

west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary www.dep.wv.gov

Wednesday, April 14, 2021 WELL WORK PERMIT Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION 1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit approval for RED LADY 5H 47-103-03376-00-00

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: RED LADY 5H

Farm Name: MARGARET LANDCASTER

U.S. WELL NUMBER: 47-103-03376-00-00

Horizontal 6A New Drill Date Issued: 04/14/2021

API Number:	

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

- 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.

API Number:	

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.

API NO. 47-103	_033	76	H6A
OPERATOR WE	LL NO. Re	d Lady Uni	it 5H
Well Pad Name	Red Lady i	Pad	

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

1) Well Operat	or: Antero	Resources	Corporat	494507062	013-Wetzel	Green	Pine Grove 7.5'
· , · · · · · - - 	***************************************			Operator ID	County	District	Quadrangle
2) Operator's \	Well Numbe	er: Red Lady	Unit 5H	Well Pad	Name: Red I	ady Pad	
3) Farm Name	/Surface Ow	vner: Margar	et Lancas	ster Public Roa	d Access: Rou	ıte 46	
4) Elevation, c	urrent groun	nd: 1216'	Ele	evation, proposed	post-constructi	on: <u>~1207</u>	71
5) Well Type	(a) Gas Other	X	_ Oil	Unde	rground Storag	ge	
	(b)If Gas	Shallow Horizontal		Deep			
6) Existing Pac	d: Yes or No	No					
7) Proposed Ta Marcellus SI	arget Forma hale: 7400' T	tion(s), Depth VD, Anticipate	n(s), Antici ed Thickne	pated Thickness a ss- 55 feet, Associa	nd Expected Patent Pressure- 2	ressure(s): 2800#	
8) Proposed To	otal Vertical	Depth: 740	o'TVD				
9) Formation a			Marcellus				RECEIVED Office of Oil and G
10) Proposed 7	Гotal Measu	red Depth:	7400' MD	J			APR 1 4 202
11) Proposed I	Horizontal L	eg Length:	0'				WV Department of
12) Approxima	ate Fresh W	ater Strata De	pths:	1040' J			Environmental Protec
13) Method to 14) Approxima				7-095-02032			
15) Approxima							
				ne, karst, other):	None Anticipa	ited	
17) Does Prop directly overly	osed well lo ving or adjac	eation contain ent to an activ	n coal sear ve mine?	ns Yes	No	, <u>X</u>	
(a) If Yes, pr	ovide Mine	Info: Name	e:				
		Depth	n:				
		Seam	:				
		Owne	er:				

WW-6B (04/15)

RECEIVED Office of Oil and Gas

APR 1 4 2021

API NO. 47-103 - 03376 HGA OPERATOR WELL NO. Red Lady Unit 5H Well Pad Name: Red Lady Pad

WV Department of Environmental Protection CASING AND TUBING PROGRAM

18)

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#	1090	1090 v	CTS, 1514 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500	2500 v	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	23#	7400	7400 v	1628 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

YPE Size (in) Wellbore Diameter (in) Wall Thickness (psi)

Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	<u>Yield</u> (cu. ft./k)
20"	24"	0.438"	1530	50	Class A	~1.18
13-3/8"	17-1/2"	0.38"	2730	1000	Class A	~1.18
9-5/8"	12-1/4"	0.352"	3520	1500	Class A	~1.18
5-1/2"	8-3/4" & 8-1/2"	0.415"	12,630	2500	Lead-HPOZ & Tail - H	H/POZ-1.44 & H-1.8
2-3/8"	4.778"	0.19"	11,200			
	20" 13-3/8" 9-5/8" 5-1/2"	Diameter (in) 20" 24" 13-3/8" 17-1/2" 9-5/8" 12-1/4" 5-1/2" 8-3/4" & 8-1/2"	Size (in) Wellbore Diameter (in) Thickness (in) 20" 24" 0.438" 13-3/8" 17-1/2" 0.38" 9-5/8" 12-1/4" 0.352" 5-1/2" 8-3/4" & 8-1/2" 0.415"	Size (in) Wellbore Diameter (in) Thickness (in) Burst Pressure (psi) 20" 24" 0.438" 1530 13-3/8" 17-1/2" 0.38" 2730 9-5/8" 12-1/4" 0.352" 3520 5-1/2" 8-3/4" & 8-1/2" 0.415" 12,630	Size (in) Wellbore Diameter (in) Thickness (in) Burst Pressure (psi) Max. Internal Pressure (psi) 20" 24" 0.438" 1530 50 13-3/8" 17-1/2" 0.38" 2730 1000 9-5/8" 12-1/4" 0.352" 3520 1500 5-1/2" 8-3/4" & 8-1/2" 0.415" 12,630 2500	Size (in) Wellbore Diameter (in) Thickness (in) Burst Pressure (psi) Max. Internal Pressure (psi) Cement Type 20" 24" 0.438" 1530 50 Class A 13-3/8" 17-1/2" 0.38" 2730 1000 Class A 9-5/8" 12-1/4" 0.352" 3520 1500 Class A 5-1/2" 8-3/4" & 8-1/2" 0.415" 12,630 2500 Leos/HFDZ & Tail-M

PACKERS

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

WW-6B (10/14)

APR 1 4 2021

API NO. 47-103 - 0337 & H & A

OPERATOR WELL NO. Red Lady Unit 5H

Well Pad Name: Red Lady Pad

WV Department of Environmental Protection

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.					

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): 51.15 acres
- 22) Area to be disturbed for well pad only, less access road (acres): 9.42 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.

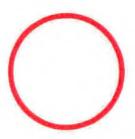
Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine lwater followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.

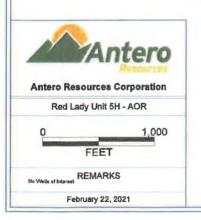
Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls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

^{*}Note: Attach additional sheets as needed.



Red Lady Unit 5H





Office of On and Gas

MAR 1 5 2021

WV Department of Environmental Protection

API Number	47 -	103	-		
One	rator's	Well	No. Red	Lady Unit 5H	_

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)_Fishing Creek	Quadrangle Porter Falls 7.5'
Do you anticipate using more than 5,000 bbls of water to com	plete the proposed well work? Yes No
Will a pit be used? Yes No	
If so, please describe anticipated pit waste: No pit will be	a used at this site (Drilling and Flowback Fluids will be stored in tanks. Cuttings will be tanked and hauted 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 .	: Nous and ALIC Pormit # will be provided on Form W/D 24
	nit Number_*UIC Permit # will be provided on Form WR-34 ted well locations when applicable. API# will be provided on Form WR-34)
	W-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 horizon	Surface - Air/Frashwater, Intermediate -
-If oil based, what type? Synthetic, petroleum, etc. 8	Synthetic
Additives to be used in drilling medium?Please See Attachmen	nt
Drill cuttings disposal method? Leave in pit, landfill, removed	d 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	e used? (cement, lime, sawdust) N/A
-Landfill or offsite name/permit number? Meadowfill L	andfill (Permit #SWF-1032-98), Northwestern Landfill (Permit # SWF-1025/WV0109410)
West Virginia solid waste facility. The notice shall be provided where it was properly disposed. I certify that I understand and agree to the terms and on August 1, 2005, by the Office of Oil and Gas of the West Vorovisions of the permit are enforceable by law. Violations of aw or regulation can lead to enforcement action. I certify under penalty of law that I have personall application form and all attachments thereto and that, base	Gas of any load of drill cuttings or associated waste rejected at any d within 24 hours of rejection and the permittee shall also disclose conditions of the GENERAL WATER POLLUTION PERMIT issued rigginia Department of Environmental Protection. I understand that the of any term or condition of the general permit and/or other applicable by examined and am familiar with the information submitted on this ed on my inquiry of those individuals immediately responsible for true, accurate, and complete. I am aware that there are significant
penalties for submitting false information, including the possib	
Company Official Signature Gretchen Kohler	
Company Official (Typed Name) Gretchen Kohler	
Company Official Title Senior Environmental & Regulatory Mar	nager
164	11
Subscribed and sworn before me this day of	17712W , 20 2
(10001) -	Notary Public MEGAN CHECKLY and Gas
My commission expired 3/13/20	NOTARREPUBLIC STATE OF COLORADO 2021 NOTARY INTERNATION OF THE PROPERTY OF TH
	MY COMMISSION EXPIRES MARCH 13, 202 WV Department of Environmental Protection
	Environment

04/16/2021

rroposed Kevegetation Treatme	nt: Acres Disturbed 55.15 ac	Prevegetation pl	н	
Lime 2-4	Tons/acre or to correct to pH	6.5		
Fertilizer type Hay or s	traw or Wood Fiber (will be used to	where needed)		
Fertilizer amount 500	lb	s/acre		
Mulch 2-3	Tons/a	acre		
		t) + Water Offload Access (7.28 acres) + Well Pad 10.61 acres) + Staging Area (2.18 acres) + Spoil Pi		
	Seed	Mixtures		
Temp	orary	Perms	anent	
Seed Type	lbs/acre	Seed Type	lbs/acre	
Annual Ryegrass	40	Crownvetch	10-15	
Field Bromegrass	40	Tall Fescue	30	
See attached Table IV-3 for additional se	eed type (Red Lady Pad Design)	See attached Table IV-4A for additional	seed type (Red Lady Pad Design	
		*or type of grass seed requested by surface owner		
	d proposed area for land applic will be land applied, include dia area.	*or type of grass seed reque ation (unless engineered plans inclu mensions (L x W x D) of the pit, and	ding this info have been	
Attach: Maps(s) of road, location, pit an provided). If water from the pit water application are land application application of involved	d proposed area for land applic will be land applied, include dia area. 7.5' topographic sheet.	ation (unless engineered plans inclu	ding this info have been	
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Attach: Maps(s) of road, location, pit an provided). If water from the pit watereage, of the land application application of involved Photocopied section of involved Plan Approved by:	d proposed area for land applic will be land applied, include dia area. 7.5' topographic sheet.	ation (unless engineered plans inclu	ding this info have been	

Office of Oil and Gas
MAR 1 5 2021

WV Department of Environmental Protection

04/16/2021

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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MAR 0 3 2021

WV Department of Environmental Protection 13. Escaid 110

Drilling Fluild Solvent - Aliphatic Hydrocarbon

14. Ligco

Highly Oxidized Leonardite - Filteration 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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Office of Oil and Gas

MAR 0 3 2021

WV Department of Environmental Protection



911 Address 9737 Wetzel Tyler Rd. Reader, WV 26167

Buyer Ham' 3.9.21

Well Site Safety Plan Antero Resources

Well Name: Red Lady Unit 5H

Pad Location: RED LADY PAD

Wetzel County/Green District

GPS Coordinates:

Entrance - Lat 39°52′52.80″/Long -80°76′25.70″ (NAD83)

Pad Center - Lat 39°52′38.61″/Long -80°76′72.16″ (NAD83)

Driving Directions:

From Middlebourne: Head NE onto WV-18 N/Main St. toward Court St./Dodd St. for 3.8 miles. Turn right onto Church Dr. for 302 ft. Turn right onto Elk Fork Rd. for 9.6 miles. Turn left onto Wetzel Tyler Ridge Rd. for 0.6 miles. Turn left to stay on Wetzel Tyler Ridge Rd. for 0.3 miles. Access road will be on your right.

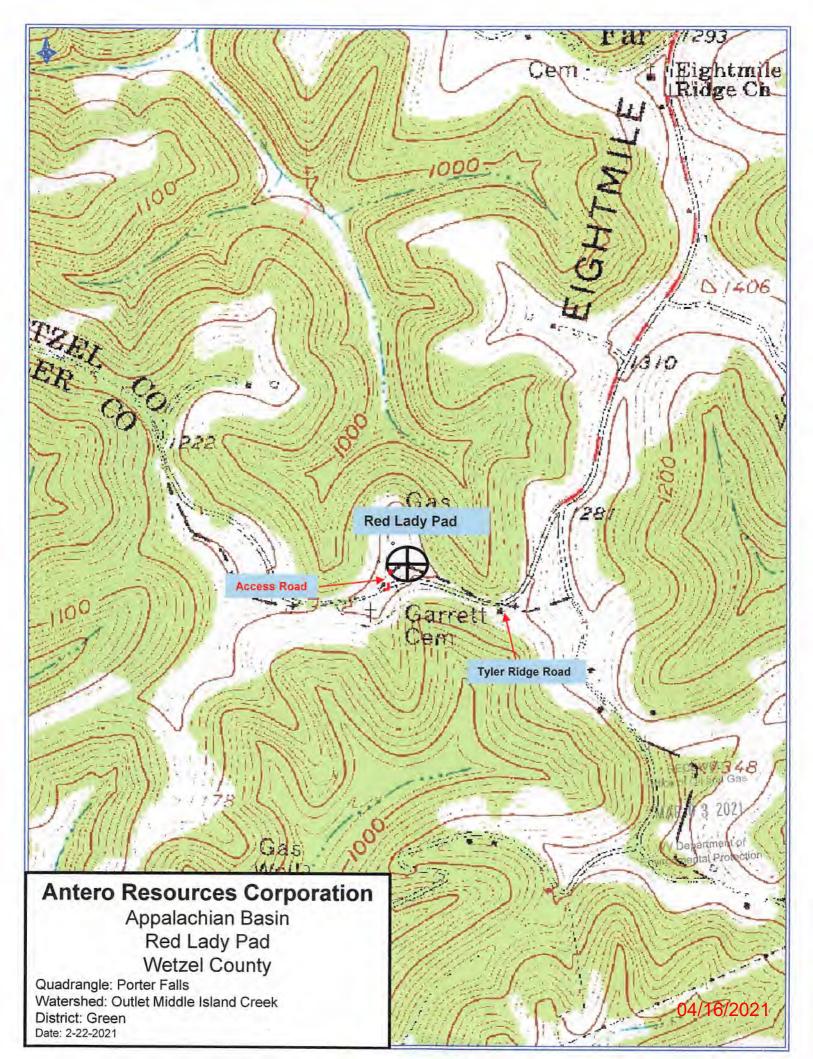
Alternate Route:

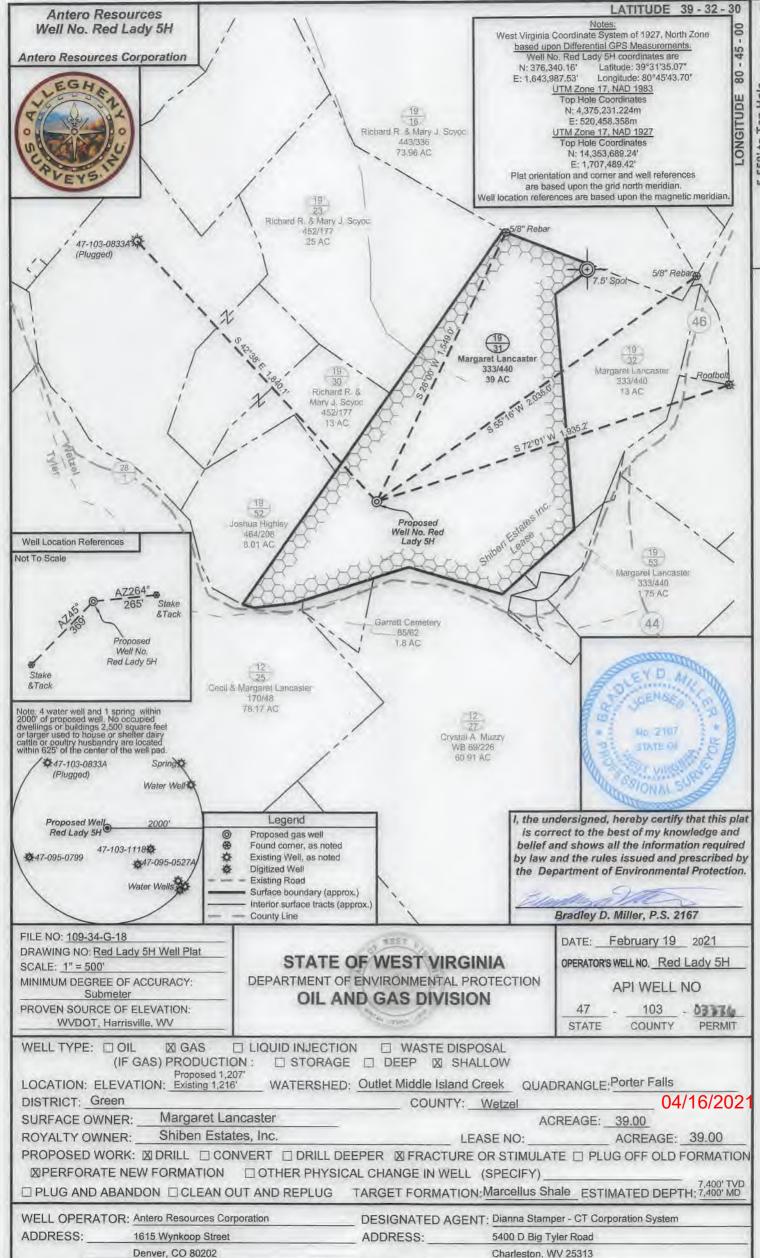
From Reader: Head NW onto Border Lane toward Old Mexico Rd. for 16 ft. Take a sharp left onto Rd 40/2 for 0.3 miles. Continue onto 8 Mile Rd. for 4.0 miles. Slight right onto Wetzel Tyler Ridge Rd. for 0.3 miles. Access road will be on your right.

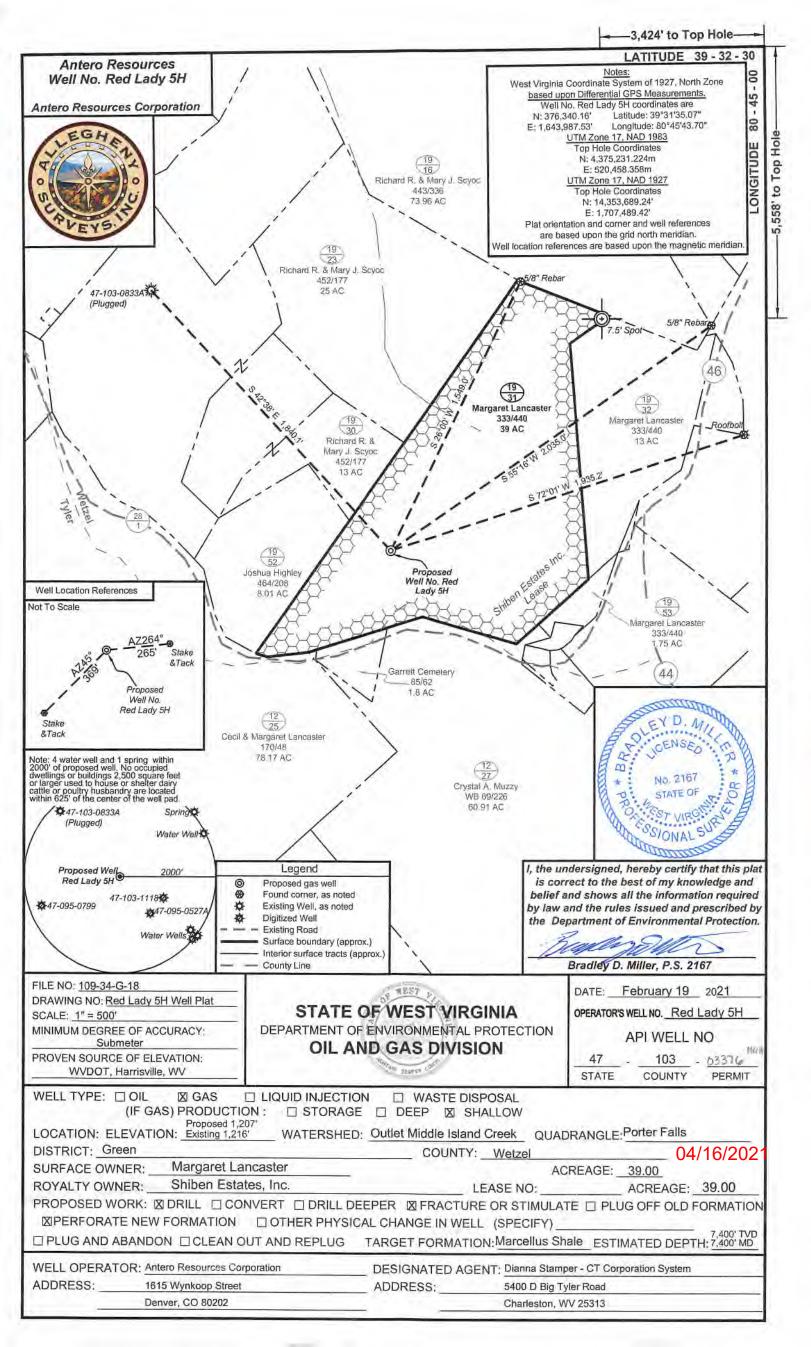
EMERGENCY (24 HOUR) CONTACT 1-800-878-1373

MAR 15 2021

WV Department of Hon Environmental Protest Page 1







Operator's Well Number

Red Lady Unit 5H

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
Shiben Estates LLC Lease		· · · · ·	
Shiben Estates LLC	Antero Resources Corporation	1/8+	0255/0681

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MAR 0 3 2021

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CONTINUED ON NEXT PAGE

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

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

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that —

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Shiben Estates LLC Lease

Shiben Estates LLC

Antero Resources Corporation

1/8+

255A/0681

*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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WV Department of

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, re

Well Operator:	Antero Resource	Corporation
Ву:	Tim Rady	an Roch
Its:	VP of Land	

Page 1 of 1

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

RE: Red Lady Unit 5H

Quadrangle: Pine Grove 7.5'

Wetzel County/Green District, West Virginia

Mr. Martin:

Antero Resources Corporation (Antero) is submitting the following application for a new well work permit for the Red Lady Unit 5H 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 Red Lady Unit 5H horizontal lateral will drill through including any and all roads crossed under as identified on the attached survey plat.

Sincerely,

Brett Kuhn

Brett Kuhn Senior Landman

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WV Department of Environmental Protection

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

Date of Notic	ce Certification: 2 28 2	API No. 4	7- 103 -	
			Well No. Red	Lady Unit 5H
			Name: Red La	
Notice has l				
Pursuant to th	ne provisions in West Virginia Code	§ 22-6A, the Operator has provided the rec	quired parties	with the Notice Forms listed
below for the	tract of land as follows:	-	•	
State:	West Virginia	UTM NAD 83 Easting:	520458.358m	
County:	Wetzel	Northing:	4375231.224m	
District:	Green	Public Road Access:	Route 46	
Quadrangle: Watershed:	Porter Falls 7.5'	Generally used farm name:	Margaret Lancas	ster
watersheu.	Fishing Creek			
of giving the requirements Virginia Code of this article	equired by subsections (b) and (c), so surface owner notice of entry to su of subsection (b), section sixteen of § 22-6A-11(b), the applicant shall thave been completed by the applican		quirement was ten of this art the surface ov that the notice	deemed satisfied as a resul- icle six-a; or (iii) the notice wner: and Pursuant to Wes
that the Ope	west Virginia Code § 22-6A, the Or rator has properly served the require	erator has attached proof to this Notice C d parties with the following:	ertification	
*PLEASE CHE	ECK ALL THAT APPLY			OOG OFFICE USE ONLY
☐ 1. NO	FICE OF SEISMIC ACTIVITY or	■ NOTICE NOT REQUIRED BECAUSEISMIC ACTIVITY WAS CONDUCTOR		☐ RECEIVED/ NOT REQUIRED
■ 2. NO	TICE OF ENTRY FOR PLAT SURV	YEY or D NO PLAT SURVEY WAS CO	ONDUCTED	☐ RECEIVED
☐ 3. NO	TICE OF INTENT TO DRILL or	NOTICE NOT REQUIRED BECAUNOTICE OF ENTRY FOR PLAT SURVIVAS CONDUCTED or		☐ RECEIVED/ NOT REQUIRED
		☐ WRITTEN WAIVER BY SURFACE (PLEASE ATTACH)	CE OWNER	
■ 4. NO	ΓICE OF PLANNED OPERATION	RECE Office of Q		☐ RECEIVED
■ 5. PUB	BLIC NOTICE	MAR 0	3 2021	
■ 6. NO	TICE OF APPLICATION			RECEIVED

Required Attachments:

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

WV Department of Environmental Protection By:

Its:

Certification of Notice is hereby given:

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

Well Operator: Antero Resources Corporation

Diana Hoff Diana O. Hoff
Senior VP of Operations

Telephone: 303-357-7310

Address: 1615 Wynkoop Street

Denver, CO 80202

Facsimile: 303-357-7315

Email: mgriffith@anteroresources.com

NOTARY SEAL

MEGAN GRIFFITH
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20184011666
MY COMMISSION EXPIRES MARCH 13, 2022

Subscribed and sworn before me this

Notary Public

My Commission Expires

13/2022

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 deepprivacyofficer@wv.gov.

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Office of Oil and Gas

MAR 0 3 2021

Wy Department of Environmental Protection

API NO. 47- 103 -	
OPERATOR WELL NO. Red Lady Unit 5H	
Well Pad Name: Red Lady Pad	

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

Noti	ce Time Requirement	t: notice shall be provide	d no later t	han the filing date of permit application.	
	e of Notice: <u>3/1/2</u> 1 ce of:	Date Permit Application	n Filed: <u>3</u>	3/1/21	
7	PERMIT FOR ANY WELL WORK			PPROVAL FOR THE F AN IMPOUNDMENT OR PIT	
Deli	very method pursuan	t to West Virginia Cod	e § 22-6A-	10(b)	
	PERSONAL SERVICE	REGISTERED MAIL		HOD OF DELIVERY THAT REQUIRES A EIPT OR SIGNATURE CONFIRMATION	
the soil and description of the soil and description of the soil and t	urface of the tract on what gas leasehold being of ribed in the erosion and ator or lessee, in the event expectation of the surface trace work, if the surface trace bundment or pit as described water well, spring or ide water for consumptions of water well work activity ection (b) of this section do of the sheriff require ision of this article to the R. § 35-8-5.7.a require	nich the well is or is propo- leveloped by the proposed sediment control plan sub- nt the tract of land on white vers of record of the surfa- tis to be used for the place ibed in section nine of thi- water supply source locate on by humans or domestic is to take place. (c)(1) If no hold interests in the land d to be maintained pursua- e contrary, notice to a lien- es, in part, that the operate	sed to be lot well work, mitted pursue the well ace tract or sement, con s article; (5 de within or animals; a nore than the s, the applient to section holder is nor shall also	d the well plat to each of the following persons: (1) The operators (2) The owners of record of the surface tract or tractified; (2) The owners of record of the surface tract or tractified; (3) The owners of record of the surface tract or tractified; (3) The proposed to be drilled is located [sic] is known to be untracts overlying the oil and gas leasehold being develope struction, enlargement, alteration, repair, removal or abard) Any surface owner or water purveyor who is known to be thousand five hundred feet of the center of the well paind (6) The operator of any natural gas storage field with a rece tenants in common or other co-owners of interests depend and serve the documents required upon the person of the eight, article one, chapter eleven-a of this code. (2) No other to a landowner, unless the lien holder is the land provide the Well Site Safety Plan ("WSSP") to the surface gas provided in section 15 of this rule.	racts overlying the disturbance as The coal owner, derlain by one or and by the proposed indomment of any the applicant to ad which is used to in which the escribed in described in the twithstanding any adowner. W. Va.
	pplication Notice JRFACE OWNER(s)	WSSP Notice □E&S	Plan Noti	ce ☑ Well Plat Notice is hereby provided to: ☐ COAL OWNER OR LESSEE	
Nam	e: Margaret Lancaster			Name: NO DECLARATIONS ON RECORD WITH COUNTY	
	ress: PO Box 19 er, WV 26167	/		Address:	•
Nam Add RE	ie: TIMOTHY R.LO ress: 9969 WETZE ADER, WV 26	LRIDGE 11.		COAL OPERATOR Name: NO DECLARATIONS ON RECORD WITH COUNTY Address:	•
	JRFACE OWNER(s)(le: Margaret Lancaster	Road and/or Other Distu	rbance)	☑ WATER PURVEYOR(s)/OWNER(s) OF WATER WELL,	-
	ress: PO Box	─		SPRING OR OTHER WATER SUPPLY SOURCE	MECEIVED
	er, WV 26167			Name: PLEASE SEE ATTACHMENT	Office of Oil and Gas
Nam	ie: TIMOTHY R. I	ZELRIDGE RD.		Address:	- MAR 0 3 2021
RE	ADER INV 26 JRFACE OWNER(s) (OPERATOR OF ANY NATURAL GAS STOR Name: Address:	AGE FIELD
				*Please attach additional forms if necessary	

OPERATOR WELL NO. Red Lady Unit 5H

Well Pad Name: Red Lady Pad

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

Well Location Restrictions

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

API NO. 47- 103

OPERATOR WELL NO. Red Lady Unit 5H

Well Pad Name: Red Lady Pad

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:

Office of Oil and Gas

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

MAR 0 3 2021

WV Department of Environmental Protection

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.**

API NO. 47- 103

OPERATOR WELL NO. Red Lady Unit 5H

Well Pad Name: Red Lady Pad

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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Office of Oil and Gas

MAR 0 3 2021

WV Department of Environmental Protection WW-6A (8-13)

API NO. 47- 103

OPERATOR WELL NO. Red Lady Unit 5H

Well Pad Name: Red Lady Pad

Notice is hereby given by:

Well Operator: Antero Resources Corporation

Telephone: (303) 357-7310 Diana (Email: mgriffith@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.

MEGAN GRIFFITH NOTARY PUBLIC STATE OF COLORADO NOTARY ID 20184011666 MY COMMISSION EXPIRES MARCH 13, 2022 Subscribed and sworn before me this 4 day of March 2021

My Commission Expires

Notary Public

RECEIVED Office of Oil and Gas

MAR 0 3 2021

WV Department of Environmental Protection

API NO. 47- 103 OPERATOR WELL NO. Red Lady Unit 5H
Well Pad Name: Red Lady Pad

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS OF THE COLUMN C

VOLUNTARY STATEMENT OF NO OBJECTION

Instructions to Persons Named on Page WW-6A

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

Comment and Waiver Provisions

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

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

VOLUNTARY STATEMENT OF NO OBJECTION

State:	West Virginia	UTM NAD 83	Easting:	520458.358m		
County:	Welzel	Northing:		4375231.224m		
District:		Public Road Ac		Route 46		
Quadrangle:		Generally used farm name:		Margaret Lancaster		
Watershed:	Fishing Creek					
I IVUOL DITUUT		100	REXECUT	ION RV A NATURAL PERSON		
*Please check	the box that applies	200	of Annual taxables			
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□ SURFAC □ SURFAC □ SURFAC □ COAL C □ COAL C □ WATER	CE OWNER CE OWNER (Road and/or Other Disturbance) CE OWNER (Impoundments/Pits) OWNER OR LESSEE OPERATOR	Sig Prin Dat FO Con By Its:	nature: nt Name: e: R EXECUT npany: nature:	ION BY A CORPORATION, ETC.		

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 deprivacyofficer@wv.gov.

Operator Well No.	
Multiple Wells on Red Lady Pad	

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-

Notice Time Date of Notic	Requirement: Notice shall be provided ce: 01/08/2021 Date P	at least TEN (10) days prior to filing a ermit Application Filed: 03/01/2021	permit application.	
Delivery met	thod pursuant to West Virginia Code	§ 22-6A-16(b)		
☐ HAND	□ consenses			
	■ CERTIFIED MAIL	Late Late Late Late Late Late Late Late		
DELIVE	ERY RETURN RECEIPT RI	EQUESTED		
eceipt requestrilling a hore of this subsection mand if availab	V. Va. Code § 22-6A-16(b), at least ten of sted or hand delivery, give the surface of izontal well: <i>Provided</i> , That notice give tion as of the date the notice was providing by the surface of the facsimile number and electronic mail reby provided to the SURFACE Of Lancaster	when notice of its intent to enter upon the pursuant to subsection (a), section to ed to the surface owner: <i>Provided, how</i> when. The notice, if required, shall included address of the operator and the operator	he surface owner's la en of this article satis wever, That the notice lude the name, address	and for the purpose of sfies the requirements e requirements of this ss, telephone number,
A STATE OF THE PARTY OF THE PAR	Composition		V	
Address POF	3ox 19	Address 9989 Wotzel Tyler I	Ridge Rd	
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Notice is he	reby given: Vest Virginia Code § 22-6A-16(b), notice wher's land for the purpose of drilling a land for the purpose of dr	Reader, WV 26167 ee is hereby given that the undersigned horizontal well on the tract of land as fo	well operator has an	ate Pad Center)
Notice is he Pursuant to W the surface ov State: County: District: Quadrangle: Watershed: Phis Notice Pursuant to W acsimile nur related to hor	reby given: Vest Virginia Code § 22-6A-16(b), notice vner's land for the purpose of drilling a lead west Virginia West Virginia Wetzel Ellsworth Porters Falls 7.5'	Reader, WV 26167 The is hereby given that the undersigned thorizontal well on the tract of land as for Easting: Northing: Public Road Access: Generally used farm name: is notice shall include the name, address operator and the operator's authorize the Secretary, at the WV Department of	well operator has an ollows: 520467.543m (Approxima 4275204.655m (Approxima CO RD 28/1 Margaret Lancaster ress, telephone numbed representative. Act of Environmental Process.	ber, and if available, dditional information bection headquarters,
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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.

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

Notice Time Date of Notice	Requirement: notice shall be proce: 03/01/2021 Date Po		than the filing tion Filed: 03/0		application.	
Delivery met	thod pursuant to West Virginia	Code § 22-6A	-16(c)			
■ CERTI	FIED MAIL	☐ HAN	ID.			
	RN RECEIPT REQUESTED		IVERY			
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return receipt the planned of required to be drilling of a damages to the	W. Va. Code § 22-6A-16(c), no lar requested or hand delivery, give operation. The notice required be provided by subsection (b), section horizontal well; and (3) A propose surface affected by oil and gas a ser required by this section shall be	the surface ow by this subsect ion ten of this a sed surface us operations to the	mer whose land ion shall include article to a surface and compens he extent the da	will be used for de: (1) A copy ace owner whos ation agreement amages are com	or the drilling of a hor of this code section; se land will be used in it containing an offer pensable under article	rizontal well notice of (2) The information conjunction with the of compensation for exix-b of this chapter.
	eby provided to the SURFACE		Cantion		1	
Name: Margare	s listed in the records of the sherif	it at the time of		Timothy R. Long		
Address: POB		- 1		9969 Wetzel Tyler	Ridge Rd.	
Reader, WV 2616			Reader, V		3.25.0.0	
State: County: District:	West Virginia Wetzel Green		UTM NAD 8 Public Road	Northing:	520458.358m 4375231.224m Route 46	
Quadrangle:	Porter Falls 7.5'		Generally use	ed farm name:	Margaret Lancaster	
Watershed:	Fishing Creek					
Pursuant to V to be provide horizontal we surface affect information r	Shall Include: Vest Virginia Code § 22-6A-16(c) and by W. Va. Code § 22-6A-10(l); and (3) A proposed surface us ted by oil and gas operations to the lated to horizontal drilling may located at 601 57th Street, SE, fault.aspx.	b) to a surface se and compens the extent the be obtained f	e owner whose sation agreement damages are con from the Secret	land will be untracted that containing are compensable under ary, at the WV	used in conjunction of offer of compensations article six-b of the Department of Environment of	with the drilling of a on for damages to the is chapter. Additional ironmental Protection
Well Operato	T: Antero Resources Corporation		Address:	1615 Wynkoop Stre	et	and an annual f
Telephone:	(303) 357-7310			Denver, CO 80202		MAR 0 3 202
Email:	mgriffith@anteroresources.com		Facsimile:	303-357-7315		
Oil and Cas	Privacy Natice			1		Environmental Protec
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duties Vann	paragraph information may be die	placed to othe	n Ctata anamais	a sa thind want	as in the named as	was of business on as

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 deprivacyofficer@wv.gov.

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
Hexamthylene 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

MAR 0 3 2021

WV Department of nvironmental Protection



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION Division of Highways

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

February 22, 2021

Byrd E. White, III Secretary of Transportation/ Commissioner of Highways

> Jimmy Wriston, P. E. Deputy Secretary/ Deputy Commissioner

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

Subject: DOH Permit for the Red Lady Pad, Wetzel County

Red Lady Unit 5H Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2021-0085 which has been issued to Antero Resources for access to the State Road for a well site located off Wetzel County Route 28/1 SLS MP 0.80.

This operator is in compliance with §22-6A-20 of the WV Code. 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 October 1, 2018. This letter is valid for permitting purposes for one year from the date of this letter.

Very Truly Yours,

Gary K. Clayton, P.E.

Regional Maintenance Engineer

Central Office O&G Coordinator

RECEIVED
Office of Oil and Gas

MAR 0 3 2021

WV Department of Environmental Protection

Cc: Megan Griffith

Antero Resources CH, OM, D-6

File

LO	CATION COO	RDINATES			
SITE LOCATIONS	WV83-NF(6	(ORTH ZONE)	UTM83-17		
SHELOCATIONS	LATITUDE	LONGITUDE	NORTHING	EASTING	
WATER OFFICIAL ACCESS ROAD ENTRANCE	39.528727	-80.768155	4375422.817898	\$19925.72140	
AST ACCESS/ROAD ENTRANCE	39,524987	60,754539	4375064,044044	520237,49483	
WELL PAD ACCESS ROAD ENTRANCE	39.525280	-80.762570	4375096.999747	520406,642993	
CENTROID OF TANK PAD	39.523861	-80.767216	4374938.514390	520007.68539	
CENTROID OF WELL PAD	39.526248	-80.761858	4275204,655233	520467,54384	

GENERAL DESCRIPTION:

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MISSURITY STATEMENT.

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ENGINEER/SURVEYOR:

LLSTAR ECOLOGY, LLC

CIVIL B ENVIRONMENTAL CONSULTANTS, INC.
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PENNSYLVANIA

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PLAN REPRODUCTION WARNING

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PROJECT TMARYLAND

AREA

RED LADY WELL PAD WELL PAD SITE PLAN ANTERO RESOURCES

LAT./LONG: N 39.521063° W -80.767761° (APPROXIMATE CENTER OF PROJECT)

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THESE ARE AND ARRICAL TURN, BUILDINGS LANCER THAN 2 MIN SYMMETET WITHIN A RETECT OF THE CONTER OF THE
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GRADING VOLUMES - OVE	FALL SITE		
DESCRIPTION	CUT (CY)	FLL (CY)	NET (CY)
AST ACCESS BOAD	348	19,187	16,641
WELL PAD ACCESS ROAD	385	2.726	-2311
WATER OFFLOAD ACCESS	71,670	5.754	MAM
WELL PAD	F2,685	41.530	20,555
AST PAD	62,569	91.129	38,160
STAGING AREA 1	2.017	10.831	114,814
SPQIL PILE 1	0	· c	0
TOTAL	189,470	178,187	11,263
TOPSOIL / STRIPPING WITH 20% SWELL [26,049 C.Y]		21,707 C.Y.	
TOTAL EXCAVATION	211,177	199,894	11.281

LO.D. AREAS				
DESCRIPTION	ACRES			
AST ACCESS ROAD	LIZ			
WELL PAID ACCESS ROAD	7.41			
WATER DIFFICIAL ACCESS	7.28			
WELL PAD	9.42			
AST PAD	10.17			
TOPSCHUSTREPRING PHE 1	0.63			
OLD STAGING / SPOR AREA	10.61			
STAGING AREA 1	2,15			
SPOIL FILE 1	131			
TOTAL	51.15			
WOODS PREVIOUSLY CLEARED	22.96			
ADDITIONAL CLEARING	14.77			

AQUATIC IMPACT TABLE						
STREAM ID	TYPE OF STREAM	LF WITHIN LOD	IMPACTS (LF) WITHIN CUT/FILL BOUNDARY	COMMENTS		
SWCA_STREAM15_MOD	EPHEMERAL	3	0	NO IMPACT		
SWCA_STREAM33_MOD	EPHEMERAL	29	0	TIMBER WAT - NO FILE		
SWCA_STREAM41_MOD	EPHEMERAL	17	Ø .	NO IMPACT		
SWCA STREAM24 MOD	EPHEMERAL	36	0	NO IMPACT		

WELL LEGEND							
WELL HEAD	WV NORTH NAD 27	WV NORTH NAD 83	UTM-M	NAD 83			
and Challens	N 376340.157	N: 376375.860	N: 4375231.223	LAT: 39.526488			
RED LADY SH	E: 1643987,533	E: 1612546 731	T: 520458,359	LON: -80.761964			





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om on the college of the part of	WEST VIRGINIA STATE LAW REQUIRES THAT YOU CALL TWO BUSINESS DAYS BEFORE YOU DID IN THE STATE OF WEST VIRGINIA.
	ITSTIE LAW

PROJECT CONTACTS:

OPERATOR: ANTERO RESOURCES CORPORATION

ELIVIAGONER - ENVIRONMENTAL 4 REGULATORY MANAGER OFFICE COMME THE CELLIAGUAGE TO

ROBERT WIRKS - DESIGN MANAGER OFFICE-DBN NO 4125 CELL-VIOLET 740 SCOTT HOTTER - UTANY SUPERMISON CELL (IMPERSION)

AARON KUNCLER - COMSTRUCTION MANAGER

Capital

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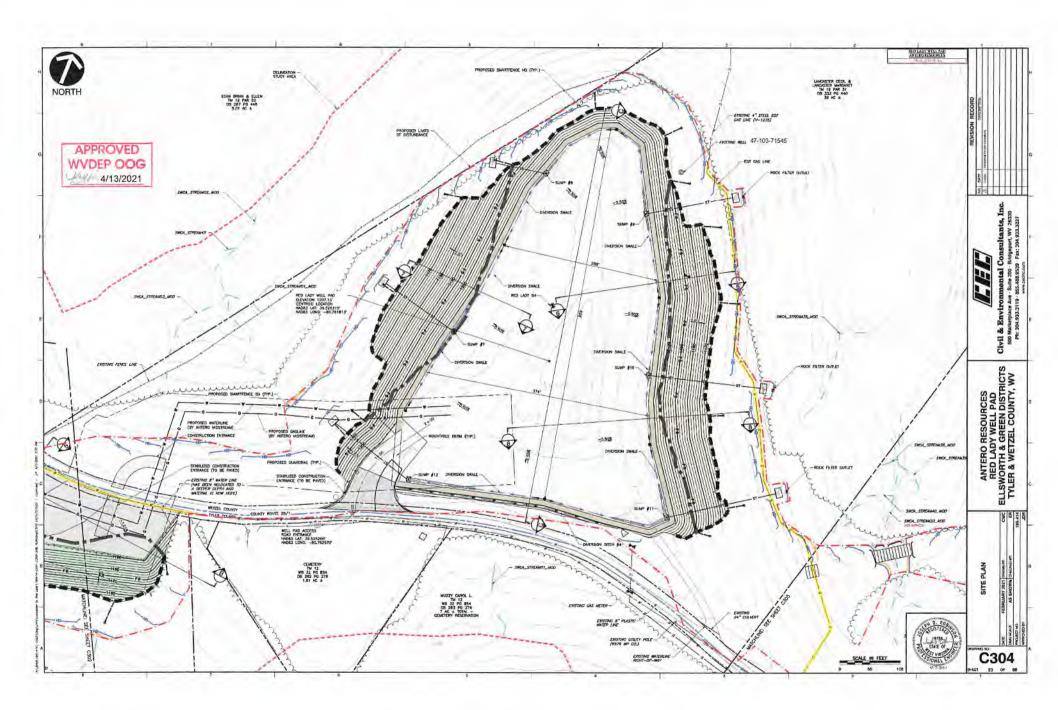
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COVER SHEET

Civil & I

ANTERO RESOURCES
RED LADY WELL PAD
ELLSWORTH & GREEN DISTRICTS
TYLER & WETZEL COUNTY, WV

Ph



LC	CATION COO	RDINATES		
SITE LOCATIONS	WV83-NF (N	HORTH ZONE)	UTIME	33-17
SHE LOCATIONS	LATITUDE	LONGITUDE	NORTHING	EASTING
WATER OFFLOAD ACCESS ROAD ENTRANCE	39.528227	-80.768155	4375422.817898	519925.72140
AST ACCESS ROAD ENTRANCE	39.524987	-80.764539	4375064.044044	520237.49483
WELL PAD ACCESS ROAD ENTRANCE	39.525280	-80.762570	4375096,999747	520406.64299
CENTROID OF TANK PAD	39.523861	-80.767216	4374938.514390	520007.68539
CENTROID OF WELL PAD	39.526248	-80.761858	4275204.655233	520467.54384

RED LADY WELL PAD WELL PAD SITE PLAN ANTERO RESOURCES

LAT./LONG: N 39.521063° W -80.767761° (APPROXIMATE CENTER OF PROJECT)

> PROJECT AREA

GENERAL DESCRIPTION:
THE ACCESS ROAD, TANK PAD AND WELL PAD ARE BUING CONSTRUCTED TO AD IN THE DEVELOPMENT OF INDIVIDUAL MARGELLUS.
SHALE CAS WELLOW.

FLOODPLAIN NOTES:
THE PROPOSED SITE LOCATION IS NOT WITHIN ANY IDENTIFIED FLOOD ZONES, PER FEMA MAP NUMBER IS #54095C0075C

MISS UTILITY STATEMENT:
ANTERD RESOURCES CORPORATION WILL NOTIFY MISS UTILITY OF WEST VIRGINIA FOR THE LOCATION OF UTILITIES PRIOR TO THIS PROJECT DESIGN. TICKET #1914446506 & #1914446500 IN ADDITION MISS UTILITY WILL BE CONTACTED BY THE CONTRACTOR PRICE TO THE START OF CONSTRUCTION FOR THIS PROJECT.

ENTRANCE PERMIT:

DIVI, AID ENVIRONMENTAL CONSULTANTS AND ANTIFRO RESQUECES WILL OBTAIN AN ENCROPACHMENT PERMIT (FORM MIM-108). FROM THE WEST VIGINAN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS, PRICH TO COMMENCEMENT OF

ENVIRONMENTAL NOTES:
STREAM AND WELLAND SUMMATIONS WERE PERFORMED IN MOVEMBER 11, 2020 BY ALISTAR ECOLOGY TO REVIEW THE SITE FORWATTER AND WELLANDS THAT ARE MOST LIKELY WITHIN THE REGULATION FURNISH OF THE U.S. AND CORPS OF ENSINEERS (MAGE) ANDOR THE WEST VIRSINGLEDERATION OF ENVIRONMENTAL PROTECTION (MAGE). THE STREAM AND WELLAND LIGACID, ANDORT THE WEST VARIBUAL DEPARTMENT OF ENVIRONAL PROVINCIAN WOOSEP, THE STREAM AND WELLAND. DELIVERATION MAY WAS PREPARED BY ALLESTAR EXCENSIVE THE REPORT OF THE FILED DELIVERATION THE MAY DOES NOT. IN ANY WEST PROPERTY A LURISDOCTION LOT PETERMINATION OF THE LANDWARD LIMITS OF WATERS AND WELLANDS WHICH MAY WE REPORT THE WITH THE WAS THE WAS THE LANDWARD LIMITS OF WATERS AND WELLANDS WHICH MAY WE REPORT THE WAS THE WAS THE WAS THE WAS THE LANDWARD LIMITS OF WATERS AND WELLANDS WHICH THE WAS THE PROPERTY OF THE WAS THE

GEOTECHNICAL NOTES:
THE PROPOSED 2-1 SLOPES SHALL BE FIELD VERIFIED BY A CERTIFIED GEOTECHNICAL ENGINEER TO ENSURE THE PROPOSED. SLOPES ARE ADEQUATE PRIOR TO CONSTRUCTION ACCESS ROAD CONSTRUCTION SHALL BE MONTORED BY A REPRES OF THE GEOTECHNICAL ENGINEER OR PROJECT DESIGN ENGINEER DURING CONSTRUCTION.

PROJECT CONTACTS:

OPERATOR: ANTERO RESOURCES CORPORATION

ELI WAGONER - ENVIRONMENTAL & REGULATORY MANAGER OFFICE (XXII) 840-4008 CHILL (XXII) 476-9770

AARON KUNZLER - CONSTRUCTION MANAGER DIFFICE (304) 842-4191

ROBERT WRKS - DESIGN MANAGER OFFICE (804) 842-4100 CELL (304) 527-7405

SCOTT HOFFER - UTILITY SUPERVISOR CELL (SM) 815-8889

ENGINEER/SURVEYOR:
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
JOSEPH D RIGBINSON, PE - PROJECT MANAGERENGINEER
OFFICE (284) 433-3119 FAX JOG 933-3327 GELL INCI 365-3305.

ENVIRONMENTAL: ALLSTAR ECOLOGY, LLC

SREG SHORT JR. - SENIOR PROJECT MANAGER / OWNER DIFFICE (306) 816-3480 DIRECT (304) 219-2897

GEOTECHNICAL:
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
KOWESHUN, PE - PROJECT MANAGER
OFFICE 1904 (93-311); TAY (904-93-327) CELL (310) (74-11).

AREA

PENNSYLVANIA

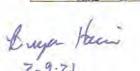
VIRGINIA

PLAN REPRODUCTION WARNING

SCALE PLOTTING

THE PLANS HAVE BEEN CREATED ON ANSI DI(22" X 34") SHEETS, FOR DEDUCTIONS, REFER TO GRAPHIC SCALE.

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



Eastern

Panhandle



WELCH HILL RO

PORTER FALLS USGS 7.5 QUAD

SCALE IN FEET





VICINITY MAP

1 MLES 1 INCH = 1 MILE





WEST VIRGINIA STATE LAW REQUIRES THAT YOU CALL TWO BUSINESS DAYS BEFORE YOU DIG IN THE STATE OF WEST VIRGINIA. IT'S THE LAW!

SHEET INDEX

37. RECLAMATION PLAN 38. RECLAMATION PLAN 39. RECLAMATION PLAN COVER SHEET GENERAL NOTES MATERIAL QUANTITIES 13 SITE PLAN PROFILES AND SECTIONS PROFILES AND SECTIONS PROFILES AND SECTIONS 26 PROFILES AND SECTIONS 27 DETAILS 26 DETAILS 29 DETAILS 40 RECLAMATION PLAN MASTER LEGEND EXISTING CONDITIONS ISOPACH MAP OVERALL SITE PLAN PROFILES AND SECTIONS PROFILES AND SECTIONS
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RESTRICTIONS NOTES:

1 THER ARE NO LAKES ON RESERVORS WITHIN LOS FEST OF THE WELL FAD AND LOSS.

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1522 FAST OF THE ASSET OF THE SERVER ASSET OF THE SERVER ASSET. THERE ARE EMPERALLS THRAW INVISION TO THE THE THE THREE THE THREE THREE

4 THERE ARE NO APPARENT DISTING WATER WELLS OR DEVELOPED SPRINGS WITHING 250 FEET OF THE WELLIS) BEING

DRILLED.

THERE ARE NO DOCUMED DWEELING STRUCTURES WITHIN 665 FEET OF THE CONTER OF THE WALL FAD.

THERE ARE NO AGRICULTURAL BUILDINGS LANGER THAN 2.500 SQUARE FEET WITHIN 605 FEET OF THE CENTER OF THE WELL FAD.

WELL FAD.

	GRADING VOLL	WES				
DESCRIPTION		CUT (CY)	FILL (CY)	NET (CY		
AST ACCESS ROAD		AST ACCESS ROAD		340	7,075	6,735
WELL PAD ACCESS ROA	D	491	1,688	1,397		
WATER OFFLOAD ACCES	SS	21,217	21,453	-236		
WELL PAD		57,331	32,025	25,306		
AST PAD		65,021	60,932	4,089		
STAGING AREA 1		1,456	22,363	-20,907		
SPOIL PILE 1	SPOIL PILE I		0 120 -120			
TOTAL	TOTAL		145,866 145,856 0			
TOPSOIL / STRIPPING WITH 20% SWELL	(26,015 C.Y)	21,679 C.Y				
TOTAL EXCAVATION		167,538	167,535	0		

LO.D. AREAS				
DESCRIPTION	ACRES			
AST ACCESS ROAD	1.12			
WELL PAD ACCESS ROAD	2,43			
WATER OFFLOAD ACCESS	7.28			
WEIL PAD	9.42			
AST PAD	10.17			
TOPSOIL/STRIPPING PILE 1	6,63			
OLD STAGING / SPOIL AREA	10.61			
STAGING AREA 1	2.18			
SPOIL PILE 1	1.31			
TOTAL	51.15			
WOODS PREVIOUSLY CLEARED	22,96			
ADDITIONAL CLEARING	14.77			

AQUATICIMPACT TABLE							
STREAM ID	TYPE OF STREAM	LE WITHIN LOD	IMPACTS (LF) WITHIN CUT/FILL BOUNDARY	COMMENTS			
SWCA_STREAM15_MOD	EPHEMERAL	3	0	NO IMPACT			
SWCA_STREAM33_MOD	EPHEMERAL	29	0	TIMBER MAT - NO FILL			
SWCA_STREAM41_MOD	EPHEMERAL	17	0	NO IMPACT			
SWCA STREAM24 MOD	EPHEMERAL	36	0	NO IMPACT			

WELL LEGEND						
WELL HEAD	WV NORTH NAD 27	WV NORTH NAD 83	UTM-M	NAD 83		
	N: 376340.157	N: 376375,860	N; 4375231.223	LAT: 39.526488		
RED LADY 5H	E: 1643987,533	E: 1612546.731	E: 520458.359	LON: -80.761964		

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12 18-2026

Civil

ANTERO RESOURCES
RED LADY WELL PAD
ELLSWORTH & GREEN DISTRICTS
TYLER & WETZEL COUNTY, WV

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Capital

CONSTRUCTION NOTES:

- THE CONTRACTOR IS TO VEXIFY FIELD CONDITIONS PRIOR TO AND DURING CONSTRUCTION AND WILL NOTIFY CIVIL DEMINOMENTAL CONSULTANTS, INC. IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE APPROVED PLANS. ANY WORK FERFORMED BY THE CONTRACTOR AFTER THE PRIORY OF SUCH DISCREPANCIES SHALL BE DONE AT THE CONTRACTOR'S RISK.
- METHODS AND MATERIALS USED IN THE CONSTRUCTION OF THE IMPROVEMENTS HERREM SHALL CONFORM TO THE CURRENT COUNTY CONSTRUCTION STANDARDS AND SPECIFICATIONS AND/OR CURRENT WY DEP EROSION AND SERIMENT CONFIRCE BETWEEN THE MOST STRINGER THE GUIRREMENT WILL APPLY. THE APPROVAL OF THESE PLANS IN NO WAY RELIEVES THE DEPOSIT OR HIS MESTING FOR HIS RESPONSABLE CONTAINED IN THE WAY DEP EROSION AND SERVENT TO THE ORDER OF HIS REPORT AND SERVENT OF HIS REPORTANCE CONTAINED THE WAY DEP EROSION AND SERVENT OF THE ORDER OF THE MANAGEMENT FOR HIS MANUAL.
- AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE. ALSO, A REPRESENTATIVE OF THE CONTRACTOR MUST BE AVAILABLE AT ALL TIMES.
- ACTOR SMALL PROVIDE ADEQUATE MEANS OF CLEANING MUD FROM TRUCKS AND/OR OTHER FOLLIPMENT PRICE TO BYTERING MUDIC STREETS, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS, ALLAY DUST, AND TO TAKE MEASURES ARE INCESSANT TO INSURE THAT THE STREETS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES, ADMERE TO TRUFFIC CONTROL SPECIFICATIONS AS INDICATED IN THE WY DOM MIMILED.
- 5. THE LOCATION OF EXISTING UTILITIES SHOWN IN THESE PLANS ARE FROM FREID LOCATIONS AND/OR OS DATA. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERRY THE EACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES AS NEEDED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE BROKESED OF ANY CONTRUCTS ASSISTING UTILITY VERRICATION AND THE PROPOSED CONSTRUCTION.
- 6. THE CONTRACTOR SHALL PROVIDE MOTIFICATION TO THE APPROPRIATE UTILITY COMPANY PRIOR TO CONSTRUCTION OF WATER AND/OR GAS PIPELINES. INFORMATION SHOULD ALSO BE OBTAINED FROM THE APPROPRIATE AUTHORITY CONCERNING PERMITS. CITY SHEETS, AND CONNECTIONS TO DESTRUCE LIFE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGES TO THE EXISTING STREETS AND UTILITIES WHICH OCCURS AS A RESULT OF THIS CONSTRUCTION PROJECT WITHIN OR CONTIQUOUS WITH THE EXISTING RIGHT-OF-WAY.
- IIN EASEMENTS OF UTILITIES, LETTERS OF PERMISSION FROM ALL INVOLVED COMPANIES MUST BE OBTAINED PRIOR TO GRADING AND/OR SITE DEVELOPMENT.
- 9. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE RELOCATION OF ANY UTILITIES NOT IDENTIFIED ON THE CONSTRUCTION DOCUMENT, AS A RESILT OF THIS PROJECT, AS NOTED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE OFFICE AND THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE OR WILL BE RELOCATED ON THE DRAWNING OTHER UTILITIES HAVE ON THE DRAWNING OTHER HAVE OTHER UTILITIES HAVE ON THE DRAWNING OTHER UTILITIES HAVE ON THE DRAWNING OTHER HAVE ON THE DRAWNING OTHER HAVE OTHER HA OTHERS, CONTRACTOR IS TO CONFIRM THE STATUS THE ATTENTION OF THE ANTERO REPRESENTATIVE.
- 10. THISE FLANK IDENTIFY THE LOCATION OF ALL KNOWN GRAVESTES, GRAVESTES SHOWN ON THIS PLAN WILL BE PROTECTED IN ACCORDANCE WITH STATE LAW. IN THE EVENT GRAVESTES ARE DISCOVERED DURING CONSTRUCTION, THE OWNER AND ENGINEE
- 11. THE CONTRACTOR(S) SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATING OR BLASTING AT LEAST TWO (2) WORKING DAYS, BUT NOT MORE. THAN TEN (12) WORKING DAYS, PRIOR TO
- 12. CONTRACTOR TO CONTACT OPERATOR AND ENGINEER IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION.
- 13. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE EROSION AND SEDIMENT CONTROL INSPECTOR 2 DAYS PRIOR TO THE START OF CONSTRUCTION.
- 14. THE CONTRACTOR IS REPONSIBLE FOR ALL PLL MATERIAL PRACEMENT REQUIRED DURING THE CONSTRUCTION OF THIS PROJECT, ALL MATERIAL TESTS SHALL BE CONDUCTED BY THE ON-SITE REPORTOR. ALL TEST REJULTS SHALL BE SUBMITTED TO THE BRIGHER CRITIFYING THE CONSTRUCTED FACILITY, FAULTE TO CONDUCT THE DESITY TESTS AND/OR RECESSARY REPAIRS TO DEFICIENT AREAS AS A RESULT OF THE OPISITY TESTING SHALL BE CAUSE FOR NON-ACCEPTANCE OF THE CONSTRUCTED FACILITY.
- 15. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION THE SITE IN ACCORDANCE WITH THE DESIGN PLANS, CONSTRUCTION DOCUMENTS AND THE SCOPE OF WORK SHALL CONFORM WITH THE GRADES, BERMS, DEPTHS, DIMENSIONS, ETC. SHOWN
- 16. SUPER SILT FENCE OR SMARTFENCE HD CAN BE USED IN PLACE OF ANY COMPOST FILTER SOCK, TRIPLE STACK 42° COMPOST FILTER SOCK CAN BE USED IN PLACE OF SUPER SILT FENCE OR SMARTFENCE HD.
- 17. IT SHALL BETHE SOLE REPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS, INCLUDING THE 1970 OSHA ACT, PRECAUTION FOR THE PROTECTION OF PERSONS, INCLUDING EMPLOYEES AND PROFERT, SHALL AWAYS SE EXERCISED BY THE CONTRACTOR, RUTHATION, MAINTENANCE, AND SUPERVISION OF ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK, INCLUDING ALL REQUIREMENTS PER CI. 3510.145, 94.144. USE IN THE SOLE REPONSISION OF THE OFFICE CONTRACTOR.
- B. CONSTRUCTION ACTIVITIES SHALL SE EXTRICTED TO THE AREA SHOWN ON THE PLANS WITHIN THE LIMITS OF DISTURBANCE, UNLESS OTHERWISE AUTHORIZED BY ANTERO RESOURCES CORPORATION. MODIFICATION PLAN MUST BE SUBMITTED TO THE
- 19. PRESENVATION OF BENCHMARKS, PROPERTY CORNERS, REFERRING POINTS, STAKES AND OTHER SURVEY REFERRING IMPORTED IMPORTED IN MARKERS IS THE RESPONSIBILITY OF THE CONTRACTOR. IN CASES OF WILLIAL OR CARBLESS DESTRUCTION THE CONTRACTOR SHALL BE REQUIRED TO REPLACE OF RESPONSIBILITY OF THE CONTRACTOR SURVEYOR AS A PROPOSED SHALL SHAPE (DAYS) SHAPE OF REPLACE SHAPE OF REPACE SHAPE OF REPLACE SHAPE OF REPLACE SHAPE OF REPLACE SHAPE OF
- 20. THE CONTRACTOR SHALL MAINTAIN ADEQUATE CLEARANCE FROM ALL ELECTRIC LINES, IF ANY, IN ACCORDANCE WITH NATIONAL ELECTRICAL SAFETY CODE.
- 21. THE CONTRACTOR SHALL MINIMIZE ALL CLEARING AND DISTURBANCE TO THE ENVIRONMENT TO THE MAXIMUM EXTENT POSSIBLE CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE
- 22. ANY DIGITAL FILES PROVIDED TO THE CONTRACTIOR BY CIVIL ENVIRONMENTAL CONSULTANTS, INC. ARE PROVIDED FOR THE CONVENENCE OF THE CONTRACTION CHITY. THE CONSTRUCTION CHITY THE ORDITAL FILES TO WAVER FROM THE APPROVED DESIGN PLANS. CIVIL ENVIRONMENTAL CONSULTANTS, INC WILL HOT BE HELD LIBBLE FOR THE CONTRACTION USING THE DIGITAL FILES TO WAVER FROM THE APPROVED DESIGN PLANS.
- 23. ANY CONSTRUCTION ISSUES OR QUESTIONS SMALL BE BROUGHT TO THE ENGINEER IMMEDIATELY. THE CONSTRUCTION INSPECTOR SHALL BE CONTRACTED AND MUST RELAY THESE ISSUES OR QUESTIONS TO THE ENGINEER FOR RESOLUTION. TEMPORARY
- 24. ALL EXISTING AND DESIGNED CLAVERTS AND CLAVERT SUMPS SHALL BE CLEANED AND CLEARED OF DEBRIS DURING THE COURSE OF CONSTRUCTION. ANY EXCESS FROSION DUE TO THE PLUGGING OF A CLAVERT SHALL BE THE SOLE RESPONSIBILITY OF THE
- 26. CONTRACTOR SHALL INSTALL AND MAINTAIN HOLIDAY POLES UNDER ALL OVERHEAD UTILITIES. SEE HOLIDAY POLE DETAIL

THE DEFICIENCY HET ET SHALL SE CONSISTENT WITH THE FOLLOWING GENERAL SEQUENCE OF CONSTRUCTION, THE CONTRACTOR SHALL IMPLEMENT, MAINTAIN, AND OPERATE ALL PROPOSED BEGSION AND SEDWINGT CONTROL MASSIANS TO EFFECTIVE VIMINATE THE MAZERS OF ACCELIBATED SEGOION AND SEDWINGT CONTROL MASSIANS TO SEPTEMBER AND PROPERTY OF THE MAZER SEQUENCE SHALL BE EXCENTED BY THE PROCESS TO SEPTEMBER SHALL SHAL

- 1. A PRE-CONSTRUCTION CONFERENCE WITH THE CONTRACTOR AND THE APPROPRIATE EROSION AND SEDIMENT CONTROL INSPECTOR 48 HOURS PRIOR TO BEGIN
- 2. STAKE THE LIMITS OF CONSTRUCTION AND MARK/FLAG ALL IDENTIFIED WETLANDS, STREAMS, UTILITIES, AND OTHER AREAS OF CONCERN FOR CONSTRUCTION ACTIVITIES, INSTALL SIGNS TO DESIGNATE THE AREAS AND ORANGE SAFETY FENCE TO IDENTIFY IMPORTANT PROJECT ATTRIBUTES SUCH AS APPROVED ACCESS ROADS, NO REFUEING ZONES, WETLANDS/STREAM BOLINDS, ETC.
- CONSTRUCT THE ROCK CONSTRUCTION ENTRANCE. ALL VEHICLES ENTERING AND EXITING THE SITE SHALL DO SO VIA THE ROCK CONSTRUCTION ENTRANCE.
- CONSTRUCT ALL BMP'S AS SOON AS CLEARING AND GRUBBING OPERATIONS ALLOW. DIVERSIONS AND SEDIMENT TRAP(S)/BASIN(S) SHALL BE SEEDED AND MULCHED IMMEDIATELY.
- 5. IF APPLICABLE, CONVEY UPSLOPE DRAINAGE AROUND THE ACCESS ROAD, WELL PAD, AND WATER CONTAINMENT PAD AREAS BY CONSTRUCTING ALL DIVERSION BERMES) AND/OR COMPOST FILTER SOCK DIVERSIONS) AS SHOWN ON THE PLANS. 6. CLEAR AND GRUB THE SITE, ALL WOODY MATERIAL BRUSH, TREES, STUMPS, LARGE ROOTS, BOULDERS, AND DEBRIS SHALL BE CLEARED FROM THE SITE AREA AND KEPT TO THE MINIMUM NECESSARY FOR PROPER CONSTRUCTION, INCLUDING THE
- INSTALLATION OF NECESSARY SEDIMENT CONTROLS. TREES SIX MICHES IN DAMETER AND LAGGES SHALL BE CUT AND LOGS STACKED, SMALLEST TREES, BUSIN, AND STIMMS SHALL SE CUT AND/OR GRUESED AND WINDOWNED IN APPROPRIATE AREAS FOR USE AS SEDIMENT SARRIESS AT WATER DRAINAGE CUTLETS (AS SHOWN ON THE PLANS), WINDOWNED BELOW THE WELL SITE, USED FOR WILDLIFE MARITAT, BURNED (AS PER WY FOREST FIRE LAWS), REMOVE FROM SITE, OR DISPOSED OF BY
- IF APPLICABLE, INSTALL ALL WETLAND OR STREAM CROSSING AS SHOWN ON THE PLANS.
- TREP THE TOPSOL FROM THE ACCESS ROAD, PRIOR TO PLACING ANY FILL, THE EXPOSES SURGEADE SHALL IS COMPACTED AND PROFESTED AND PROFESTED AND PROFESSED AND PROFE
- CONSTRUCT THE ACCESS ROAD, ALL FILL AREAS INCLUDING EXCESS MATERIAL STOCKPILES SHALL BE "REPED" IN AND COMPACTED IN HORIZONTAL LIFTS WITH A MAXIMUM LOOSE LIFT THICKNESS OF 12" AND MAXIMUM PARTICLE SIZE AS OUT LINED IN ICAL REPORT. ALL FILL SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY WITHIN 9% OF THE OPTIMUM MOISTURE CONTENT AS PER STANDARD PROCTOR TEST (ASTM-D698) RESULTS. IT IS ALSO RECOMM ILED WITH A LOADED HAIR TRUCK WHERE APPLICABLE, DITCH RELIEF CULVERTS SHALL BE INSTALLED AT A GRADE OF 1-8% TO MINIMIZE OUTLET VELOCITIES TO THE EXTENT POSSIBLE, INSTALL OUTLET PROTECTION ONCO TOTAL HELP CAMPENS ARE RESTAULD, AS SHOWN ON PLANS. STREAME THE ROOM WITH GEOTETICE PARKE & STOOL AND SIDE SLOPE'S AS SPECIFED WITH PERMANENT SEEDING, DICESS MATERIAL SHALL BE STOOCHED IT NECESSARY) IN ABLE
 SHOWN IN THE PLANS AND REMOVED AT PRINCIPLE OF THE CONTROL STOOCHES, AFTER STOO
- 10. STRP THE TOPICUL FROM THE WILL PAD AND WATE CONTAINMENT FAD, PRIOR TO PLACKS ANY FILL, THE EPPOSED SURBANDES WALLES COMPACTED AND PROOF PROJUED TO PRODUCE, A STAMLE AND INVISIONING STEEL ALL TEMPERS TOPICUS INALI.

 85 STOODED HOW AREAS SHOWN IN THE PLANE, OR RE-SPENDAT AN APPROXIMANT DEPTH OF 2-1 A HOUSE ON ALL PROPOSED 2-1 ON FLATTES SHOULD SCORES, AND IMMEDIATE STRANGED, ADDROFON, AND EMPOSED SHOULD STOOD AND ADMINISTRATION AND ADMINISTRANGED, AND ADMINISTRATION ADMINISTRATION ADMINISTRATION AND ADMINISTRATION ADMINISTRATION ADMINIST
- 11. GRADE THE WELL PAD AND WATER CONTAINMENT PAD AREAS AS SHOWN ON THE PLANS, INSTALL PAD SUMPS (WITH 4" PVC DRAIN PIPE AND OUTLET PROTECTION) AND CONTAINMENT BERM LINER SYSTEM, IMMEDIATELY STABLIZE THE OUTER AREAS OF THE WELL PAD AND WATER CONTAINMENT PAD. THE WELL PAD AND WATER CONTAINMENT PAD AREAS SHALL BE STABLED WITH GEOTETHIE FABRIC & STONE AND THE SUB SLOPES WITH SEED AND MULCH. A PREY SEED AND MULCH TO ALL DESTROATED AND MULCH TO ALL DESTROATED AND THE STABLED AND THE STA
- 13. ALL BMPS MUST REMAIN BY PLACE AND FUNCTIONAL UNTIL ALL AREAS WITHIN THE LIMIT OF DISTURBANCE ARE COMPLETE AND PERMANENTLY STABILIZED, MAINTENANCE MUST INCLUDE INSPECTION OF ALL EROSION AND SEDIMENT CONTROLS
- 14. THE CONSTRUCTION SITE SHOULD BE STABILIZED AS 500M AS POSSIBLE AFTER COMPLETION, ESTABLISHMENT OF FINAL STABILIZATION MUST BE INITIATED NO LATER THAN 7 DAYS AFTER REACHING FINAL STABLIZATION MEANS THAT ALL Scil-disturbing activities are completed, and that either a permanent vegetative cover with a density of 70% or greater has been established or that the surface has been stablized b Buldings. It should be noted that the 70% requirement refers to the total area vegetated and not just a percent of the site.
- 15. ALL PERMANENT SEDIMENT CONTROL MEASURES CAN BE REMOVED AFTER THE SITE IS PERMANENTLY STABILIZED AND APPROVAL IS RECEIVED FROM THE WYDEP
- 16. ANY AREAS DISTURBED BY REMOVAL OF CONTROLS SHALL BE REPAIRED. STABILIZED, AND PERMANENTLY SEEDED

CONSTRUCTION STANDARDS:

THE DESIGN, CONSTRUCTION, AND REMOVAL OF FILL FOR OIL AND GAS SITES MUST BE ACCOMPLISHED IN SUCH A MARKER AS TO PROTECT THE HEALTH AND SAFETY OF THE PUBLIC, THE NATURAL RESOURCES, AND ENVIRONMENT OF THE STATE. THE STEE SHALL BE DESIGNED, CONSTRUCTED, AND MAINTAINED TO BE STRUCTURALLY SOURCE AND RESONABLY PROTECTED FROM UNJUSTICISED ACTS OF THIRD PARTIES.

- 1. ALL FILL AREAS SHALL BE CLEARED OF TREES, STUMPS, ANY VEGETATION AND STRIPPED OF TOPSOIL/ORGANIC SOILS PRIOR TO THE START OF FILL PLACEMENT.
- NSTREAM TOE OF THE SLOPE, THE CONSTRUCTED DRAIN SECTION SHALL BE AN EXCAVATED 2" x 2" TRENCH AND BACK FILLED WITH #57 ANY GROUNDWATER ENCOUNTERED DURING CONSTRUCTION SHALL BE DRAINED TO THE OUTSIDE/DO STONE, COMPACTED BY HAND TAMPER. GEOTEXTILE FABRIC SHALL BE USED TO LINE TRENCH.
- SATISFACTORY MATERIALS FOR USE AS FILL FOR PAD AREAS INCLUDE MATERIALS CLASSIFIED IN ASTM D-2487 AS GW, GP, GM, GC, SW, SP, SM, SC, MI, AND CL GROUPS.
- 4. GENERALLY, UNSATISFACTORY MATERIALS INCLUDE MATERIALS CLASSIFIED IN ASTM D-2657 AS PT, CH, MH, CH, CH, AND ANY SOIL TOO WET TO FACILITATE COMPACTION. CH AND MH SOILS MAY BE USED SUBJECT TO APPROVAL OF THE
- 5. ALL FILL AREAS SHALL BE "EXTED IN" AND COMPACTED IN HORIZONTAL LITTS WITH A MAZDAUM HOOSE LITT THOCHESS OF 12" AND MAZDAUM PARTICLE SIZE AS OUTLINED IN THE GEOTECHISCAL REPORT, ALL FILL SHALL BE COMPACTED TO AT LEAST 95% OF THE MAZDAUM DIT DENSITY WITHIN 3% OF THE OFTINAM MIGRIFUR
- ROCLUTS ARE NOT PROPOSED FOR THE CONSTRUCTION OF THIS STILL HOWEVER, LASER ROCK PARTICLES OR BOADDERS THAT ARE DISCOUNTEDED DREINS CONSTRUCTION NEED TO SE BROKEN DOWN TO A MANAGEABLE SZE [MANDRUM 1993 NEW 1995] THOUGHT OF THE PLACE OF THE PROPERTY OF THE PLACE OF T
- 7. THE PLACEMENT OF ALL FILL MATERIAL SHALL BE FREE OF WOOD, STUMPS AND BOTTS, LARGE BOOSS AND BOULDERS, AND ANY OTHER NONCOMPACTABLE SOIL MATERIAL NO FILL SHALL CONTAIN OR BE PLACED ON PROZEM MATERIAL. THE FLA SHALL BE COMPACTED TO A MINIMUM OF VISUEL ROM-MOVEMENT. NOWEVER, THE COMPACTION EFFORT SHALL NOT EXCEED OPTIMUM MOSTURE LIMITS.
- E. ALL EXPOSED AREAS, NOT COVERED BY COMPACTED GRAVEL, OR RIP-RAP SHALL BE LIMED, FERTILEDS, SEEDED AND ANILOCKED, PERMANENT YEGGTLATIVE GROUND COVER IN COMPAIANCE WITH THE MY DEP ERGISION AND SEDIMENT CONTROL THE DAMPLA IF STANDING WATER IS PRESENT ON SITE, CONTRACTOR TO CORRECT DRAINAGE ISSUE BY DIRECTING WATER TO PROPER EAS CONTROLS OR CUTLET WITH POSITIVE DRAINAGE IF NECESSARY, CONTACT ENGINEER FOR GUIDANCE IN
- LADRIGUES DOUGHS, DOWGESONS, AND CULVERTS SHALL HAVE POSITIVE DRAINAGE AND OUTFAIL BRITO THE PROPE CULTLET PROTECTION OR LEVEL STREAMING DEVICE, SUPER SILT FRIEC, OR APPROVED ALTERNATIVE, SHALL BE RESTALLED WITHOUT SHALL BRITOSH FOR COURT FROM CONTINUED ON LIVEL SPREAMING DEVICE, CONTINUED NO LIVEL SPREAMING DEVICE. SOME CONTINUED NO LIVEL SPREAMING DEVICE STREAMING DEVICE STREAMING DEVICE STREAMING DEVICE. ON THE CONTINUED NO LIVEL SPREAMING DEVICE STREAMING D
- LALL DRAINAGE DITCHES AND DIVERSIONS THAT ARE ROCK LINED SHALL BE INSTALLED PER THE DETAILS ON THIS PLAN INCLUDING THE NECESSARY INSTALLATION OF ANY GEOTEXTILE FABRIC UNDERNEATH THE ROCK LINING.
- 12. IF THE EROSION CONTROL DEVICES SHOW ENDERGE OF BEING INADEQUATE DUE TO CONSTRUCTION MEANS AND METHODS. THE CONTRACTOR IS TO INSTALL ADDITIONAL DRAINAGE DEVICES OR EROSION CONTROLS TO PREVENT FURTHER
- 13. CONTRACTOR IS TO EXTEND ALL KEYWAY AND BONDING BENCH OUTLET CRAINS A MINIMUM OF ONE FOOT PAST THE FRESHED GRADE OF THE SLOPE AND INSTALL THE PROPER OUTLET PROTECTION PER THE DETAILS ON THESE PLANS. ALL OUTLIET DRAINS ARE TO BE CLEARLY VISIBLE AND MARKED.
- 14. ALL SLOPES SHALL BE TRACKED IN PER THE DETAILS ON THESE PLANS, CONTRACTORS SHALL REPEAT THIS METHOD ANY TIME AN AREA HAS BEEN DISTURBED PRIOR TO THAT AREA BEING STABILIZE
- 15. ALL MAINTENANCE OF EROSION AND SEDMENT CONTROLS MUST BE PERFORMED IMMEDIATELY DIVIDE THE CONTRACTOR IS NOTIFIED OF THE DISCREPANCY, CONTRACTOR TO PERFORM MAINTENANCE OR IMMEDIATELY UPON THE CLIENT, ENGINEER, OR STATE'S REQUEST AND EMPRISENCY SHALL BE PERFORMED IMMEDIATELY UPON THE CLIENT, ENGINEER, OR STATE'S REQUEST.
- IS ALL LANDOWNER ACCESS ROADS AND DISTING WELL ROADS THAT ARE BEING MANY/ANDED SHALL BE KEPT OPEN DURING THE ENTIRE COURSE OF CONSTRUCTION TO PROVIDE CONTINUOUS ACCESS. IF CLOSURE IS RECESSARY, THE CONTINUOUS ROADS ROUTE TO THE SATISFACTION OF THE LANDOWNER ON WELL OWNER.
- 17. ANY WATER INFILITATING ABOUND THE WELL PAD DEWATERING SYSTEM SHALL BE CORRECTED IMMEDIATELY TO PREVENT THE FAILURE OF THE SOILS AND DESIGN ASPECTS OF THE DEWATERING SYSTEMS. ANY EXCESS EROSION OR SLOPE FAILURES DUE TO THE WATER INGITIATION IN THE SUMP AREA SHALL BE THE SOIL RESPONSIBILITY OF THE CONTRACTOR.
- 18. ALL DITCH RELEF AND STREAM CROSSING CULVERTS SHALL MEET ALL MANUFACTURER SPECIFICATIONS INCLUDING THE MIDDALUM AND MAXIMUM COVER. IF MANUFACTURER SPECIFICATIONS CANNOT BE MET. CONTRACTOR SHALL CONSULT THE BIGINESS ON MANUFACTURER FOR ALTERNATIVES.

SITE CLEANUP & RECYCLE PROGRAM:

- 1. GARRAGE, FUELS OR ANY SUBSTANCE MARMFUL TO HUMAN, AQUATIC OR FISH LIFE SHALL BE PREVENTED FROM ENTERING SPRINGS, STREAMS, PONDS, LAKES, WETLANDS OR ANY WATER COURSE OR WATER BODY.
- DILS, FLIELS, LLIBRICANTS AND COOLANTS WILL BE PLACED IN SUITABLE CONTAINERS AND DISPOSED PROPERLY.
- ALL TRASH AND GARBAGE WILL BE COLLECTED AND DISPOSED PROPERLY.
- KOVED FROM SEDIMENT CAPTURING DEVICES SHALL BE PLACED ON THE TOPSOIL STOCKPILE, THEN SEEDED AND MULCHED, AS NECESSARY, ALTERNATIVELY, THE REMOVED SEDIMENT CAN BE TRANSPORTED TO A SITE WITH
- ALL POLLUTION AND EMERGENCY SPILLS SHALL BE IMMEDIATELY REPORTED TO ANTERO RESOURCES CORPORATION AND THE WY DEP OFFICE OF OIL AND GAS. (EMERGENCY #1-800-642-3074)

EROSION AND SEDIMENT CONTROL NARRATIVE:

PROJECT DESCRIPTION: THE PURPOSE OF THIS PROJECT IS TO GRADE AND INSTALL ERGISION AND SEDIMENT CONTROL MEASURES, IN PREPARATION FOR THE CONSTRUCTION OF A WELL PAD, ACCESS ROADS AND STAGING AREAS MEAR COUNTY ROTTE 2011, IN TYLER AND WETZEL COUNTY, WEST VIRGINIA. THE CONSTRUCTION INCLUDES ACCESS ROADS, ERGISION AND SEDIMENT CONTROLS, AND INCIDENTAL WORK THE TOTAL APPROXIMATE LAND

DISTINGSTE CONDITIONS: THE ENGINE SITE BEGINS ACCESS FROM COUNTY ROUTE 26'1 THE ACCESS ROAD STARTS WITH A CONSTRUCTED ACCESS ROAD FOR THE WELL PAD, AND STAGRING AREA NO EROSION IS NOTICED ON THIS SITE, OR INTURAL DRIAMACE WAYS

ADJACENT PROPERTY: THE SITE IS BORDERED BY FORESTED LANDS ON ALL SIDES.

AUMENT INTERVIELS; ITES ATES DAVIGNOUT IT FARIED STUDIES OF THE PERIOD DELIGIOUS TREADS, AND FORDS, AS SHOWN ON THE PLANS, ARE DESIGNATED AS CRITICAL AREA(S), IF PRESENT, ALL \$1.5, ON'DE AND STEEPE, DITCHS, AND OTHER CONTROLS SHALL BE CONSIDERED CHTCAL DELIGIOUS AND FORDS. THE AREA SHALL BE INCIDITED AND ANATOMIC DATE DATE IN THE AREA SHALL BE CONSIDERED CHTCAL DELIGIOUS AND AND THE AREA SHALL BE CONSIDERED CHTCAL DELIGIOUS AND AND THE AREA SHALL BE CONSIDERED CHTCAL DELIGIOUS AND AND THE AREA SHALL BE CONSIDERED AND THE AREA SHALL BE CONSIDERED AND THE AREA SHALL BE CONSIDERED THE AREA SHALL BE CONSIDERED THE AREA SHALL BE CONSIDERED AND THE AREA SHALL BE CONSIDERED AND THE AREA SHALL BE CONSIDERED THE AREA SHALL BE CONSIDERED AND THE AREA SHALL BE

Soul: A subsurface investigation of the proposed site was personned by Cavil & envanamental consultants on september 2019. The report prepared by Cavil & environmental consultants dated november 2019, replicts the results of the subsurface investigation. The decommendations contained in the report were used in the preparation of these plans. Please repet to the subsurface investigation report by Cavil & environmental consultants for additional information, as

OFF SITE AREAS: THERE ARE NO BORROW AREA(S) OR EXPORT STOCKPILE AREA(S) OUTSIDE OF THE PROPOSED LIMITS OF DISTURBANCE FOR THIS PROJECT.

EROSION AND SERVINET CONTROL MEASURES: UNLESS OTHERWISE EXPORATION AND SPECIFICATION OF THE CURRENT WEST VINCING REGION AND SERVINET CONTROL AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE CURRENT WEST VINCING REGION AND SERVINET CONTROL DEST MANAGEMENT PRACTICE MANUAL.

STRUCTURAL PRACTICES:

INSTALL 404 CONTROLS TO ENSURE NO DISTURBANCE TO THE UNPERMITTED DELINEATED AREAIS).

- 2 INSTALL TEMPORARY CONSTRUCTION ENTRANCE.
- 8. INSTALL COMPOST FILTER SOCKS AS SHOWN ON THE PLANS TO REMOVE SEDANDH FROM RUNOFF, SELECTIVELY REMOVE TREES REQUIRED TO INSTALL COMPOST FILTER SOCK IN WOODED AREAS. CLEARING AND GRUEBING SHALL BE KEPT AT A MININKUM TO INSTALL EAS CONTROLS. 4, FILL SLOPE SURFACE SHALL BE LEFT IN A ROUGHERIED CONDITION TO REDUCE EXCISION, CONTRACTOR SHALL REDIRECT RUNOFF AWAY FROM THE FILL SLOPE BY INSTALLING EARTHEIN DIVERSION BERMS AND DIVERTING THE RUN OFF TO SEDMENT TRAPPING DEVICES.
- S. INSTALL V-DITCHES, DITCH RELIEF CULVERTS, AND OUTLET PROTECTION (RIP-RAP APRONS) AS SHOWN ON THE PLANS.

DEVICES LISTED ABOVE ARE CONSIDERED MINIMUM SEDDION AND SEDMENT CONTROL AGAINSTANCES PROBLEM ON THE UNIFORESEEN CONDITION, A CONTROL MASARES MAY BE RECESSARY DUE TO CONTRACTOR PHASING OR OTHER UNFORESEEN CONDITION, A MEDIATELY UPON DISCOVERING UNFORESEEN DRICUMSTANCES PROBLEM FOR THE OTHER OF THE OTHER O

PERMANENT STABILIZATION: ALL AREAS LEFT UNCOVERED BY EITHER BUILDINGS OR PAVEMENT SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FIRSH GRADING AND WITHIN SEVEN (7) DAYS. AT NO TIME SHALL LAND LAY DORMANT LONGER THAN TWENTY-ONE (21) DAYS.

ABOVE, ANY DAMAGED STRUCTURAL MEASURES ARE TO BE REPAIRE
FERTILIZED AND RESERVED AS NEEDED LINTIL GRASS IS ESTABLISHED.

TRAPPED SEDIMENT IS TO BE REMOVED AS REQUIRED TO MAINTAIN 50% TRAP AND/OR SOCK EFFICIENCY AND DISPOSED OF AS ENGINEERED FILL ON THE STOCKPILES.

INLETS AND DUTLETS OF DITCH RELEF CLAVERTS SHALL BE CHECKED REGULARLY FOR SEDMENT BUILD-UP. IF THE INLET AND/OR DUTLET IS CLOGGED BY 50% OR GREATER, IT SHALL BE REMOVED AND CLEANED OR REPLACED IMMEDIATELY.

SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOYELED OR SWEPT INTO ANY ROADISIDE DITCH, QUIVERT OR SURFACE WATER. ANY DISTURBED AREAS ALONG THE ACCESS ROAD SHALL BE STABLUZED AS CONSTRUCTION PROCEEDS, PRIOR TO CONTINUEING FURTHER ACCESS ROAD CONSTRUCTION STABLUZIATION SHALL BE PROVIDED WITH ETHER ROCK STABLUZIATION OR SEEDING AND MULCHING METHODS.

NOTE: THE WAY DEP RETAINS THE RIGHT TO ADD AND/OR MODIFY THESE EROSION AND SEDIMENT CONTROL MEASURES DURING THE CONSTRUCTION PROCESS, WITHIN REASON, TO ENSURE ADEQUATE PROTECTION TO THE PUBLIC AND THE ENVIRON SEEDING (SOIL STABILIZATION):

- 1. CONTRACTOR SHALL APPLY SEED AND STABILIZATION IN ACCORDANCE WITH THE WY DEP EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE (BMP) MANUAL BASED UPON SITE SPECIFIC SOIL CHARACTERISTICS.
- 2. WHEREVER SEEDING IS TO BE APPLIED TO STEEP SLOPES (3H:1V), SEED MIXTURES SHOULD BE SELECTED THAT ARE APPROPRIATE FOR STEEP SLOPES.

DUST CONTROL:

- FRING SHALL RE APPLIED TO ALL DISTURBED AREAS SUBJECT TO LITTLE OR NO CONSTRUCTION TRAFFIC.
- 2. ALL HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES SHALL BE SPRINKLED WITH WATER UNTIL THE SURFACE IS WET AND REPEATED AS NEEDED TO CONTROL DUST.

2. ALL PARKET FILLS AND ADMILLS FRANT INSPARLABILITY THE WALLEY TH

ANTERO RESOURCES
RED LADY WELL PAD
ELLSWORTH & GREEN DISTRIC
TYLER & WETZEL COUNTY, W HECELVED VED GAS MACHINE PARTIES OF THE COLUMN STATE OF THE COLUMN Department of De C001 12-18-2420

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- EXISTING TOPOGRAPHY DERIVED FROM AERIAL LIDAR MAPPING PROVIDED BY ANTERO RESOURCES DATED 9/18/2017.
- ADDITIONAL MAPPING DATA DERIVED FROM AERIAL LIDAR MAPPING PROVIDED BY BLUE MOUNTAIN MAPPING DATED 4/14/2019.
- PROPOSED GRADING BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
- DELINEATIONS INFORMATION DETAINED FROM SINCA ON 08/30/2017.
 ADDITIONAL DELINEATIONS INFORMATION DETAINED FROM ANTERO RESOURCES ON 05/15/2019.

	TYLER & V	WETZEL COUNT	Y, WEST VIRGINI	A	
OWNER	TM-PARCEL	DEED-PAGE	TOTAL ACRES	TYPE OF DISTURBANCE	ACERAGI
LANCASTER CECIL & LANCASTER MARGARET	12-26	170-48	87.07	PARCEL INFORMATION	
				TOPSOIL/STRIPPING PILE 1	5.94
				PARCEL TOTAL	5.94
LANCASTER CECIL & LANCASTER MARGARET	12-25	170-48	78.17	PARCEL INFORMATION	
				AST ACCESS ROAD	0.77
				WATER OFFLOAD ACCESS	6.90
				AST PAD	10.17
				TOPSOIL/STRIPPING PILE 1	0.69
	1			STOCK PILE 1	0.44
	1			PARCEL TOTAL	18.97
	_			TOTAL	24.91

Livin	OF DISTURBAN	CE PARCEL BRE	AK UPS - RED LA	DY WELL PAD	
	TYLER & V	WETZEL COUNT	Y, WEST VIRGIN	A	
OWNER	TM-PARCEL	DEED-PAGE	TOTAL ACRES	TYPE OF DISTURBANCE	ACERAGE
LANCASTER CECIL & LANCASTER MARGARET	12-25	170-48	78.17	PARCEL INFORMATION	
				AST ACCESS ROAD	0.35
				WATER OFFLOAD ACCESS	0.38
				STAGING AREA 1	2.18
				STOCK PILE 1	0.87
				PARCEL TOTAL	3.78
LANCASTER CECIL & LANCASTER MARGARET	19-31	333-440	39	PARCEL INFORMATION	
				WELL PAD ACCESS ROAD	2.43
				WELL PAD	9.42
				OLD STAGING / SPOIL AREA	2.47
				PARCEL TOTAL	14.32
LANCASTER CECIL & LANCASTER MARGARET	19-32	333-440	32	PARCEL INFORMATION	
				OLD STAGING / SPOIL AREA	7.37
	T			PARCEL TOTAL	7.37
LANCASTER CECIL & LANCASTER MARGARET	19-53	333-440	1.59	PARCEL INFORMATION	
				OLD STAGING / SPOIL AREA	0.77
				PARCEL TOTAL	0.77
				TOTAL	26.24

CULVERTS															
SN		Total Area (acres)	Pezk Flow (cB)	Dismeter (ft)	Length (8)	Inlet Elevation (ft)	Outlet Elevation (ft)	Stope (%)	Material	Outlet Protection					
	Culvert ID									D50 (ft)	T (R)	La (R)	W1 (ft)	W2 (fi)	
1	Culvert 1	0.16	. 0.99	1.5	125	1224.78	1222.28	2.0	HDPE	0.5	1.13	8	4.5	12.5	
2	Culvert 2	0.87	2.72	1.5	116	1265.59	1263.27	20	HDPE	0.5	1.13	88	4.5	12.5	
3	Culvert 3	0.56	2.02	1.5	65	1201,77	1198.85	4.5	HDPE	0.5	1.13	8	4.5	12.5	
4	Culvert 4	0.40	2.47	1.5	65	1206.60	1203.69	4.5	HDPE	0.5	1.13	8	4.5	12.5	

ROADSIDE DITCHES																	
*NAG = NORTH AMERICAN GREEN (OR APPROVED EQUIVALENT)																	
					_					Length (ft)	Velocity (fl/s)	Manning's n	Outlet Protection				
SN	Ditch ID	Total Area (acres)	Peak Flow (cfs)	Average Stope (ft/ft)	Bottom Width (ft)	(z:1)	Normal Depth (ft)	Depth (ft)	Liner				D50 (ft)	T (8)	La (fl)	W1 (ft)	W2 (fi)
1	Roadside Ditch 1	0.16	0.99	0.190	0.0	2	0.30	0.80	6" Riprap	226	5.34	0.032	See Culvert 1				
2	Roadside Ditch 2	0,05	0.31	0.120	0.0	2	0.21	0.71	S75BN	116	3,42	0.031	0.5	1.13	6	1	7
3	Roadside Ditch 3	0.10	0.62	0.071	0.0	2	0.31	0.81	S75BN	120	3.29	0.032	0.5	1.13	6	1	
4	Roadside Ditch 4	0.87	2.72	0.025	0.0	2	0.66	1.16	S75BN	651	3.13	0.033	See Culvert 2				
5	Roadside Ditch 5	0.61	1.86	0.150	0.0	2	0.40	0.90	6" Riprap	459	5.73	0,032	0.5	1.13	6	1	1 7
6	Roadside Ditch 6	0.52	1.77	0.034	0.0	2	0.53	1.03	S75BN	269	3.18	0,033	See Culvert 3				
7	Roadside Ditch 7	0.04	0.25	0.170	0.0	2	0.21	0.71	P300	56	2.74	0.047	See Culvert 3				

Ma am ANTERO RESOURCES RED LADY WELL PAD ELLSWORTH & GREEN DISTRICTS TYLER & WETZEL COUNTY, WV C002 sheet 3 0F 40

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