



west virginia department of environmental protection

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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

PERMIT MODIFICATION APPROVAL

January 13, 2016

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET
DENVER, CO 80202

Re: Permit Modification Approval for API Number 1706668, Well #: DUCKBILL UNIT 2H

Surface Hole, Pad Extension, WMP, Lateral

Oil and Gas Operator:

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

Laura L. Adkins
for Gene Smith
Assistant Chief of Permitting
Office of Oil and Gas

Promoting a healthy environment.

API# 47-017-06668 SHL & PAD DESIGN MODIFICATION

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

1) Well Operator: Antero Resources Corporation 494488557 017 -Doddridge Central West Union 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Duckbill Unit 2H Well Pad Name: Existing Vogt Pad

3) Farm Name/Surface Owner: Vogt, Gregory L. & Carolyn S. Public Road Access: CR 36

4) Elevation, current ground: 1112' Elevation, proposed post-construction: 1112'

5) Well Type (a) Gas Oil Underground Storage

Other

(b) If Gas Shallow Deep

Horizontal

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 6,800' TVD, Anticipated Thickness- 60 feet, Associated Pressure- 3100#

8) Proposed Total Vertical Depth: 6,800' TVD

9) Formation at Total Vertical Depth: Marcellus Shale

10) Proposed Total Measured Depth: 18900' MD

11) Proposed Horizontal Leg Length: 10997'

12) Approximate Fresh Water Strata Depths: 155'

13) Method to Determine Fresh Water Depths: Seaborn Unit 1H (API #47-017-06169) on same pad.

14) Approximate Saltwater Depths: 1581', 1872'

15) Approximate Coal Seam Depths: None Reported

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

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

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

Depth: _____

Seam: _____

Owner: _____

RECEIVED
Office of Oil and Gas
NOV 24 2015
WV Department of
Environmental Protection

API# 47-017-06668 SHL & PAD DESIGN MODIFICATION

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	H-40	94#	40'	40'	CTS, 38 Cu. Ft.
Fresh Water	13-3/8"	New	J-55/H-40	54.5#/48#	300'	300'	CTS, 417 Cu. Ft
Coal	9-5/8"	New	J-55	36#	2425'	2425'	CTS, 987 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	18900'	18900'	4812 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	30"	24"	0.438"	1530	50	Class A	1.18
Fresh Water	13-3/8"	17-1/2"	0.38"/0.33"	2730/1730	1000	Class A	1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A	1.18
Intermediate							
Production	5-1/2"	8-3/4" & 8-1/2"	0.361"	12,630	2500	Lead-HIPOZ & Tail - H	H/POZ-1.44 & H-1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

PACKERS

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

RECEIVED
Office of Oil and Gas
NOV 24 2015
WV Department of
Environmental Protection

API# 47-017-06668 SHL & PAD DESIGN MODIFICATION

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): 11.43 acres

22) Area to be disturbed for well pad only, less access road (acres): 4.38 acres

23) Describe centralizer placement for each casing string:

Conductor: no centralizers

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

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

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

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

Conductor: no additives, Class A cement.

Surface: Class A cement with 2-3% calcium chloride

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

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

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

25) Proposed borehole conditioning procedures:

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

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

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

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

*Note: Attach additional sheets as needed.

WW-9
(9/13)

API Number 47 - 017 - 06668 MOD
Operator's Well No. Duckbill Unit 2H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Antero Resources Corporation OP Code 494488557

Watershed (HUC 10) Tributary of Wilhelm Run Quadrangle West Union 7.5'

Elevation 1112' County Doddridge District Central

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: Drilling and Flowback Fluids and Cuttings

Will a synthetic liner be used in the pit? Yes No If so, what ml.? 60 mil (existing)

Proposed Disposal Method For Treated Pit Wastes:

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

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

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

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

Additives to be used in drilling medium? Please See Attachment

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

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

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

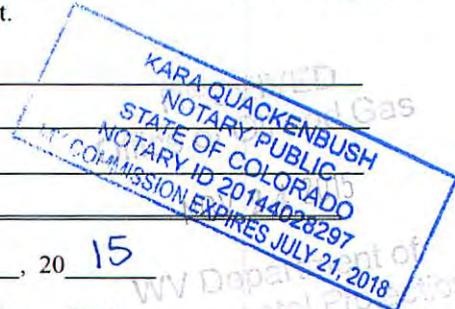
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations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

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

Company Official Signature [Signature]

Company Official (Typed Name) Cole Kilstrom

Company Official Title Environmental Representative



Subscribed and sworn before me this 23 day of November, 2015

[Signature] Notary Public

My commission expires July 21, 2018

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

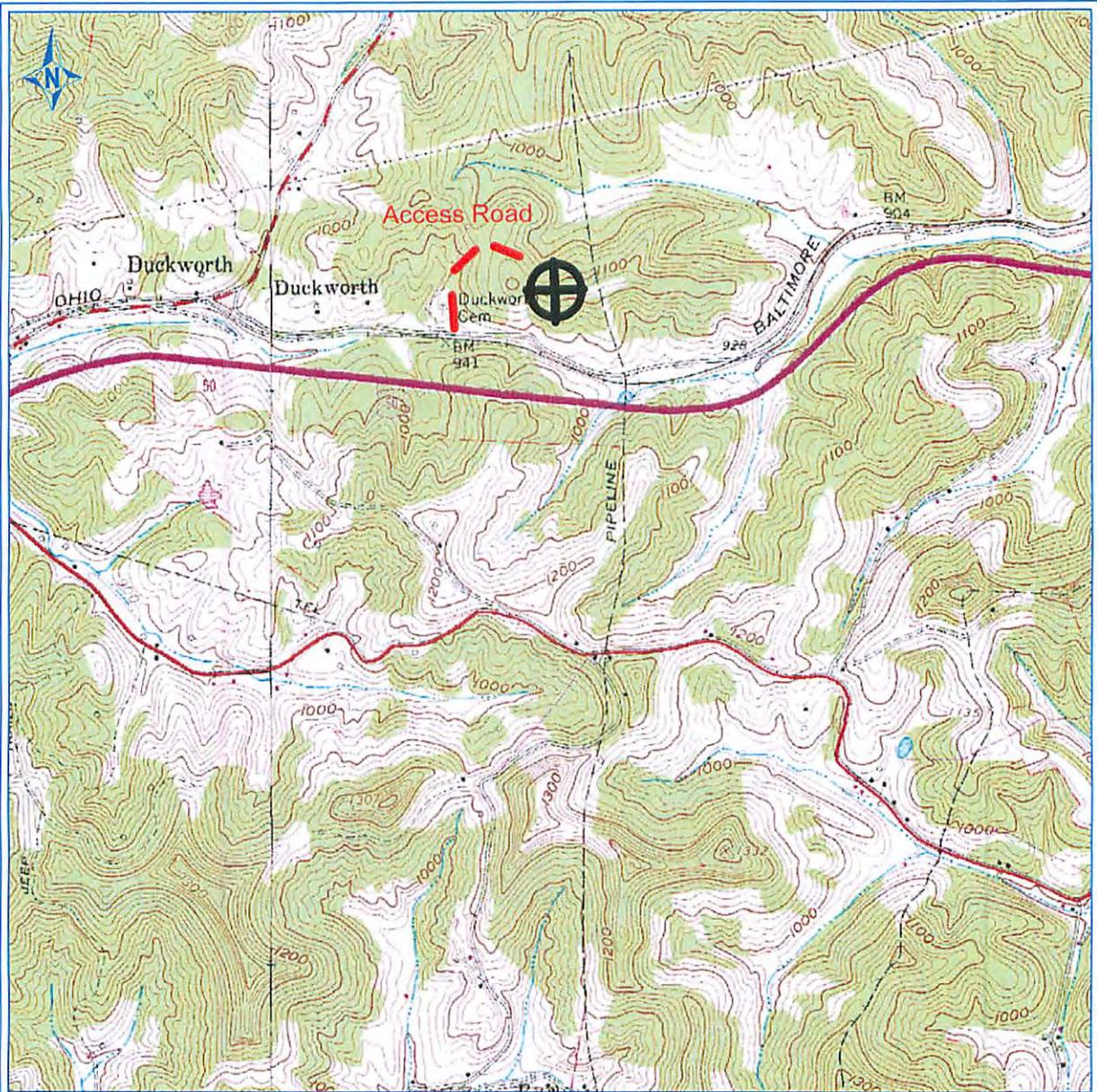
PRODUCTION INTERVAL

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

RECEIVED
Office of Oil and Gas
NOV 24 2015
NY State Department of
Environmental Conservation

17-066668 MOD

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



PETRA 10/19/2012 9:32:31 AM

ANTERO RESOURCES CORPORATION

APPALACHIAN BASIN

Vogt Pad

Duckbill Unit 2H
Doddridge County



REMARKS
QUADRANGLE: WEST UNION
WATERSHED: TRIB. OF WILHELM RUN
DISTRICT: CENTRAL

October 19, 2012

LATITUDE 39°17'30"

8,234'

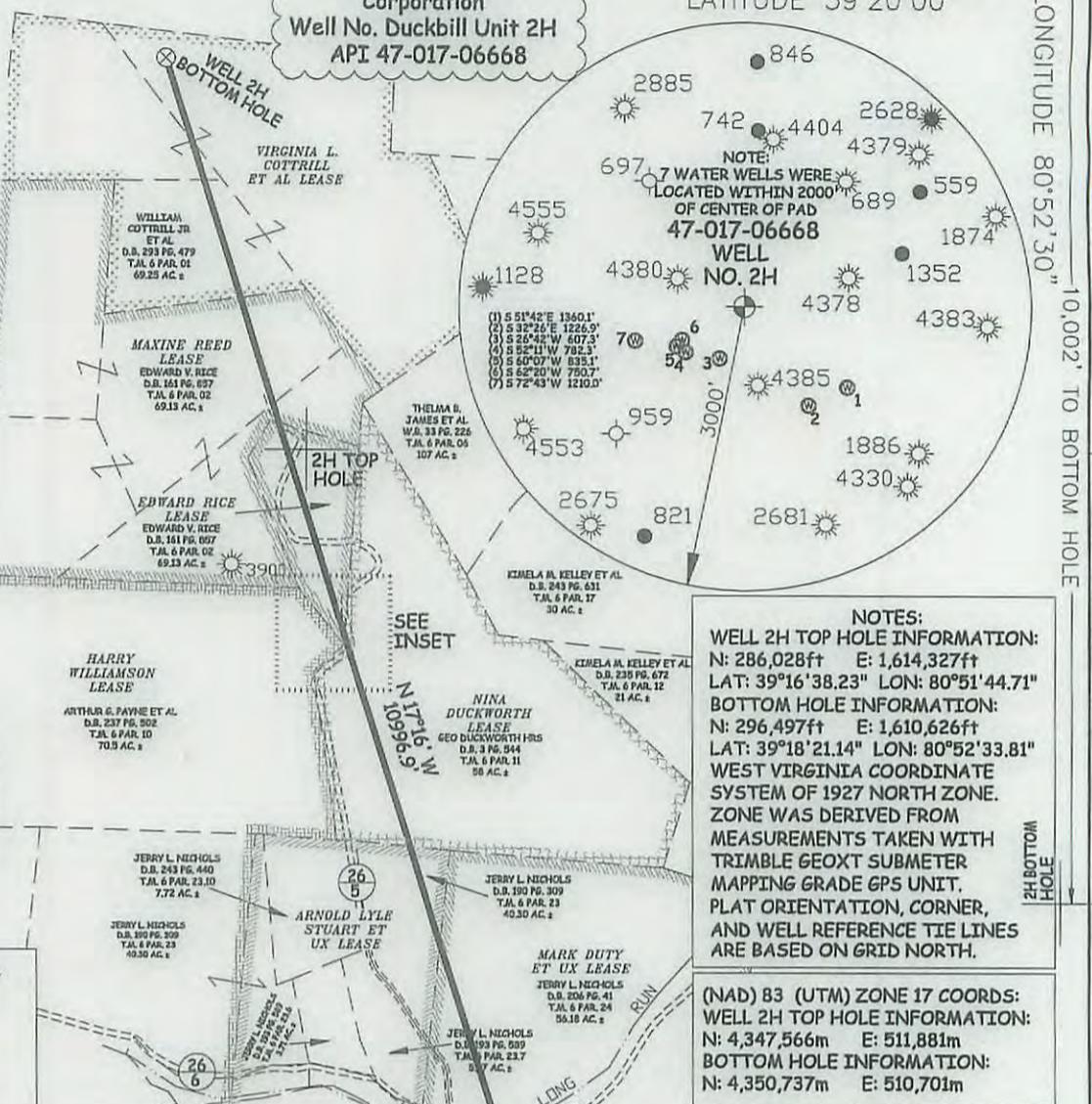
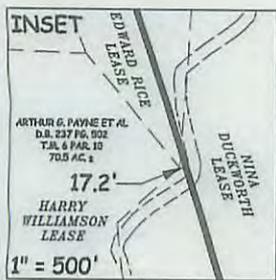
LONGITUDE 80°52'30"

LONGITUDE 80°50'00"

Antero Resources Corporation
Well No. Duckbill Unit 2H
API 47-017-06668

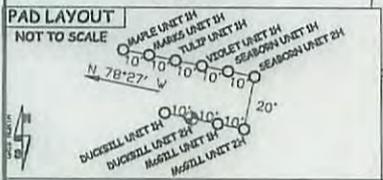
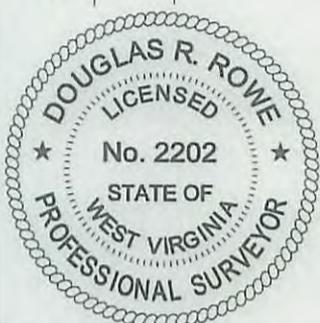
300' TO BOTTOM HOLE
LATITUDE 39°20'00"

NOTE:
NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DIRT OR POULTRY OR LIVESTOCK ARE LOCATED WITHIN ONE HUNDRED TWENTY-FIVE (125) FEET OF THE CENTER OF THE WELL PAD.



NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 286,028ft E: 1,614,327ft
LAT: 39°16'38.23" LON: 80°51'44.71"
BOTTOM HOLE INFORMATION:
N: 296,497ft E: 1,610,626ft
LAT: 39°18'21.14" LON: 80°52'33.81"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 4,347,566m E: 511,881m
BOTTOM HOLE INFORMATION:
N: 4,350,737m E: 510,701m



API WELL # 47 - 017 - 06668 HGA
STATE COUNTY PERMIT MOV

JOB # 14-088WA
DRAWING # DUCKBILL2HR4
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

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

DOUGLAS R. ROWE P.S. 2202

DATE 11/16/15
OPERATOR'S WELL# DUCKBILL UNIT #2H

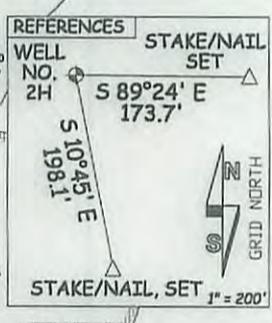
I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



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

STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X
LOCATION: ELEVATION 1118' ORIGINAL - 1,112' AS DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK QUADRANGLE WEST UNION 7.5' (TH) PENNSBORO 7.5' (BH) DISTRICT CENTRAL COUNTY DODDRIDGE
SURFACE OWNER GREGORY R. & CAROLYN S. VOGT ACREAGE 12.07 ACRES +/-
OIL & GAS ROYALTY OWNER PATRICK A. WRIGHT; FLOYD MCGILL, JR. ET AL; FRANK MCGILL ET AL; LEASE ACREAGE 222 AC.±; 107 AC.±; 106 AC.±;
JAMES C. RIDDLE ET AL; ANNIE AGNUS HURST; MARK DUTY ET UX; ARNOLD LYLE STUART ET UX; NINA DUCKWORTH; EDWARD RICE; MAXINE REED; VIRGINIA L. COTTRILLER ET AL 75 AC.±; 25 AC.±; 71 AC.±; 38 AC.±; 58.75 AC.±; 9.25 AC.±; 69.13 AC.±; 70 AC.±

PROPOSED WORK: DRILL CONVERT DRILL DEEPER X REDRILL FRACTURE OR STIMULATE X
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD - BHL PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,800' TVD 18,900' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM
DENVER, CO 80202 CHARLESTON, WV 25313



LANDING POINT
N: 285995
E: 1613889

WELL NO. 2H S 48°44' E 177.4'
S 85°44' W 439.2'

PATRICK A. WRIGHT LEASE
D.B. 254 PG. 19
T.J.L. & PAR. 13
12.07 AC.±

LATITUDE 39°17'30"

8,234'

300' TO BOTTOM HOLE
LATITUDE 39°20'00"

LONGITUDE 80°52'30"

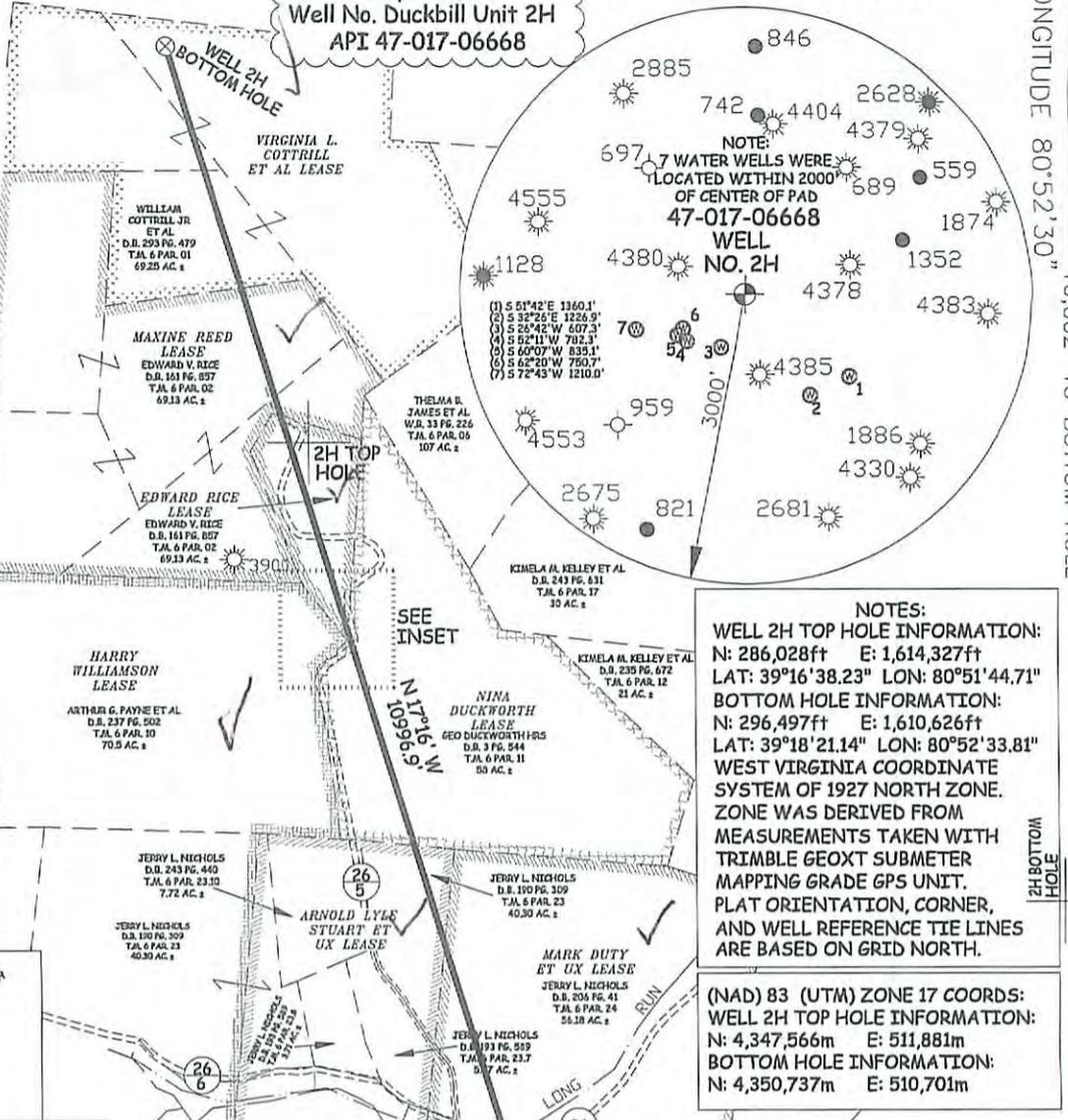
10,002' TO BOTTOM HOLE

5,238'

LONGITUDE 80°50'00"

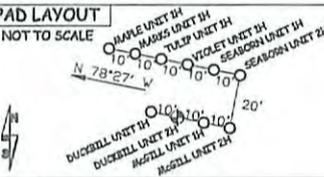
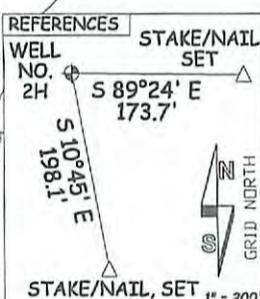
Antero Resources Corporation
Well No. Duckbill Unit 2H
API 47-017-06668

NOTE
NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.



NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 286,028ft E: 1,614,327ft
LAT: 39°16'38.23" LON: 80°51'44.71"
BOTTOM HOLE INFORMATION:
N: 296,497ft E: 1,610,626ft
LAT: 39°18'21.14" LON: 80°52'33.81"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD 83 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 4,347,566m E: 511,881m
BOTTOM HOLE INFORMATION:
N: 4,350,737m E: 510,701m



API WELL # 47 - 017 - 06668
STATE COUNTY PERMIT

JOB # 14-088WA
DRAWING # DUCKBILL2HRA
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

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

DOUGLAS R. ROWE P.S. 2202
DATE 11/16/15
OPERATOR'S WELL # DUCKBILL UNIT #2H

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



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

STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 1118' ORIGINAL - 1,112' AS DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK QUADRANGLE WEST UNIT 7.5' (TH) PENNSBORO 7.5' (BH) DISTRICT CENTRAL COUNTY DODDRIDGE
SURFACE OWNER GREGORY R. & CAROLYN S. VOGT ACREAGE 12.07 ACRES +/-
OIL & GAS ROYALTY OWNER PATRICK A. WRIGHT; FLOYD MCGILL, JR. ET AL; FRANK MCGILL ET AL; LEASE ACREAGE 222 AC±; 107 AC±; 106 AC±;
JAMES C. RIDDLE ET AL; ANNIE AGNUS HURST; MARK DUTY ET UX; ARNOLD LYLE STUART ET UX; NINA DUCKWORTH; EDWARD RICE; MAXINE REED; VIRGINIA L. COTTRILLER ET AL 75 AC±; 25 AC±; 71 AC±; 38 AC±; 58.75 AC±; 9.25 AC±; 69.13 AC±; 70 AC±
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD - BHL PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,800' TVD 18,900' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

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

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

(1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;

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

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Arnold Lyle Stuart, et ux Lease</u> Arnold Lyle Stuart, et ux	Antero Resources Corporation	1/8+	0356/0378
<u>Nina Duckworth Lease</u> Nina Duckworth	Antero Resources Corporation	1/8+	0323/0604
<u>Harry Williamson Lease</u> Harry Williamson J & J Enterprises, Inc. Eastern American Energy Corporation Enervest East Limited Partnership The Houston Exploration Company Seneca-Upshur Petroleum, Inc.	J & J Enterprises, Inc. Eastern American Energy Corporation Enervest East Limited Partnership The Houston Exploration Company Seneca-Upshur Petroleum, Inc. Antero Resources Appalachian Corporation	1/8 Merger Assignment Assignment Assignment Memorandum of Agreement	0136/0270 DB 0211/0437 0193/0509 0196/0228 0199/0024 0287/0321
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Edward Rice Lease</u> Edward Rice Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8+ Name Change	0289/0356 Exhibit 1
<u>Maxine Reed Lease</u> Maxine Reed Eastern American Energy Corporation Antero Resources Appalachian Corporation	Eastern American Energy Corporation Antero Resources Appalachian Corporation Antero Resources Corporation	1/8 Assignment Name Change	0158/0674 0272/0328 Exhibit 1

RECEIVED
Office of Oil and Gas
NOV 24 2015
WV Department of
Environmental Protection

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

CONTINUED ON NEXT PAGE

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

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

(1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;

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

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Patrick A. Wright Lease</u>			
Patrick A. Wright	Key Oil Company	1/8	0179/0260
Key Oil Company	Antero Resources Appalachian Corp.	*Partial Assignment of Oil and Gas Leases	0256/0285
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Floyd McGill, Jr., et al Lease</u>			
Floyd McGill, Jr., et ux	Key Oil Company	1/8	0181/0563
Key Oil Company	Antero Resources Appalachian Corporation	*Partial Assignment of Oil and Gas Leases	0256/0285
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Frank McGill, et al Lease</u>			
Frank McGill, et al	Petroleum Services, Inc.	1/8	0115/0563
Petroleum Services, Inc.	Magnum Oil Corporation	Assignment	0118/0555
Magnum Oil Corporation	Eneger Corporation	Assignment	0146/0664
Eneger Corporation	Basin Project, Inc.	Assignment	0153/0281
Basin Project, Inc.	James A. Eliopulos	Assignment	0252/0382
James A. Eliopulos d/b/a Alexander Production Company, Inc.	Antero Resources Appalachian Corporation	*Partial Assignment of Oil and Gas Leases	0267/0506
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>James C. Riddle, et al Lease</u>			
James C. Riddle	Lawrence Jacob	1/8	0060/0246
Lawrence Jacob	W. Leslie Rogers	Assignment	0061/0400
W. Leslie Rogers	W. Kevin Snider & Ritchie Petroleum Corporation	Assignment	0178/0499
W. Kevin Snider & Ritchie Petroleum Corporation	Antero Resources Appalachian Corporation	*Partial Assignment of Oil and Gas Leases	02749/0546
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Annie Agnes Hurst Lease</u>			
Annie Agnes Hurst	Devonian Appalachian Co.	1/8	0157/0620
Devonian Appalachian Co.	New Freedom Energy, LLC	Assignment	0200/0563
New Freedom Energy, LLC	Antero Resources Corporation	Assignment	0336/0127
<u>Mark Duty, et ux Lease</u>			
Mark Duty, et ux	Key Oil Company	1/8	0185/0200
Key Oil Company	Antero Resources Appalachian Corporation	*Partial Assignment of Oil & Gas Leases	0276/0526
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1

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

CONTINUED ON NEXT PAGE

**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 Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>Virginia L. Cottrill, et al Lease</u>	Virginia L. Cottrill, et vir	J & J Enterprises, Inc.	1/8	0141/0216
	J & J Enterprises, Inc.	Eastern American Energy Corporation	Confirmatory Deed	0159/0139
	Eastern American Energy Corporation	Energy Corporation of America	*Partial Assignment of Oil & Gas Leases	0240/0498
	Eastern Corporation of America	Antero Resources Appalachian Corporation	*Partial Assignment of Oil & Gas Leases	0272/0307
	Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1

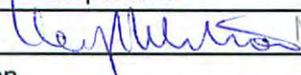
*Partial Assignments to Antero Resources Corporation include 100% rights to extract, produce and market the oil and gas from the Marcellus and any other formations completed with this well.

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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

Well Operator: Antero Resources Corporation
 By: Kevin Kilstrom  NOV 24 2015
 Its: VP of Production

RECEIVED
Office of Oil and Gas
NOV 24 2015
WV Department of
Environmental Protection

FORM WW-6A1
EXHIBIT 1

17-06668 mob

FILED

JUN 10 2013

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



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

APPLICATION FOR
AMENDED CERTIFICATE
OF AUTHORITY

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

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

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

- Name under which the corporation was authorized to transact business in WV: Antero Resources Appalachian Corporation
- Date Certificate of Authority was issued in West Virginia: 6/26/2008
- Corporate name has been changed to: Antero Resources Corporation
(Attach one Certified Copy of Name Change as filed in home State of incorporation.)
- Name the corporation elects to use in WV: Antero Resources Corporation
(due to home state name not being available)
- Other amendments: (attach additional pages if necessary)

- Name and phone number of contact person. (This is optional, however, if there is a problem with the filing, listing a contact person and phone number may avoid having to return or reject the document.)

<u>Alvyn A. Schopp</u>	<u>(303) 367-7310</u>
Contact Name	Phone Number

- Signature information (See below **Important Legal Notice Regarding Signature**):

Print Name of Signer: <u>Alvyn A. Schopp</u>	Title/Capacity: <u>Authorized Person</u>
Signature: <u><i>Alvyn A. Schopp</i></u>	Date: <u>June 10, 2013</u>

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

RECEIVED
Office of Oil and Gas
NOV 24 2015
Revised 4/13
WV Department of
Environmental Protection

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

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.

Date of Notice: 11/23/2015 Date Permit Application Filed: 11/23/2015

Notice of:

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

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

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

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

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

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

Name: _____
Address: _____

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

Name: _____
Address: _____

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

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

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

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

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

*Please attach additional forms if necessary

NOV 24 2015
Oil and Gas
Department of Environmental Protection

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

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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

Office of Oil and Gas
NOV 24 2015
Approved by the Secretary of the Department of Environmental Protection

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.

RECEIVED
Office of Oil and Gas
NOV 24 2015
WV Department of
Environmental Protection

WW-6A
(8-13)

API# 47-017-06668 SHL & PAD DESIGN MODIFICATION

API NO. 47-017 - 06668

OPERATOR WELL NO. Duckbill Unit 2H

Well Pad Name: Existing Vogt Pad

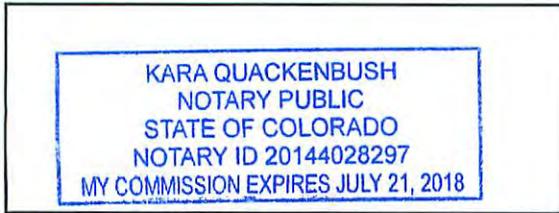
Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 23 day of November 2015

Kara Quackenbush Notary Public

My Commission Expires July 21, 2018

RECEIVED
Office of Oil and Gas
NOV 24 2015
WV Department of
Environmental Protection

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

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

TM 9 PCL 18

Owner: Gregory R. & Carolyn S. Vogt
Address: 29 Lois Lane
 Greenwood, WV 26415

TM 9 PCL 18.3

Owner: Steven W. & Vicky L. Kelley
Address: 328 Kelley Mountain Road
 Greenwood, WV 26415

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

TM 9 PCL 16

Owner: Jerry & Michael Norman
Address: 1798 Duckworth Rd.
 Greenwood, WV 26415

Owner: Jerry & Michael Norman
 (2nd Address)
Address: 1750 Duckworth Rd.
 Greenwood, WV 26415

TM 6 PCL 41

Owner: Annabell J. Riffle & Troy D.
 Cunningham
Address: 1538 Duckworth Rd.
 Greenwood, WV 26415

RECEIVED
 Oil and Gas

NOV 24 2015

WV Department of
 Environmental Protection

WW-6A Notice of Application Attachment (VOGT PAD):**List of Water Source Owners - Vogt Well Pad:****WATER SOURCE OWNERS:**

Owner: Kevin J. & Doreen G. Harney
(1 source: 1360')

Address: One Bank Plaza
Wheeling, WV 26003

Owner: Gregory R. & Carolyn S. Vogt
(2 sources: 1227', 751')

Address: 29 Lois Lane
Greenwood, WV 26415

Owner: Roger L. & Susan K. Elder
(1 source: 607')

Address: PO Box 569752
Dallas, TX 75356

Owner: WMT & Sharon S. Kunik
(2 sources: 782', 835')

Address: 1412 Duckworth Rd.
Pensboro, WV 26415

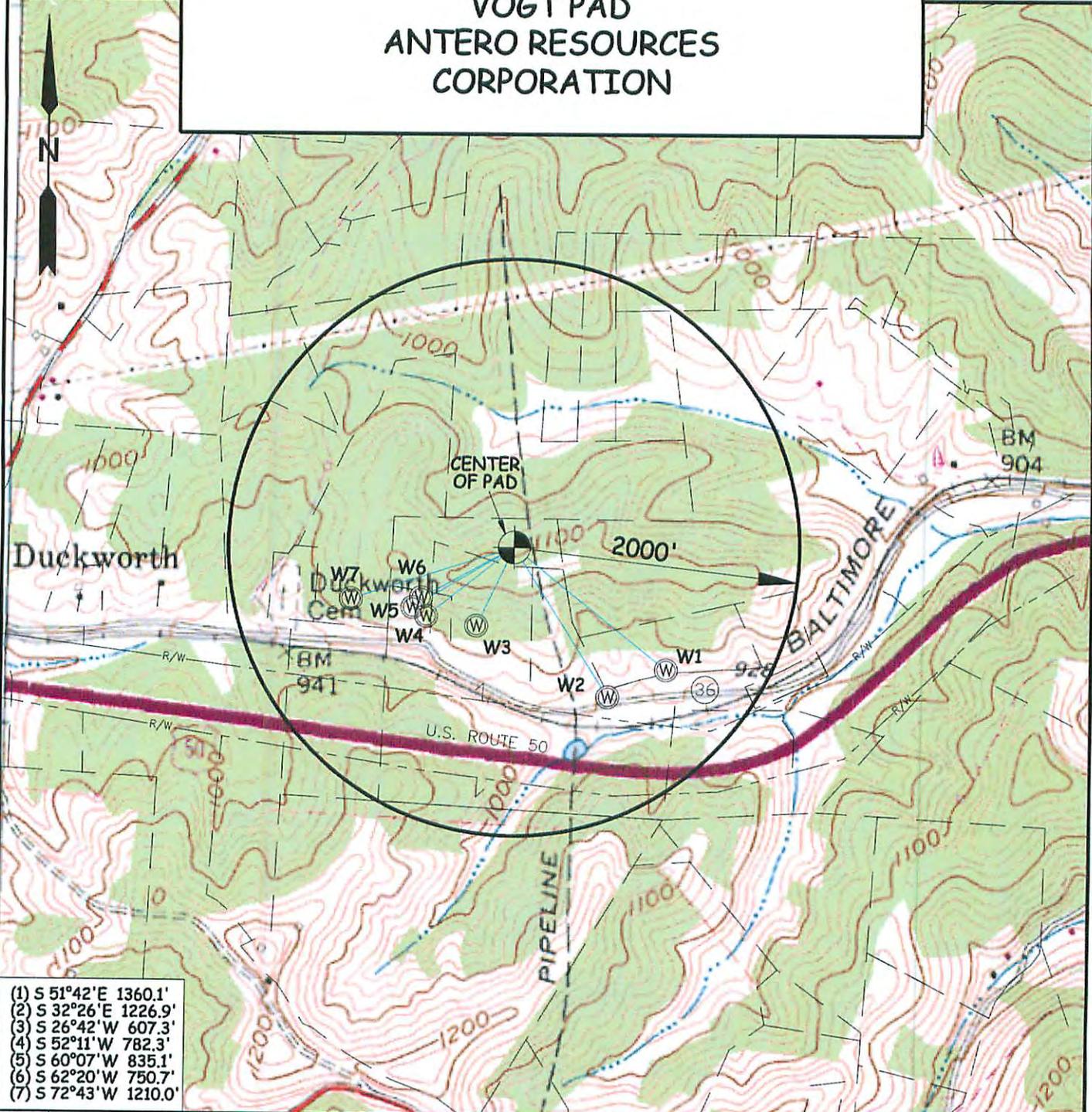
Owner: Annabell J. Riffle
(1 source: 1210')

Address: 1538 Duckworth Rd.
Greenwood, WV 26415

RECEIVED
Oil, Gas and Gas
Office of Energy and
NOV 24 2015
NOV 24 2015
WV DEPARTMENT of
Environmental Protection

17-06668 MOD

VOGT PAD ANTERO RESOURCES CORPORATION



- (1) S 51°42' E 1360.1'
- (2) S 32°26' E 1226.9'
- (3) S 26°42' W 607.3'
- (4) S 52°11' W 782.3'
- (5) S 60°07' W 835.1'
- (6) S 62°20' W 750.7'
- (7) S 72°43' W 1210.0'

WELL	SURFACE OWNER	ADDRESS	DISTRICT-TAX MAP-PARCEL	WELL LATITUDE	WELL LONGITUDE
W1	Kevin J. & Doreen G. Harney	One Bank Plaza Wheeling, WV 26003	1-9-18.9	LAT:39°16'30.27"	LON:80°51'31.06"
W2	Gregory R. & Carolyn S. Vogt	29 Lois Lane Greenwood, WV 26415	1-9-18.13	LAT:39°16'28.31"	LON:80°51'36.23"
W3	Roger L. & Susan K. Elder	P.O. Box 569752 Dallas, TX 75356	1-9-18.3	LAT:39°16'33.04"	LON:80°51'48.16"
W4	WMT & Sharon C. Kunik	1412 Duckworth Rd. Greenwood, WV 26415	1-9-18.2	LAT:39°16'33.59"	LON:80°51'52.43"
W5	WMT & Sharon C. Kunik	1412 Duckworth Rd. Greenwood, WV 26415	1-9-18.2	LAT:39°16'34.21"	LON:80°51'53.93"
W6	Gregory R. & Carolyn S. Vogt	29 Lois Lane Greenwood, WV 26415	1-9-18	LAT:39°16'34.90"	LON:80°51'53.18"
W7	Annabell J. Riffle	1538 Duckworth Rd. Greenwood, WV 26415	1-6-41	LAT:39°16'34.72"	LON:80°51'59.41"

WILLOW LAND SURVEYING, PLLC P.O. BOX 17, PENNSBORO, WV 26415 (304) 659-1717	TOPO SECTION(S) OF ; WEST UNION 7.5' QUAD. JOB #: 12-102WA	SCALE : 1-INCH = 1000-FEET <div style="display: flex; align-items: center;"> 0' 3000' </div>
DATE: 11/16/15	DRAWN BY: D.R.R.	FILE: VOGTWATERMAPR

WV Department of Environmental Protection

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

Instructions to Persons Named on Page WW-6A

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

Comment and Waiver Provisions

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

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

VOLUNTARY STATEMENT OF NO OBJECTION

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>511881m</u>
County:	<u>Doddridge</u>		Northing:	<u>4347566m</u>
District:	<u>Central</u>	Public Road Access:		<u>CR 36</u>
Quadrangle:	<u>West Union 7.5'</u>	Generally used farm name:		<u>Vogt, Gregory R. & Carolyn S.</u>
Watershed:	<u>Tributary of Wilhelm Run</u>			

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

<p>*Please check the box that applies</p> <p><input type="checkbox"/> SURFACE OWNER</p> <p><input type="checkbox"/> SURFACE OWNER (Road and/or Other Disturbance)</p> <p><input type="checkbox"/> SURFACE OWNER (Impoundments/Pits)</p> <p><input type="checkbox"/> COAL OWNER OR LESSEE</p> <p><input type="checkbox"/> COAL OPERATOR</p> <p><input type="checkbox"/> WATER PURVEYOR</p> <p><input type="checkbox"/> OPERATOR OF ANY NATURAL GAS STORAGE FIELD</p>	<p>FOR EXECUTION BY A NATURAL PERSON</p> <p>Signature: _____</p> <p>Print Name: _____</p> <p>Date: _____</p>
	<p>FOR EXECUTION BY A CORPORATION, ETC.</p> <p>Company: _____</p> <p>By: _____</p> <p>Its: _____</p> <p>Signature: _____</p> <p>Date: _____</p>

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.

WW-6AW
(1-12)

API# 47-017-06668 SHL & PAD DESIGN MODIFICATION

API NO. 47- 017 - 06668 *MW*
OPERATOR WELL NO. Duckbill Unit 2H
Well Pad Name: Existing Vogt Pad

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

Instructions to Persons Named on Page WW-6A

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

Comment and Waiver Provisions

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

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

VOLUNTARY STATEMENT OF NO OBJECTION

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

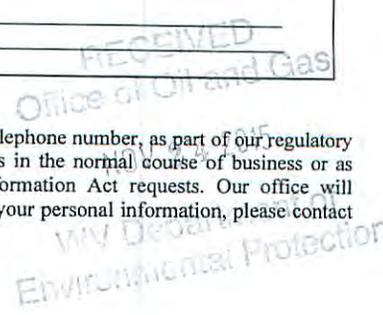
State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>511881m</u>
County:	<u>Doddridge</u>		Northing:	<u>4347566m</u>
District:	<u>Central</u>	Public Road Access:		<u>CR 38</u>
Quadrangle:	<u>West Union 7.5'</u>	Generally used farm name:		<u>Vogt, Gregory R. & Carolyn S.</u>
Watershed:	<u>Tributary of Wilhelm Run</u>			

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

<p>*Please check the box that applies</p> <p><input type="checkbox"/> SURFACE OWNER</p> <p><input type="checkbox"/> SURFACE OWNER (Road and/or Other Disturbance)</p> <p><input type="checkbox"/> SURFACE OWNER (Impoundments/Pits)</p> <p><input type="checkbox"/> COAL OWNER OR LESSEE</p> <p><input type="checkbox"/> COAL OPERATOR</p> <p><input type="checkbox"/> WATER PURVEYOR</p> <p><input type="checkbox"/> OPERATOR OF ANY NATURAL GAS STORAGE FIELD</p>	<p>FOR EXECUTION BY A NATURAL PERSON</p> <p>Signature: <u>Gregory Vogt</u></p> <p>Print Name: <u>Gregory Vogt</u></p> <p>Date: <u>11-27-14</u></p> <p>FOR EXECUTION BY A CORPORATION, ETC.</p> <p>Company: _____</p> <p>By: _____</p> <p>Its: _____</p> <p>Signature: _____</p> <p>Date: _____</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

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.



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

Instructions to Persons Named on Page WW-6A

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

Comment and Waiver Provisions

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

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

VOLUNTARY STATEMENT OF NO OBJECTION

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

State:	<u>West Virginia</u>	UTM NAD 83 Easting:	<u>511881m</u>
County:	<u>Doddridge</u>	UTM NAD 83 Northing:	<u>4347566m</u>
District:	<u>Central</u>	Public Road Access:	<u>CR 36</u>
Quadrangle:	<u>West Union 7.5'</u>	Generally used farm name:	<u>Vogt, Gregory R. & Carolyn S.</u>
Watershed:	<u>Tributary of Wilhelm Run</u>		

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

<p>*Please check the box that applies</p> <p><input type="checkbox"/> SURFACE OWNER</p> <p><input type="checkbox"/> SURFACE OWNER (Road and/or Other Disturbance)</p> <p><input type="checkbox"/> SURFACE OWNER (Impoundments/Pits)</p> <p><input type="checkbox"/> COAL OWNER OR LESSEE</p> <p><input type="checkbox"/> COAL OPERATOR</p> <p><input type="checkbox"/> WATER PURVEYOR</p> <p><input type="checkbox"/> OPERATOR OF ANY NATURAL GAS STORAGE FIELD</p>	<p>FOR EXECUTION BY A NATURAL PERSON</p> <p>Signature: <u>[Signature]</u></p> <p>Print Name: <u>Steven W. Kelley</u></p> <p>Date: <u>11-12-15</u></p>
	<p>FOR EXECUTION BY A CORPORATION, ETC.</p> <p>Company: _____</p> <p>By: _____</p> <p>Its: _____</p> <p>Signature: _____</p> <p>Date: _____</p>

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.

RECEIVED
Oil and Gas
WV Department of Environmental Protection

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

Instructions to Persons Named on Page WW-6A

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

Comment and Waiver Provisions

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

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

VOLUNTARY STATEMENT OF NO OBJECTION

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

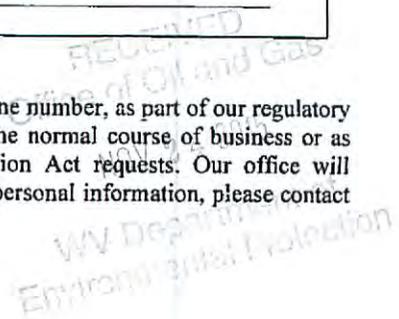
State: West Virginia UTM NAD 83 Easting: 511881m
County: Doddridge Northing: 4347566m
District: Central Public Road Access: CR 36
Quadrangle: West Union 7.5' Generally used farm name: Vogt, Gregory R. & Carolyn S.
Watershed: Tributary of Wilhelm Run

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

<p>*Please check the box that applies</p> <p><input type="checkbox"/> SURFACE OWNER</p> <p><input type="checkbox"/> SURFACE OWNER (Road and/or Other Disturbance)</p> <p><input type="checkbox"/> SURFACE OWNER (Impoundments/Pits)</p> <p><input type="checkbox"/> COAL OWNER OR LESSEE</p> <p><input type="checkbox"/> COAL OPERATOR</p> <p><input type="checkbox"/> WATER PURVEYOR</p> <p><input type="checkbox"/> OPERATOR OF ANY NATURAL GAS STORAGE FIELD</p>	<p>FOR EXECUTION BY A NATURAL PERSON</p> <p>Signature: <u>Troy Cunningham</u> Print Name: <u>Troy Cunningham</u> Date: <u>11/16/15</u></p> <p>FOR EXECUTION BY A CORPORATION, ETC.</p> <p>Company: _____ By: _____ Its: _____</p> <p>Signature: _____ Date: _____</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Oil and Gas Privacy Notice:

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



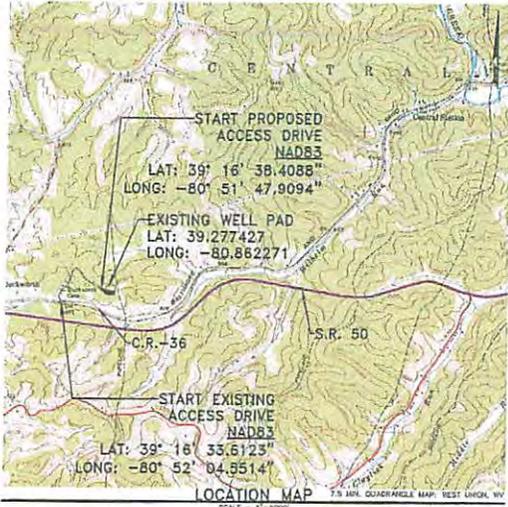
AS-BUILT & EXPANDED PAD CONSTRUCTION DRAWINGS

FOR

VOGT WELLS PAD EXTENSION

CENTRAL TAX DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA

APPROVED
WVDEP OOG
Modification
1/12/2016



- API# 1706169
- API# 1706170
- API# 1706206
- API# 1706236
- API# 1706266
- API# 1706550
- API# 1706665
- API# 1706667
- API# 1706668

WEST VIRGINIA 811
CALL BEFORE YOU DIG!
Dial 811 or 800.245.4848
Miss Utility of West Virginia

SOILS CLASSIFICATION
 Gd: GRP1-PEABODY COMPLEX, 25 TO 35 PERCENT SLOPES
 Gd: GELP1-UPSHUR SALT LOAMS, 0 TO 15 PERCENT SLOPES
 Gd: GELP1-UPSHUR SALT LOAMS, 16 TO 25 PERCENT SLOPES

- LIST OF DRAWINGS**
- 1 OF 10 COVER SHEET
 - 2 OF 10 EXISTING CONDITIONS PLAN
 - 3 OF 10 EROSION AND SEDIMENT CONTROL PLAN
 - 4 OF 10 CROSS SECTIONS
 - 5 OF 10 CROSS SECTIONS
 - 6 OF 10 CROSS SECTIONS
 - 7 OF 10 NOTES & DETAILS
 - 8 OF 10 DETAILS
 - 9 OF 10 DETAILS
 - 10 OF 10 RECLAMATION PLAN

GENERAL NOTES

1. THE TOPOGRAPHIC SURVEY AND AS-BUILT UTILIZED FOR THIS BASE MAPPING WAS PERFORMED BY ALLEGHENY SURVEYS, INC. ON 11/17/14. REFER TO VOGT PAD AS-BUILT FOR HORIZONTAL AND VERTICAL DATA.
2. THE HORIZONTAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN DATUM 1883 (NAD 83), NORTH ZONE.
3. THE VERTICAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).
4. THE UTILITIES SHOWN ON THIS PLAN ARE FOR REFERENCE PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION PRIOR TO ANY EXCAVATION BY TESTING THE UTILITY OF WEST VIRGINIA AT 1-800-255-8865.
5. A WETLAND PRESENCE/ABSENCE SURVEY WAS PERFORMED BY FOLETA & ASSOCIATES, INC.
6. THE CUT & FILL QUANTITIES PRESENTED ON THIS PLAN ARE FOR PERMITTING AND INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING SPACES AND TO VERIFY EARTHWORK VOLUMES, METHODS AND PROCEDURES. ANY ISSUES ARE TO BE BROUGHT TO THE ENGINEER'S AND OWNER'S ATTENTION PRIOR TO COMMENCEMENT OF WORK.
7. ALL EXISTING UTILITIES HAVE BEEN SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION.
8. A GEOTECHNICAL EVALUATION WAS PERFORMED BY RETNEW ASSOCIATES, INC. THE RESULTS OF THIS REPORT ARE SUMMARIZED IN THE GEOTECHNICAL REPORT FOR ANTERO RESOURCES VOGT WELL PAD EXPANSION, DATED MARCH 4, 2015.

WELL LOCATION RESTRICTIONS

ALL PAD AND FRACTURE PIT CONSTRUCTION COMPLIES WITH THE FOLLOWING RESTRICTIONS:

- 200' FROM AN EXISTING WELL OR DEVELOPED SPRING USED FOR HUMAN OR DOMESTIC PURPOSES
- 200' FROM OCCUPIED BUILDING OR DRAIN GREATER THAN 2,500 SF USED FOR POULTRY OR BARN PURPOSES FROM THE CENTER OF THE PAD.
- 100' FROM EDGE OF DISTURBANCE TO WETLANDS, PERMANENT STREAM, NATURAL OR ARTIFICIAL LAKE, POND OR RESERVOIR
- 200' FROM EDGE OF DISTURBANCE TO A NATURALLY REPRODUCING TRIBUTARY STREAM.
- 100' IF A SURFACE OR GROUND WATER INTAKE TO A PUBLIC WATER SUPPLY.

PROPERTY OWNER INFORMATION - VOGT PAD AS-BUILT AND PAD EXPANSION

CENTRAL DISTRICT - DODDRIDGE COUNTY

OWNER	TWP/PARCEL	SUBPAGE	TOTAL ACRES	TYPE OF DISTURBANCE	ACREAGE
JERRY RICHMAN, JR. JR.	P10	204 / 535	18.60	ACCESS ROAD A	0.10
				TOTAL	0.10
ANNABELL J. RUFFLE	P10	210 / 178	25.60	ACCESS ROAD A	2.66
				FRACTURE	1.08
				TOTAL	3.74
GREGORY R. VOGT, JR. JR.	P10 - P18	249 / 458	109.92	ACCESS ROAD A	0.30
				FRACTURE	2.50
				DRILL PAD	3.38
				PAD EXPANSION	0.14
				TOTAL	6.32
Steven W. KERRY, JR. JR.	P18 B - P18 C	238 / 022	10.187	PAD EXPANSION	2.80
				TOTAL	2.80
				GRAND TOTAL	11.37

LOCAL ANTERO OFFICE
 178 IRL DRUM ROAD
 MT. CLAIR, WV 26460
 PHONE (304) 622-3842

LOCAL CONTACTS
 ELL WAGNER - ENVIRONMENTAL FISHERMAN
 PHONE (304) 622-3842 EXT. 311
 CELL: (204) 476-0770

JOHN KARCAN - OPERATIONS SUPERINTENDENT
 CELL: (917) 356-1553

AARON KUHLEN - CONSTRUCTION SUPERVISOR
 CELL: (405) 221-5344

ANTHONY SMITH - FIELD ENGINEER
 PHONE: (304) 895-2400
 CELL: (204) 973-6198

ROBERT HINES - DESIGN MANAGER
 PHONE: (304) 848-4100
 CELL: (204) 627-7409

DIRECTIONS TO THE SITE

FROM POWERSBORO, WV, TRAVEL EAST ON US 50 FOR APPROXIMATELY 4.0 MILES. TURN LEFT ONTO SUNBURST ROAD AND TRAVEL 0.3 MILES. TURN RIGHT ONTO DUCKSHORN ROAD AND TRAVEL 1.0 MILES. TURN RIGHT TO START ON DUCKSHORN ROAD AND TRAVEL 0.3 MILES. TURN LEFT ONTO COOPER'S ROCK ROAD AND ARRIVE AT THE VOGT WELL PAD ON THE RIGHT.

AS-BUILT AND PAD EXPANSION LOD (AC)

ROAD A (2547 FEET)	AC
DRILL PAD	3.38
FRACTURE	3.66
PAD EXPANSION	1.00
TOTAL AFFECTED AREA	11.43
TOTAL UNOCCUPIED AFFECTED DISTURBED	8.84
TOTAL LINEAR FEET OF ACCESS ROAD	2.841

EXISTING AND PROPOSED WELL COORDINATES

WELLHEAD COORDINATES (NAD 83)

Well Name	Northing (NAD83) (N)	Eastings (NAD83) (E)	Lot (NAD83) (Doc. Dep.)	Long (NAD83) (Doc. Dep.)
Drilled Well Marks Unit 1H	87,199,224	492,459,918	N039.27743236	W080.88220557
Drilled Well Seaborn Unit 1H	87,197,396	492,468,878	N032.27741712	W080.88220144
Drilled Well Seaborn Unit 2H	87,196,789	492,471,664	N039.27741208	W080.88216871
Drilled Well Vireo Unit 1H	87,198,007	492,465,891	N026.27714222	W080.88223614
Permitted Well Duckshorn Unit 1H	87,192,635	492,461,606	N038.27737326	W080.88228292
Permitted Well Duckshorn Unit 2H	87,192,027	492,464,674	N039.27758619	W080.88234920
Permitted Well Maple Unit 1H	87,189,832	492,456,921	N039.27743743	W080.88234029
Permitted Well Maple Unit 2H	87,191,423	492,467,681	N039.27736318	W080.88221447
Permitted Well Seagr Unit 2H	87,190,815	492,470,648	N036.27738820	W080.88217875
Permitted Well Tulp Unit 1H	87,188,616	492,462,905	N030.27742730	W080.88227085

WELLHEAD COORDINATES (NAD 27)

Well Name	Northing (NAD27) (N)	Eastings (NAD27) (E)	Lot (NAD27) (Doc. Dep.)	Long (NAD27) (Doc. Dep.)
Drilled Well Marks Unit 1H	87,105,046	492,043,194	N039.27735038	W080.88247678
Drilled Well Seaborn Unit 1H	87,106,820	492,052,152	N036.27735058	W080.88233788
Drilled Well Seaborn Unit 2H	87,168,212	492,055,140	N039.27735002	W080.88233793
Drilled Well Vireo Unit 1H	87,197,431	492,049,167	N038.27732456	W080.88242733
Permitted Well Duckshorn Unit 1H	87,182,039	492,044,881	N038.27739172	W080.88245815
Permitted Well Duckshorn Unit 2H	87,181,451	492,047,840	N039.27726011	W080.88242042
Permitted Well Maple Unit 1H	87,189,358	492,040,207	N038.27735539	W080.88261151
Permitted Well Maple Unit 2H	87,190,047	492,050,837	N039.27728112	W080.88232059
Permitted Well Seagr Unit 2H	87,189,259	492,051,823	N039.27728076	W080.88235097
Permitted Well Tulp Unit 1H	87,158,040	492,048,180	N036.27734036	W080.88244207

FOR REVIEW ASSIGNED BY: _____ AS NOTED _____

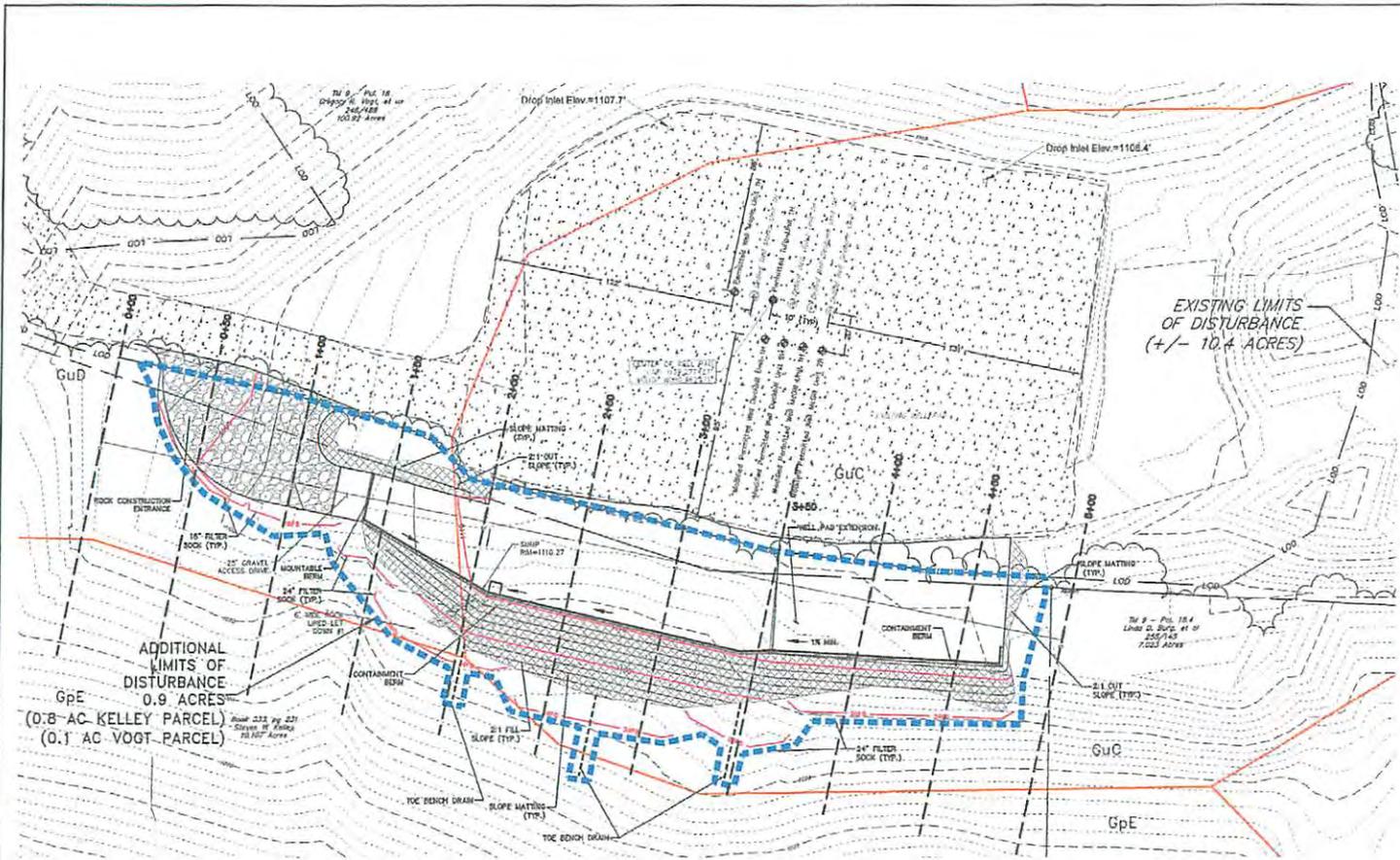
MANAGER: _____
 DESIGNER: _____
 CHECKER: _____
 DATE: _____

CLIENT: **Antero**

REVIEW

DATE: 06/09/2015
 SHEET NO. 1 of 10
 DWG. NO. 095452082

COVER SHEET
 CONSTRUCTION DRAWINGS
 FOR
VOGT
 WELLS PAD EXTENSION
 DODDRIDGE COUNTY, WEST VIRGINIA



LEGEND

EXISTING PROPERTY LINE	---
EXISTING PAVED	---
EXISTING SIDE	---
EXISTING SIDE EMBANKMENT	---
EXISTING WALL	---
EXISTING TRT	---
EXISTING WATER CONTROL LINE	---
EXISTING BUSH CONTROL LINE	---
EXISTING DRAINAGE	---
EXISTING OVERHEAD ELECTRIC LINE	---
EXISTING UNDERGROUND ELECTRIC LINE	---
EXISTING GAS LINE	---
EXISTING SANITARY SEWER LINE	---
EXISTING FENCE LINE	---
EXISTING DRAINAGE POND	---
EXISTING STREAM	---
EXISTING STREAM IMPROVEMENT	---
EXISTING DRAINAGE	---
EXISTING LIMITS OF DISTURBANCE	---
EXISTING AREA OF INTEREST	---
EXISTING WETLAND	---
COUNTY LINE	---
SUBJECT LINE	---
PROPOSED WATER CONTROL LINE	---
PROPOSED BUSH CONTROL LINE	---
PROPOSED FENCE	---
PROPOSED WETLAND	---
PROPOSED STORM PIPE	---
LIMITS OF DISTURBANCE	---

APPROVED
WVDEP OOG
 Modification
 1/12/2016

FOR REVIEW APPROVED BY:

DATE: 05/09/2015

SCALE: 1"=30'

PROJECT NO: 15-0000000000

DATE: 05/09/2015

PROJECT NO:	15-0000000000
DATE:	05/09/2015
SCALE:	1"=30'
PROJECT NO:	15-0000000000
DATE:	05/09/2015



REVIEW

REVIEW ASSOCIATES, INC.
 10000 W. 100th Street, Suite 100
 Overland Park, KS 66204
 Phone: (913) 444-1722 Fax: (913) 444-1723
 Website: www.reviewinc.com

EXISTING AND PROPOSED WELL COORDINATES

Well Name	Northing (NAD83) (N)	Eastng (NAD83) (E)	Lat (NAD83) (Dec. Deg.)	Long (NAD83) (Dec. Deg.)
Drilled Well Marks Unit 1H	87,189,224	492,458,918	N039.27742356	W090.862370567
Drilled Well Seaborn Unit 1H	87,187,396	492,468,876	N039.27741712	W090.86220144
Drilled Well Seaborn Unit 2H	87,186,799	492,471,894	N039.27741208	W090.86219871
Drilled Well Violet Unit 1H	87,188,007	492,485,081	N039.27742322	W090.86223514
Permitted Well Duckbill Unit 1H	87,192,835	492,461,686	N039.27737326	W090.86228393
Permitted Well Duckbill Unit 2H	87,192,027	492,464,674	N039.27735819	W090.86224120
Permitted Well Maple Unit 1H	87,199,822	492,456,931	N039.27743743	W090.86234029
Permitted Well Maple Unit 1H	87,181,423	492,487,851	N039.27736316	W090.86221447
Permitted Well Maple Unit 2H	87,180,813	492,476,848	N039.27735829	W090.86217875
Permitted Well Tulp Unit 1H	87,188,616	492,462,955	N039.27742730	W090.86227085

Well Name	Northing (NAD27) (N)	Eastng (NAD27) (E)	Lat (NAD27) (Dec. Deg.)	Long (NAD27) (Dec. Deg.)
Drilled Well Marks Unit 1H	87,188,646	492,043,194	N039.27725031	W090.86241679
Drilled Well Seaborn Unit 1H	87,186,820	492,052,182	N039.27733908	W090.86223756
Drilled Well Seaborn Unit 2H	87,186,212	492,055,140	N039.27733002	W090.86223793
Drilled Well Violet Unit 1H	87,187,431	492,048,167	N039.27743018	W090.86240735
Permitted Well Duckbill Unit 1H	87,192,029	492,044,941	N039.27729122	W090.86240515
Permitted Well Duckbill Unit 2H	87,181,451	492,047,949	N039.27728615	W090.86242042
Permitted Well Maple Unit 1H	87,189,226	492,040,207	N039.27735639	W090.86251151
Permitted Well Maple Unit 1H	87,189,226	492,040,207	N039.27735639	W090.86251151
Permitted Well Maple Unit 2H	87,180,229	492,053,923	N039.27727808	W090.86230097
Permitted Well Tulp Unit 1H	87,188,640	492,048,180	N039.27743438	W090.86244267

Well Name	API #
Drilled Well Marks Unit 1H	# 47-017-06266-00
Drilled Well Seaborn Unit 1H	# 47-017-06168-00
Drilled Well Seaborn Unit 2H	# 47-017-06170-00
Drilled Well Violet Unit 1H	# 47-017-06208-00
Permitted Well Duckbill Unit 1H	# 47-017-06467-00
Permitted Well Duckbill Unit 2H	# 47-017-06468-00
Permitted Well Maple Unit 1H	# 47-017-06469-00
Permitted Well Maple Unit 1H	# 47-017-06469-00
Permitted Well Maple Unit 2H	# 47-017-06466-00
Permitted Well Tulp Unit 1H	# 47-017-06216-00

EXISTING LIMITS OF DISTURBANCE:
 10.4 ACRES

NEW TOTAL LIMITS OF DISTURBANCE:
 11.4 ACRES

Cut & Fill (Pad Extension Area)

Cut (yds)	+ 719
Stone	+ 918
Fill (yds)	- 4,096
Compaction	- 23
Topsoil Strip:	
Area (acre)±0.21	- 843
Depth (ft)±8	+ 230
Net (yds)	- 3,139
Topsoil Net (yds)	617

EROSION AND SEDIMENT CONTROL PLAN
 CONSTRUCTION DRAWINGS
 FOR
VOGT
 WELL PAD EXTENSION

DATE: 05/09/2015
 SHEET NO. 3 OF 10
 DWA NO. 095452082

CENTRAL DISTRICT, DOODRIDGE COUNTY, WEST VIRGINIA

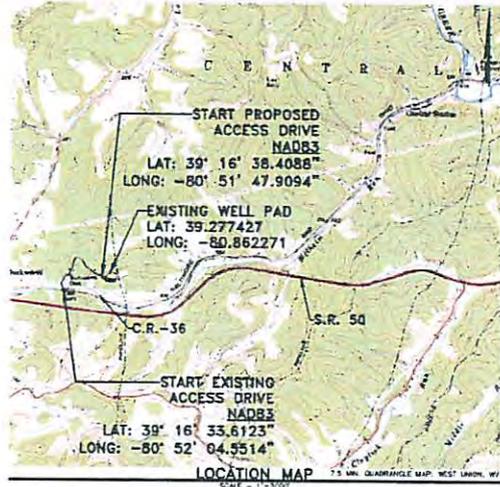
AS-BUILT & EXPANDED PAD CONSTRUCTION DRAWINGS

FOR

VOGT WELLS PAD EXTENSION

CENTRAL TAX DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA

Design Office
11-19-15



WEST VIRGINIA 811
CALL BEFORE YOU DIG! Dial 811 or 800.245.4848
Minimum Utility at 2000' depth

AT LEAST 48 HOURS, BUT NOT MORE THAN 10 BUSINESS DAYS BEFORE REQUEST AND AVAILABLE FROM 10 TO 5 PM, ANY DAY EXCEPT SUNDAY, ALL TYPES OF LOCATIONS PROVIDED BY THESE AGENCIES SHALL COMPLY WITH THE UTILITY OF WEST VIRGINIA AT 811 OR 1-800-245-4848.

SOILS CLASSIFICATION

U2 CLAY-PLEISTOCENE COMPLEX, 25 TO 35 PERCENT SLOPES
U3 CLAY-UPPER SILT LOAMS, 5 TO 15 PERCENT SLOPES
U4 CLAY-UPPER SILT LOAMS, 15 TO 25 PERCENT SLOPES

- LIST OF DRAWINGS**
- 1 OF 15 COVER SHEET
 - 2 OF 15 EXISTING CONDUIT PLAN
 - 3 OF 15 EROSION AND SEDIMENT CONTROL PLAN
 - 4 OF 15 CROSS SECTIONS
 - 5 OF 15 CROSS SECTIONS
 - 6 OF 15 CROSS SECTIONS
 - 7 OF 15 NOTES & DETAILS
 - 8 OF 15 OFFER
 - 9 OF 15 DETAILS
 - 10 OF 15 RECLAMATION PLAN

DIRECTIONS TO THE SITE

FROM THUNDER, WV, TRAVEL EAST ON US 50 FOR APPROXIMATELY 4.0 MILES, TURN LEFT ON SUNNYSIDE ROAD AND TRAVEL 0.3 MILES. TURN RIGHT ON DOCKWORTH ROAD AND TRAVEL 1.0 MILES. TURN RIGHT TO STAY ON DOCKWORTH ROAD AND TRAVEL 0.3 MILES. TURN LEFT ONTOD COOPERS REEVE ROAD AND ARRIVE AT THE VOGT WELL PAD ON THE RIGHT.

AS-BUILT AND PAD EXPANSION LOD (AC)

ROWD (254) FEET	1.46
DRILL PAD	3.58
FRAC PAD	1.59
PAD EXPANSION	1.00
TOTAL AFFECTED AREA	11.63
TOTAL UNDEVELOPED ACRES DESTROYED	8.98
TOTAL CLEAR FEET OF ACCESS ROAD	2.54'

- GENERAL NOTES**
1. THE TOPOGRAPHIC SURVEY AND AS-BUILT UTILIZED FOR THIS BASE MAPPING WAS PERFORMED BY ALLEGHENY SURVEYS, INC. ON 11/7/14. REFER TO VOGT PAD AS-BUILT FOR HORIZONTAL AND VERTICAL DATA.
 2. THE HORIZONTAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN DATUM 1983 (NAD 83) NORTH ZONE.
 3. THE VERTICAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN DATUM 1983 (NAD 83) NORTH ZONE.
 4. THE UTILITIES SHOWN ON THIS PLAN ARE FOR REFERENCE PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION PRIOR TO ANY EXCAVATION BY HOPPING AAS UTILITY OF WEST VIRGINIA AT 1-800-245-4848.
 5. A METEOROLOGICAL SURVEY WAS PERFORMED BY POTESTA & ASSOCIATES, INC.
 6. THE CLUT & PELL SUMMARY CALCULATIONS PRESENTED ON THIS PLAN ARE FOR PERMITTING AND INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING GRACES AND TO VERIFY EXISTING VOLUMES, METHODS AND PROCEDURES AND ISSUES ARE TO BE BROUGHT TO THE ENGINEER'S AND OWNER'S ATTENTION PRIOR TO COMMENCEMENT OF WORK.
 7. ALL EXISTING UTILITIES HAVE BEEN SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION.
 8. A DECEMNAL EVALUATION WAS PERFORMED BY HETEM ASSOCIATES, INC. THE RESULTS OF THIS REPORT ARE SUMMARIZED IN THE "GEOLOGICAL REPORT FOR ANTERO RESOURCES' VOGT WELL PAD EXPANSION," DATED MARCH 4, 2015.

- WELL LOCATION RESTRICTIONS**
- ALL PAD AND FRACTURE BIT CONSTRUCTION COMPLES WITH THE FOLLOWING RESTRICTIONS
- 200' FROM ANY EXISTING WELL OR DEVELOPED SPRING USED FOR HUMAN OR DOMESTIC PURPOSES
 - 525' FROM OCCUPIED DWELLING OR BARN SPACES, OR 2,500' FROM POLY OR CHURN MEASURES FROM THE CENTER OF THE PAD.
 - 100' FROM EDGE OF DISTURBANCE TO METEORIC PERFORMA, STREAMS, NATURAL OR ARTIFICIAL LAKE, POND OR RESERVOIR.
 - 300' FROM EDGE OF DISTURBANCE TO A NATURALLY REPRODUCING (BOLT) STREAM.
 - 1,000' FROM EDGE OF DISTURBANCE TO A PUBLIC WATER SUPPLY.

PROPERTY OWNER INFORMATION - VOGT PAD AS-BUILT AND PAD EXPANSION

CENTRAL DISTRICT - DODDRIDGE COUNTY

OWNER	TYPICAL	DEVELOPER	TOTAL ACRES	TYPE OF RESTRICTIONS	ACRES
JERRY NORMAN, JR.	PO	284,372	13.25	ACCESS ROAD	0.20
	TM 8 - P. 18			TOTAL	0.20
ANNABELL J. REEF	PO	762,178	26.43	ACCESS ROAD	2.38
	EM 8 - P. 41			FRAC PAD	1.50
				TOTAL	3.88
GREGORY R. VOGT, JR.	TM 8 - P. 18	248,489	180.82	ACCESS ROAD	3.80
				FRAC PAD	3.50
				PAD EXPANSION	0.14
				TOTAL	7.44
Steven W. Walker, et al	TM 8 - P. 18	218,723	18,167	PAD EXPANSION	0.90
				TOTAL	0.90
				GRAND TOTAL	12.27

LOCAL ANTERO OFFICE

175 ELM CREEK ROAD
MT. CLAIR, WV 26022
PHONE (304) 822-2842

535 WHITE OAK BLVD
BROOKPORT, WV 26030
PHONE (304) 822-2842

LOCAL CONTACTS

ELLI WAGNER-ENVIRONMENTAL ENGINEER
PHONE (304) 822-2842 EXT. 311
CELL (304) 476-9770

JOHN HANCOCK-OPERATIONS SUPERINTENDENT
CELL (304) 388-1853

KARON KUMBLE-CONSTRUCTION SUPERVISOR
CELL (408) 227-5344

ANTHONY SMITH-FIELD ENGINEER
PHONE (304) 888-3400
CELL (304) 612-1998

ROBERT WELLS-DESIGN MANAGER
PHONE (304) 842-4100
CELL (304) 827-7408

WELLHEAD COORDINATES (NAD 83)

Well Name	Northing (NAD83) (N)	Eastng (NAD83) (E)	Lot (NAD83) (Doc. Dep.)	Long (NAD83) (Doc. Dep.)
Drilled Well Morris Unit 1H	87,198,224	482,459,918	N039 27743236	N039 86232057
Drilled Well Seabrook Unit 1H	87,197,216	482,468,875	N039 27741712	N039 86230144
Drilled Well Seabrook Unit 2H	87,196,788	482,471,864	N039 27741208	N039 86219671
Drilled Well Vaght Unit 1H	87,198,007	482,455,881	N039 27742221	N039 86227814
Drilled Well Seabrook Unit 1H	87,192,818	482,461,888	N039 27737320	N039 86228362
Permitted Well Dumbell Unit 2H	87,192,027	482,464,874	N039 27735851	N039 86224920
Permitted Well Shale Unit 1H	87,190,822	482,464,874	N039 27735851	N039 86233429
Permitted Well Seabrook Unit 1H	87,191,423	482,461,888	N039 27735851	N039 86221145
Permitted Well Seabrook Unit 2H	87,190,822	482,470,848	N039 27735851	N039 86221175
Permitted Well Seabrook Unit 1H	87,190,848	482,462,800	N039 27742733	N039 86227088

WELLHEAD COORDINATES (NAD 83)

Well Name	Northing (NAD83) (N)	Eastng (NAD83) (E)	Lot (NAD83) (Doc. Dep.)	Long (NAD83) (Doc. Dep.)
Drilled Well Morris Unit 1H	87,198,248	482,043,194	N039 27735832	N039 86247978
Drilled Well Seabrook Unit 1H	87,196,823	482,052,182	N039 27733508	N039 86232708
Drilled Well Seabrook Unit 2H	87,196,212	482,055,140	N039 27733508	N039 86232783
Drilled Well Vaght Unit 1H	87,197,431	482,048,187	N039 27734186	N039 86240716
Permitted Well Dumbell Unit 1H	87,192,029	482,244,361	N039 27729722	N039 86245515
Permitted Well Dumbell Unit 2H	87,191,431	482,041,846	N039 27728615	N039 86242647
Permitted Well Maple Unit 1H	87,199,250	482,040,207	N039 27735874	N039 86261101
Permitted Well Maple Unit 2H	87,190,847	482,050,837	N039 27729712	N039 86238589
Permitted Well Seabrook Unit 3H	87,190,238	482,083,822	N039 27737805	N039 86233087
Permitted Well Tap Unit 1H	87,188,043	482,048,190	N039 27734526	N039 86242027

FOR REVIEW ASSOCIATE BY: [Signature]

DESIGN BY: [Signature]

DATE: 05/09/2015

SHEET NO. 1 OF 16

DWG. NO. 025452002

COVER SHEET CONSTRUCTION DRAWINGS FOR VOGT WELLS PAD EXTENSION CENTRAL DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA

Antero

WEST VIRGINIA 811

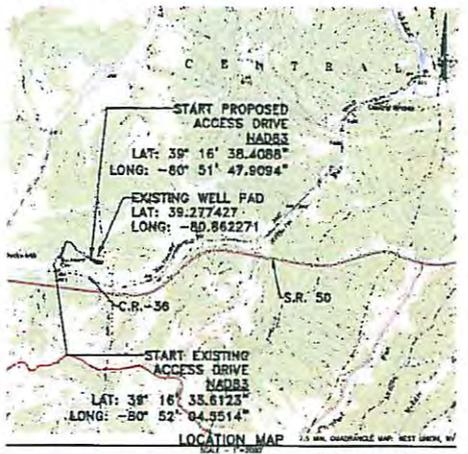
REVIEW

REVIEW ASSOCIATION, INC.
1000 W. MAIN ST., SUITE 305
MARTINSBURG, WV 26150
Phone (304) 444-1728 Fax (304) 444-1733
www.reviewinc.com

Don 8970-171

NOT FOR CONSTRUCTION/NOT FOR BIDDING

AS-BUILT & EXPANDED PAD CONSTRUCTION DRAWINGS FOR VOGT WELLS PAD EXTENSION CENTRAL TAX DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA



WEST VIRGINIA 811
CALL BEFORE YOU DIG!
Dial 811 or 800.245.4848
Like 811, it's free.

AT LEAST 48 HOURS, BUT NOT MORE THAN 60 HOURS, BEFORE ANY EXCAVATION, TRENCHING AND RELATED WORK TO BE STARTED, ANY LAND OCCUPANT MUST NOTIFY WEST VIRGINIA 811 AT 811-800-245-4848.

SOILS CLASSIFICATION
SIC: CLAY-PEATY COMPLEX, 25 TO 35 PERCENT SLOPE
SIC: CLAY-PHLOM 5% LOAMS, 6 TO 16 PERCENT SLOPE
SIC: CLAY-PHLOM SILT LOAMS, 10 TO 25 PERCENT SLOPE

- LIST OF DRAWINGS**
- 1 OF 15 COVER SHEET
 - 2 OF 15 EXISTING UTILITIES PLAN
 - 3 OF 15 EXISTING AND PROPOSED CONCRETE PLAN
 - 4 OF 15 EXISTING SECTIONS
 - 5 OF 15 EXISTING SECTIONS
 - 6 OF 15 EXISTING SECTIONS
 - 7 OF 15 NOTES & DETAILS
 - 8 OF 15 DETAILS
 - 9 OF 15 DETAILS
 - 10 OF 15 RECONSTRUCTION PLAN

- GENERAL NOTES**
1. THE SURVEYING PLAN HAS BEEN UTILIZED FOR THE BASE SURVEY HAS BEEN PERFORMED BY ALLEGANY SURVEYS, INC. ON 11/17/14. REFER TO VOGT PAD AS-BUILT FOR HORIZONTAL AND VERTICAL DATA.
 2. THE HORIZONTAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN DATUM 1983 (NAD 83) NORTH ZONE.
 3. THE VERTICAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN DATUM 1983 (NAD 83) MEAN SEA LEVEL.
 4. THE UTILITIES SHOWN ON THIS PLAN ARE FOR REFERENCE PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION, DEPTH, OR ANY EXPANSION BY NOTIFYING THE QUALITY OF WEST VIRGINIA AT 1-800-548-4848.
 5. A NECESSARY PRELIMINARY SURVEY WAS PERFORMED BY PETERSEN & ASSOCIATES, INC.
 6. THE CUT & FILL BARRIERS CALLING ARE SHOWN ON THIS PLAN AND FOR PERMITTING AND INSTALLATION PURPOSES. THE CUT & FILL BARRIERS ARE TO BE CONSTRUCTED TO MEET EXISTING GRADING AND TO MEET ANY EXISTING UTILITIES, BARRIERS AND PROCEDURES AND SHALL BE TO BE BROUGHT TO THE CONTRACTOR'S AND OWNER'S ATTENTION PRIOR TO COMMENCEMENT OF WORK.
 7. ALL EXISTING UTILITIES HAVE BEEN SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION.
 8. A GEOTECHNICAL EVALUATION WAS PERFORMED BY RITVEY ASSOCIATES, INC. THE RESULTS OF THIS REPORT ARE SUBMITTED AS THE "GEOTECHNICAL REPORT FOR VOGT WELLS PAD EXPANSION", DATED MARCH 4, 2015.

WELL LOCATION RESTRICTIONS

ALL PAD AND FRACURING RECONSTRUCTION COMPLIES WITH THE FOLLOWING RESTRICTIONS:

- 1. 250' FROM AN EXISTING WELL OR DEVELOPED SPRING USED FOR HUMAN OR DOMESTIC PURPOSES.
- 2. 500' FROM OCCUPIED BUILDING OR BURNING DEVICES WITHIN 2,500' OF USED FOR POLARITY OF CHAIN RECORDS FROM THE CENTER OF THE PAD.
- 3. 100' FROM EDGE OF DRAINAGE TO WETLANDS, RIVERS, STREAMS, NATURAL OR ARTIFICIAL LAKE, POND OR RESERVOIR.
- 4. 100' FROM EDGE OF DRAINAGE TO A MAJORLY PENETRATING FLOW STREAM.
- 5. 100' FROM A SOURCE OF BROAD WATER INTAKE TO A PUBLIC WATER SUPPLY.

PROPERTY OWNER INFORMATION - VOGT PAD AS-BUILT AND PAD EXPANSION

CENTRAL DISTRICT - DODDRIDGE COUNTY

OWNER	TAXPARCEL	DESCRIPT	TOTAL ACRES	TITLE OR INTEREST	ACRES
JOHN HORNBACK, JR.	74.9. PA. 18	284/873	38.80	ACCESS EASEMENT	0.19
			TOTAL		0.19
ARMONELL & SUTHER	PAO	200/175	25.40	ACCESS ROAD & PAD	2.36
			TOTAL		2.36
OSPREY & TONY, INC.	74.9. PA. 18	284/1480	38.80	ACCESS ROAD & PAD	2.30
			TOTAL		2.30
Sharon W. Kibler, et al	74.9. PA. 18.3	284/1873	47.57	PAD EXPANSION	0.10
			TOTAL		2.38
			GRAND TOTAL		4.94

LOCAL ANTERO OFFICE
171 E. CHERRY ROAD
MT. PLEASANT, WV 26040
PHONE (204) 622-2042

LOCAL CONTACTS
DU BOIS-ENVIRONMENTAL ENGINEER
PHONE (204) 622-2042 EXT. 301
CELL (204) 418-8770

JOHN KANCO-OPERATIONS SUPERVISOR
CELL (204) 208-1053

ARMON WELLS FRAC-CONSTRUCTION SUPERVISOR
CELL (204) 227-8544

WALTER GALT- FILL ENGINEER
PHONE (204) 622-2042 EXT. 303
CELL (204) 673-6106

ROBERT SMITH- SURVEY ENGINEER
PHONE (204) 622-6000
CELL (204) 627-7401

EXISTING AND PROPOSED WELL COORDINATES

WELLHEAD COORDINATES (NAD 83)

Well Name	Northing (NAD83) (N)	Easting (NAD83) (E)	Lat (NAD83) (Dec. Deg.)	Long (NAD83) (Dec. Deg.)
Drilled Well Yorks Unit 1H	87199.224	482,458.978	N03E2774326	W08E0220557
Drilled Well Yorks Unit 1H	87199.288	482,468.878	N03E2774372	W08E0220740
Drilled Well Yorks Unit 2H	87199.798	482,471.874	N03E2774378	W08E0220871
Drilled Well Yorks Unit 3H	87199.907	482,465.891	N03E2774222	W08E0222304
Permitted Well Yorks Unit 1H	87182.825	482,461.882	N03E2773736	W08E0220493
Permitted Well Yorks Unit 2H	87182.827	482,461.874	N03E2773689	W08E0220430
Permitted Well Yorks Unit 3H	87189.832	482,458.821	N03E2774243	W08E0220429
Permitted Well Yorks Unit 4H	87187.833	482,471.861	N03E2774161	W08E0220411
Permitted Well Yorks Unit 5H	87188.835	482,476.846	N03E2773999	W08E0220418
Permitted Well Yorks Unit 6H	87188.839	482,481.832	N03E2773732	W08E0220785

WELLHEAD COORDINATES (NAD 83)

Well Name	Northing (NAD83) (N)	Easting (NAD83) (E)	Lat (NAD83) (Dec. Deg.)	Long (NAD83) (Dec. Deg.)
Drilled Well Yorks Unit 1H	87188.840	482,041.194	N03E2773832	W08E0221787
Drilled Well Yorks Unit 1H	87188.840	482,058.182	N03E2773808	W08E0221786
Drilled Well Yorks Unit 2H	87188.847	482,058.179	N03E2773802	W08E0221783
Drilled Well Yorks Unit 3H	87187.831	482,048.167	N03E2773618	W08E0221408
Permitted Well Yorks Unit 1H	87182.827	482,041.181	N03E2773619	W08E0221405
Permitted Well Yorks Unit 2H	87181.831	482,041.184	N03E2773615	W08E0221403
Permitted Well Yorks Unit 3H	87188.838	482,048.177	N03E2773539	W08E0221401
Permitted Well Yorks Unit 4H	87188.847	482,056.177	N03E2773612	W08E0221406
Permitted Well Yorks Unit 5H	87188.838	482,051.823	N03E2773782	W08E0221507
Permitted Well Yorks Unit 6H	87188.840	482,048.180	N03E2773438	W08E0221507

DIRECTIONS TO THE SITE
FROM PENNSYLVANIA, GO WEST, EAST ON US 50 FOR APPROXIMATELY 4.5 MILES. TURN LEFT ONTO SUPERSTOCK ROAD AND TRAVEL 0.3 MILES. TURN RIGHT ONTO DODDRIDGE ROAD AND TRAVEL 10 MILES. TURN RIGHT TO STAY ON DODDRIDGE ROAD AND TRAVEL 0.3 MILES. TURN LEFT ONTO COVER'S ROAD AND TRAVEL TO THE VOGT WELLS PAD ON THE RIGHT.

AS-BUILT AND PAD EXPANSION LEO (AC)

ACROSS STREET	1.00
ROAD	1.00
PAVEMENT	1.00
CONCRETE	1.00
EXISTING AREA	1.00
TOTAL	5.00

FOR REVIEW ONLY

MANAGER: ANDREW LEVINE, PE
DESIGNER: JOHN HORNBACK, JR.
DATE: 11/11/15

Arifero

REVIEW

COVER SHEET
CONSTRUCTION DRAWINGS
FOR
VOGT WELLS PAD EXTENSION
WELL PAD EXTENSION

DATE: 11/11/15
SHEET NO. 1 OF 15
DWG. NO. 056452080

NOT FOR CONSTRUCTION/NOT FOR BIDDING

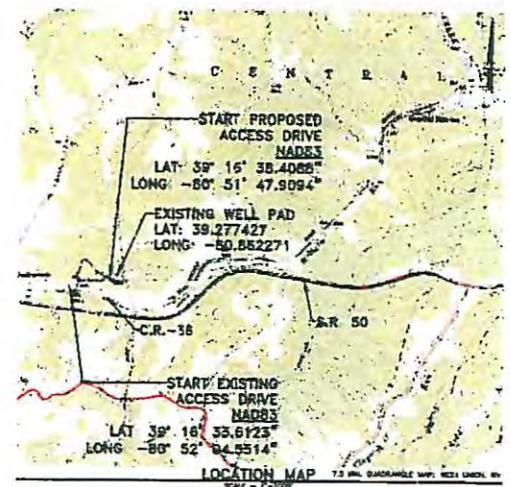
17-0668 pad

AS-BUILT & EXPANDED PAD CONSTRUCTION DRAWINGS

FOR

VOGT WELLS PAD EXTENSION CENTRAL TAX DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA

St. W. Kelly
11-11-15



WEST VIRGINIA 811
CALL BEFORE YOU DIG!
Dial 811 or 800.245.4848
Plan Order 072012-1-01

BE ALERT IN BORE, BUT NOT MORE THAN 18 BOREING DAYS. DRILLING OPERATIONS ARE PROHIBITED PRIOR TO STARTING ANY BOREING OPERATIONS. APPROVED, ALL CONTRACTORS OPERATING IN PUBLIC AREAS SHALL CONTACT 811 PRIOR TO ANY BOREING AT 48 HOURS BEFORE.

SOILS CLASSIFICATION
SIC: CLAY-LOAM SANDY SILT, 25 TO 35 PERCENT SHALES
SIC: SILTY-CLAY SANDY SILT, 15 TO 25 PERCENT SHALES
SIC: SILTY-CLAY SANDY SILT, 15 TO 25 PERCENT SHALES

- LIST OF DRAWINGS**
- 1 OF 10 COVER SHEET
 - 2 OF 10 EXISTING CONDITIONS PLAN
 - 3 OF 10 PROPOSED AND EXISTING CONTROL PLAN
 - 4 OF 10 CROSS SECTIONS
 - 5 OF 10 CROSS SECTIONS
 - 6 OF 10 CROSS SECTIONS
 - 7 OF 10 NOTES & DETAILS
 - 8 OF 10 DETAILS
 - 9 OF 10 DETAILS
 - 10 OF 10 RECONSTRUCTION PLAN

DIRECTIONS TO THE SITE
FROM FARMHOUSE, THE TRAVEL EAST ON RD 60 FOR APPROXIMATELY 4.0 MILES. TURN LEFT ONTO SHARPE ROAD AND TRAVEL 0.5 MILES. TURN RIGHT ONTO DODD WORTH ROAD AND TRAVEL 1.0 MILES. TURN RIGHT TO STAY ON DODD WORTH ROAD AND TRAVEL 0.5 MILES. TURN LEFT ONTO COOPER'S ROAD AND ARRIVE AT THE VOGT WELL PAD ON THE RIGHT.

AS-BUILT AND PAD EXPANSION LUG (AC)

AS-BUILT (250' FEET)	3.65
EXIST. PAD	3.30
PAD EXPANSION	3.30
TOTAL PROPOSED AREA	11.43
TOTAL PROPOSED ACRES	2.60
TOTAL SQUARE FEET OF ACRES (264,000)	2,841

GENERAL NOTES

- THE TOPOGRAPHIC SURVEY AND AS-BUILT LAYOUT FOR THIS GAGE RAPPING WAS PERFORMED BY ALBERTSON SURVEYS, INC. ON 11/27/14. REFER TO VOGT PAD AS-BUILT FOR HORIZONTAL AND VERTICAL DATA.
- THE HORIZONTAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN DATUM 1983 (NAD 83).
- THE VERTICAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).
- THE UNDEVELOPED AREAS SHOWN ON THIS PLAN ARE FOR REVENUE PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION PRIOR TO ANY EXPANSION BY NOTIFYING THE DEPT. OF REVENUE AT 1-800-245-4848.
- A RECONSTRUCTION SURVEY WAS PERFORMED BY PROSITA & ASSOCIATES, INC.
- THE CUT & FILL QUANTITY CALCULATIONS PRESENTED ON THIS PLAN ARE FOR PERMITTING AND INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING QUANTITY AND TO VERIFY EXISTING VOLUMES, SECTIONS AND PROFILES. ANY CHANGES ARE TO BE PROMPTLY TO THE CONTRACTOR'S AND OWNER'S ATTENTION PRIOR TO COMMENCEMENT OF WORK.
- ALL EXISTING UTILITIES HAVE BEEN SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION.
- A GEOLOGICAL EVALUATION WAS PERFORMED BY RETVIEW ASSOCIATES, INC. THE RESULTS OF THIS REPORT ARE OBTAINED FROM THE TOPOGRAPHIC REPORT FOR ANTIPO RESOURCES VOGT WELL PAD EXPANSION, DATED MARCH 4, 2015.

WELL LOCATION RESTRICTIONS

ALL PAD AND FRACING IN CONSTRUCTION COMPLEX WITH THE FOLLOWING RESTRICTIONS:

- 200' FROM AN EXISTING WELL OR DEVELOPED SPRING USED FOR DRINKING OR DOMESTIC PURPOSES.
- 100' FROM EXISTING OR PROPOSED OR BARRIERS DEEPER THAN 2500' FOR POULTRY OR SHEEP RAISING FROM THE CORNER OF PAD.
- 100' FROM EDGE OF CONTAMINATED OR METALIC, NORMAL STREAM, NATURAL OR ARTIFICIAL LAKE, POND OR RESERVOIR.
- 100' FROM EDGE OF CONTAMINATED TO A NATURALLY OCCURRING TRUST SPRING.
- 100' OF A SURFACE OF GROUND WATER RELATIVE TO A PUBLIC WATER SUPPLY.

PROPERTY OWNER INFORMATION - VOGT PAD AS-BUILT AND PAD EXPANSION

CENTRAL DISTRICT - DODDRIDGE COUNTY

OWNER	TRAPPOINT	DEED/DATE	TOTAL ACRES	TYPE OF INTEREST	ACRES
JERRY HERRMAN, et al	PO	394/220	18.80	ACCESS ROAD	8.30
		1919-PA-12		TOTAL	8.30
AMABLE J. HOFFE	PO	352/175	36.40	ACCESS ROAD	2.40
		TM 8-PA-11		FRAC PIT	1.80
				TOTAL	2.60
GREGORY S. VOGT, et al	TM 8-PA-18	248/480	109.82	ACCESS ROAD	0.80
				FRAC PIT	2.00
				PAD EXPANSION	3.30
				TOTAL	6.10
Steven W. Kelly, et al	TM 8-PA-18	248/520	15.167	PAD EXPANSION	0.30
				TOTAL	0.30
				GRAND TOTAL	11.30

LOCAL ANTIPO OFFICE
177 E. CENTER ROAD
WE CLARE, WV 26040
PHONE (304) 822-3843

LOCAL CONTRACTS
CJ BRADSHAW-ENVIRONMENTAL ENGINEER
PHONE (304) 822-3843 EXT. 211
CELL (304) 478-8770

JOHN KANAK-OPERATIONS SUPERVISOR
CELL (304) 248-1310

MARION HANCOCK-COORDINATOR SUPERVISOR
CELL (304) 237-6214

ANTHONY BROWN-FIELD ENGINEER
PHONE (304) 888-3460
CELL (304) 813-4160

FORREST WILSON-DESIGN MANAGER
PHONE (304) 841-4208
CELL (304) 872-7402

EXISTING AND PROPOSED WELL COORDINATES

WELLHEAD COORDINATES (EAD 87)

Well Name	Northing (NAD83) (N)	Easting (NAD83) (E)	Lat (NAD83) (Dec. Deg.)	Long (NAD83) (Dec. Deg.)
Drilled Well Upper Unit 10	87,395,254	482,438,818	40.39 27742320	W080.85223037
Drilled Well Southern Unit 08	87,392,299	482,438,818	40.39 27742320	W080.85223037
Drilled Well Southern Unit 20	87,392,758	482,438,818	40.39 27742320	W080.85223037
Drilled Well Middle Unit 10	87,392,857	482,438,818	40.39 27742320	W080.85223037
Perforated Well Double Unit 10	87,392,826	482,438,818	40.39 27742320	W080.85223037
Perforated Well Double Unit 20	87,392,827	482,438,818	40.39 27742320	W080.85223037
Perforated Well Single Unit 10	87,392,827	482,438,818	40.39 27742320	W080.85223037
Perforated Well Single Unit 20	87,392,827	482,438,818	40.39 27742320	W080.85223037
Perforated Well Middle Unit 10	87,391,423	482,438,818	40.39 27742320	W080.85223037
Perforated Well Middle Unit 20	87,391,423	482,438,818	40.39 27742320	W080.85223037
Perforated Well Tully Unit 10	87,391,423	482,438,818	40.39 27742320	W080.85223037

WELLHEAD COORDINATES (EAD 27)

Well Name	Northing (NAD83) (N)	Easting (NAD83) (E)	Lat (NAD83) (Dec. Deg.)	Long (NAD83) (Dec. Deg.)
Drilled Well Upper Unit 08	87,395,254	482,438,818	40.39 27742320	W080.85223037
Drilled Well Southern Unit 10	87,392,758	482,438,818	40.39 27742320	W080.85223037
Drilled Well Southern Unit 20	87,392,857	482,438,818	40.39 27742320	W080.85223037
Drilled Well Middle Unit 10	87,392,857	482,438,818	40.39 27742320	W080.85223037
Perforated Well Double Unit 10	87,392,826	482,438,818	40.39 27742320	W080.85223037
Perforated Well Double Unit 20	87,392,827	482,438,818	40.39 27742320	W080.85223037
Perforated Well Single Unit 10	87,392,827	482,438,818	40.39 27742320	W080.85223037
Perforated Well Single Unit 20	87,392,827	482,438,818	40.39 27742320	W080.85223037
Perforated Well Middle Unit 10	87,391,423	482,438,818	40.39 27742320	W080.85223037
Perforated Well Middle Unit 20	87,391,423	482,438,818	40.39 27742320	W080.85223037
Perforated Well Tully Unit 10	87,391,423	482,438,818	40.39 27742320	W080.85223037

FOR REVIEW AND/OR APPROVAL BY:

DATE: 05/09/2015
SHEET NO. 1 of 10
PROJ. NO. 08-032022

REVIEW ASSOCIATES, INC.
1000 UNIVERSITY BLVD., SUITE 100
FARMINGTON, WV 26031
PHONE (304) 888-3460 FAX (304) 888-1772
WWW.REVIEWASSOCIATES.COM

COVER SHEET
CONSTRUCTION DRAWINGS
FOR
VOGT
WELL PAD EXTENSION
CENTRAL DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA

17-061682000

