE	LONGITUDE	API
BURGESS UNIT 2H	271427.3202	1577799.5864	39.23697809	-80.87942190	47-017-06732-00
BURGESS UNIT 1H	271418.1116	1577795.6876	39.23695264	-80.87943516	47-017-06731-00
COOL UNIT 2H	271408.9029	1577791.7888	39.23692720	-80.87944843	47-017-06834-00
COOL UNIT 1H	271399.8943	1577787.8899	39.23690175	-80.87946165	47-017-06833-00
HATTIE UNIT 3H	271390.4856	1577783.9911	39.23687631	-80.87947495	47-017-06837-00
HATTIE UNIT 2H	271381.2770	1577780.0923	39.23685087	-80.87948822	47-017-06836-00
HATTIE UNIT 1H	271372.0683	1577776.1935	39.23682542	-80.87950148	47-017-06835-00

WELL HEAD LAYOUT					
WELL NAME	NAD 27 (WV NORTH ZONE)		UTM ZONE 17 (METERS)		API
	NORTHING	EASTING	NORTHING	EASTING	
BURGESS UNIT 2H	271392.7844	1609240.6569	4343081.7582	510406.1527	47-017-06732-00
BURGESS UNIT 1H	271383.5558	1609236.7580	4343078.9330	510405.0118	47-017-06731-00
COOL UNIT 2H	271374.3472	1609232.8591	4343076.1078	510403.8708	47-017-06834-00
COOL UNIT 1H	271365.1386	1609228.9602	4343073.2825	510402.7299	47-017-06833-00
HATTIE UNIT 3H	271355.9301	1609225.0613	4343070.4573	510401.5889	47-017-06837-00
HATTIE UNIT 2H	271346.7215	1609221.1624	4343067.6321	510400.4480	47-017-06836-00
HATTIE UNIT 1H	271337.5129	1609217.2634	4343064.8069	510399.3070	47-017-06835-00



LIMITS OF DISTURBANCE		
DESCRIPTION	AREA (ACRES)	AFFECTED TAX PARCELS
ACCESS ROAD 1	0.69	JAMES E WEBB TAX MAP # 15 PAGE # 3 DB: 221 / PG. 17
JAMES WEBB ACCESS ROAD	2.37	
ACCESS ROAD 1	1.17	SHIRLEY J. WILLIAMS TAX MAP # 12 PARCEL # 38 WB: 41 / PG. 168
ACCESS ROAD 1	16.34	IKE MORRIS TAX MAP # 11 PARCEL # 8 DB: 230 / PG. 307
ACCESS ROAD 2	0.43	
WATER CONTAINMENT PAD	1.14	
TOPSOIL SPOIL PILE 1	0.76	
TOPSOIL SPOIL PILE 2	1.18	
TOPSOIL SPOIL PILE 5	0.93	
DIVERSION DITCHES	0.16	
ACCESS ROAD 1	0.33	ROBERT WILLIAMS TAX MAP # 12 PARCEL # 37 DB: 201 / PG. 428
ACCESS ROAD 1	2.39	SHIRLEY J. WILLIAMS TAX MAP # 12 PARCEL # 37.2 WB: 41 / PG. 168
ACCESS ROAD 1	0.68	RANDY REESE & GARY WHEELER TAX MAP # 12 PARCEL # 26 WB: 38 / PG. 219
ACCESS ROAD 1	0.22	RANDY REESE & GARY WHEELER TAX MAP # 12 PARCEL # 25 WB: 38 / PG. 219
ACCESS ROAD 1	1.06	WM P & SHARON DE BRITTON TAX MAP # 15 PARCEL # 1.1 DB: 149 / PG. 33
ACCESS ROAD 2	0.04	
ACCESS ROAD 1	0.48	STANLEY R. WEBB ET AL TAX MAP # 15 PARCEL # 2 DB: 192 / PG. 342
ACCESS ROAD 2	0.65	
WATER CONTAINMENT PAD	1.80	
MATERIAL SPOIL PILE 1	0.93	
WELL PAD	6.37	
TOPSOIL SPOIL AREA 3	1.23	
TOPSOIL SPOIL AREA 4	1.40	
DIVERSION DITCHES	0.55	
TOTAL	43.30	
TOTAL WOODED ACRES DISTURBED	22.65	
TOTAL NON-WOODED ACRES DISTURBED	20.65	

LIMITS OF DISTURBANCE	
DESCRIPTION	AREA (ACRES)
WELL PAD	9.00
WATER CONTAINMENT PAD	5.51
ACCESS ROAD 1	25.30
ACCESS ROAD 2	1.12
JAMES WEBB ACCESS ROAD	2.37
TOTAL	43.30



**PRODUCTION WARNING**  
 THESE PLANS WERE CREATED ON ANSI D (22"x34") SHEETS. FOR FULL COLOR PLOTTING, ANY SETTING OR PRINTING TO GRAPHIC SCALE.  
 THESE PLANS WERE CREATED FOR FULL COLOR PLOTTING. ANY SETTING OR PRINTING TO GRAPHIC SCALE SHALL NOT BE USED FOR CONSTRUCTION PURPOSES.  
 INFORMATION MAY BE LOST IN COPYING AND/OR GRAYING.

**KLEINFELDER**  
 Bright People. Right Solutions.  
 230 EXECUTIVE DRIVE, SUITE 122  
 CRANBERRY TOWNSHIP, PA 16066  
 PH: 724-772-7072 FAX: 724-772-7079  
 www.kleinfelder.com

PROJ. NO. 20150682.001A  
 COVER\_AS\_BUILT.dwg

**STANLEY WELL & W.C. PAD COVER PAGE & LOCATION MAP**

ANTERO RESOURCES CORPORATION  
 STANLEY WELL & WATER CONTAINMENT PAD  
 CENTRAL DISTRICT  
 DODDRIDGE COUNTY WEST VIRGINIA

**JOSHUA D. FREGOSI**  
 REGISTERED PROFESSIONAL ENGINEER  
 STATE OF WEST VIRGINIA  
 20261

SEAL

DESIGNED BY:	CHT
MODIFIED BY:	DHF
CHECKED BY:	JDF
DATE:	05/24/2017
SCALE:	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	
0 0.5 1.0 1.5 2.0	
AS BUILT	

08/04/2017