



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 1706666, Well #: MCGILL UNIT 2H

Top 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,

for

Gene Smith
Assistant Chief of Permitting
Office of Oil and Gas

Promoting a healthy environment.

01/15/2016

API# 47-017-06666 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: McGill 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: 19200' MD

11) Proposed Horizontal Leg Length: 11013'

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: _____

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API# 47-017-06666 SHL & PAD DESIGN MODIFICATION

18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
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#	2475'	2475'	CTS, 1008 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	19200'	19200'	4880 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
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-HPOZ & 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			

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 Page 2 of 3
 01/15/2016

API# 47-017-06666 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.

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WW-9
(9/13)

API Number 47 - 017 - 06666
Operator's Well No. McGill 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)

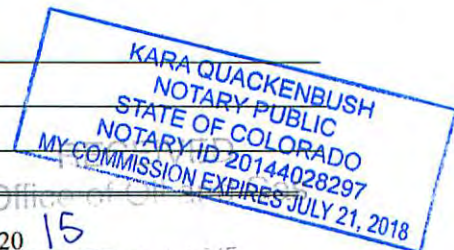
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations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

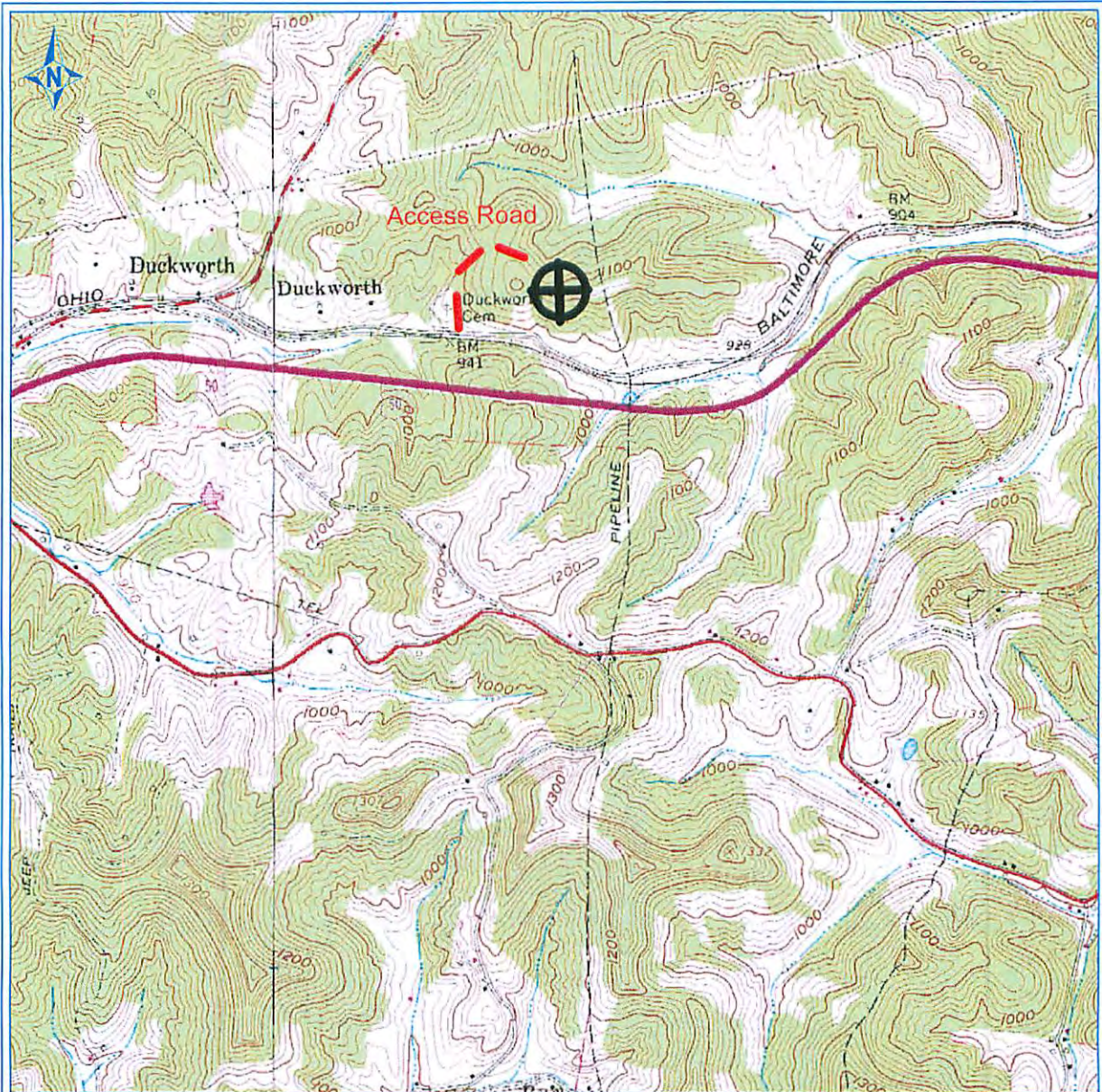
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13. Escaid 110
Drilling Fluid Solvent – Aliphatic Hydrocarbon
14. Ligco
Highly Oxidized Leonardite – Filtration Control Agent
15. Super Sweep
Polypropylene – Hole Cleaning Agent
16. Sulfatrol K
Drilling Fluid Additive – Sulfonated Asphalt Residuum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

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

ANTERO RESOURCES CORPORATION

APPALACHIAN BASIN

Vogt Pad

McGill Unit 2H
Doddridge County



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

October 19, 2012

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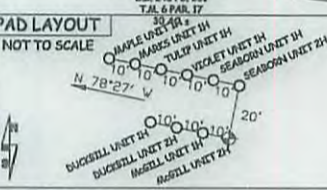
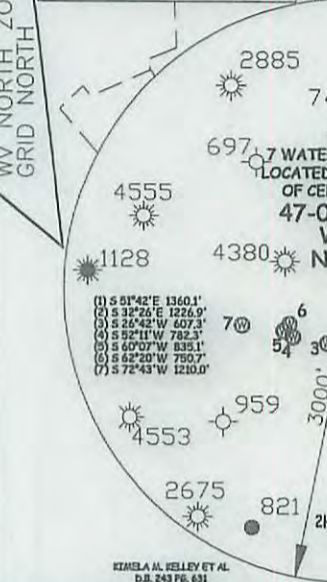
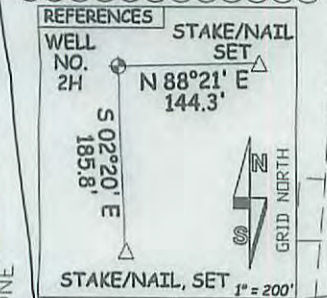
LATITUDE 39°17'30"

8,215'

LONGITUDE 80°50.00" TO BOTTOM HOLE

LONGITUDE 80°50'00"

Antero Resources Corporation
Well No. McGill Unit 2H
API 47-017-06666



API WELL # 47 - 017 - 06666
STATE COUNTY PERMIT

JOB # 14-089WA
DRAWING # MCGILL2HR3
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 # MCGILL 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.

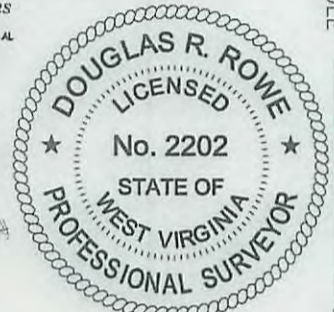


STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
LOCATION: ELEVATION 1118' ORIGINAL - 1,112' AS DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK QUADRANGLE WEST UNION 7.5' 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; JOSEPH L. TOWNER ET AL; FRANK MCGILL ET AL; LEASE ACREAGE 222 AC±; 107 AC±; 33 AC±; 106 AC±; ROSALEE WILSON ET AL; MARK DUTY ET UX; NINA DUCKWORTH; HARRIS HEIRS; VIRGIL DEEM; LAWRENCE L. JAMES; ED BROOME INC. 100 AC±; 71 AC±; 50.75 AC±; 217 AC±; 107 AC±; 215 AC±; 105 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 19,200' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 286,024ft E: 1,614,347ft
LAT: 39°16' 38.19" LON: 80°51' 44.46"
BOTTOM HOLE INFORMATION:
N: 296,860ft E: 1,611,954ft
LAT: 39°18' 24.93" LON: 80°52' 17.00"
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: 4,347,565m E: 511,887m
BOTTOM HOLE INFORMATION:
N: 4,350,854m E: 511,103m



NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR FOLKLEY HERDSHED ARE LOCATED WITHIN ONE HUNDRED TWENTY-FIVE (125) FEET OF THE CENTER OF THE WELL PAD.

WV NORTH ZONE GRID NORTH

COUNTY NAME PERMIT

LANDING POINT
N: 286339 E: 1619207

01/15/2016

LATITUDE 39°17'30"

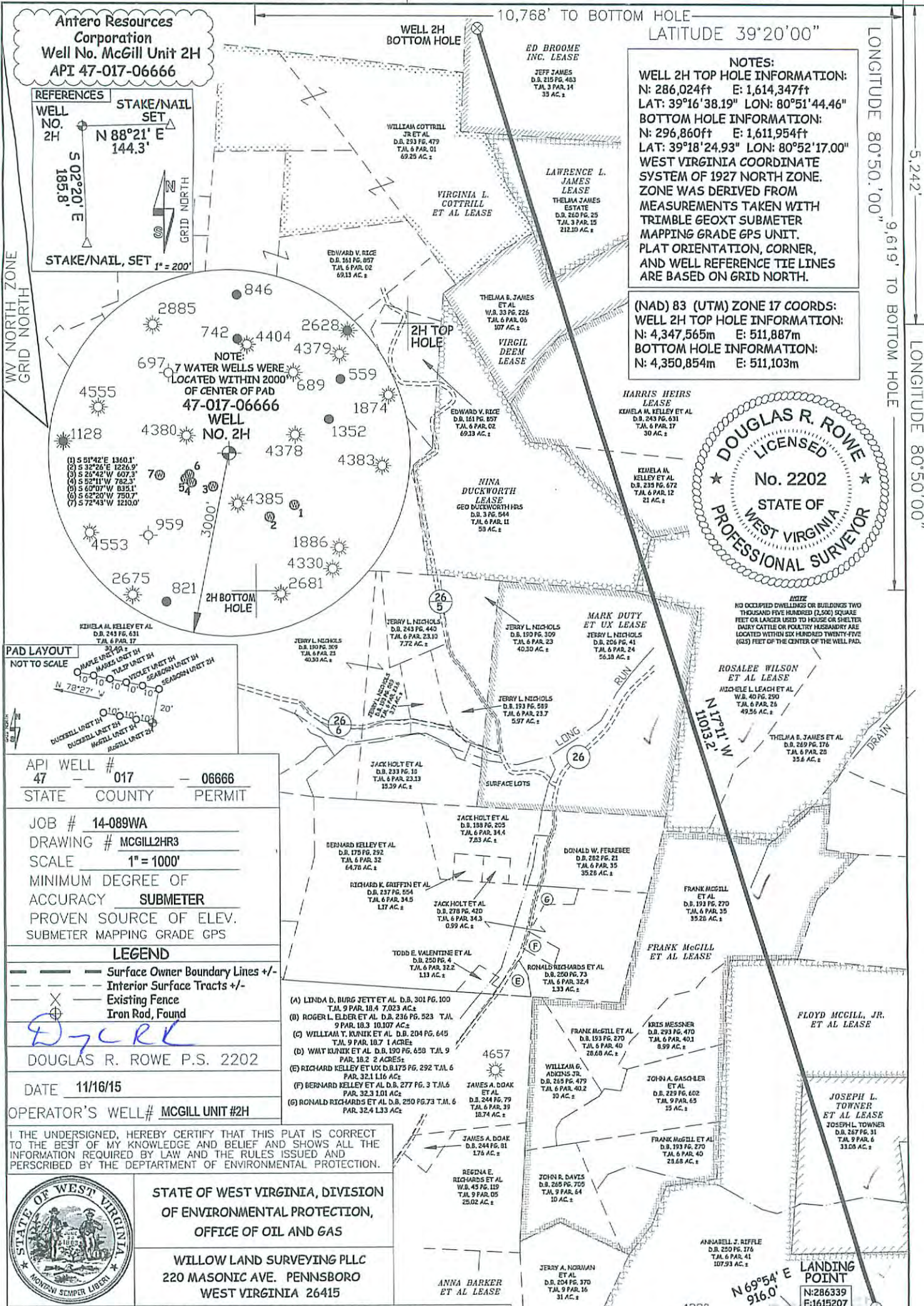
8,215'

LATITUDE 39°20'00"

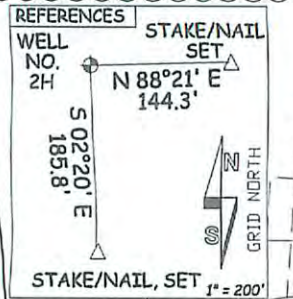
LONGITUDE 80°50'00"

5,242' TO BOTTOM HOLE

LONGITUDE 80°50'00"

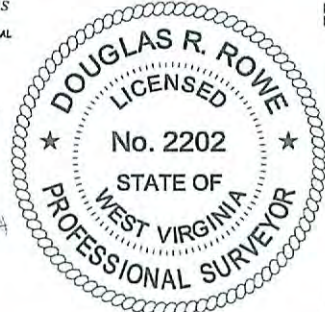


Antero Resources Corporation
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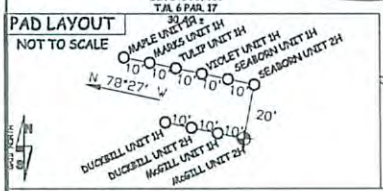


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NOTE:
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API WELL # 47 - 017 - 06666
 STATE COUNTY PERMIT

JOB # 14-089WA
 DRAWING # MCGILL2HR3
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

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

DOUGLAS R. ROWE P.S. 2202

DATE 11/16/15

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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 UNION 7.5' DISTRICT CENTRAL COUNTY DODDRIDGE

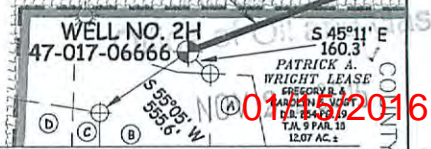
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PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD - BHL PLUG & ABANDON CLEAN OUT & REPLUG

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,800' TVD 19,200' MD

WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT CT CORPORATION SYSTEM
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
 DENVER, CO 80202 CHARLESTON, WV 25313



LANDING POINT
 N: 286339 E: 1615207

0111182016

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>Joseph L. Towner, et ux Lease</u>			
Joseph L. Towner, et ux	Key Oil Company	1/8	0179/0035
Key Oil Company	Antero Resources Corporation	*Partial Assignment of Oil & 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. Eliopoulos	Assignment	0252/0382
James A. Eliopoulos 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>Rosalee Wilson, et al Lease</u>			
Rosalee Wilson	Antero Resources Appalachian Corporation	1/8+	0266/0708
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	0276/0523
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Nina Duckworth Lease</u>			
Nina Duckworth	Antero Resources Corporation	1/8+	0323/0604
<u>Harris Heirs Lease</u>			
Harris Heirs	Devonian Appalachian Corporation	1/8	0161/0198
Devonian Appalachian Corporation	New Freedom Energy, LLC	Deed, Assignment & Agreement	0203/0346
New Freedom Energy, LLC	Antero Resources Corporation	Assignment	0336/0127

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Oil and Gas

NOV 24 2015
Department of Environmental Protection

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
Virgil Deem Lease			
Virgil Deem	Petroleum Development Corporation	1/8	0123/0211
Petroleum Development Corporation	PDC Mountaineer, LLC	Assignment	0240/0118
PDC Mountaineer, LLC	Antero Resources Appalachian Corporation	Assignment	0278/0607
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
Lawrence L. James, et ux			
Lawrence L. James, et ux	Key Oil Company	1/8	0169/0644
Key Oil Company	Antero Resources Appalachian Corporation	*Partial Assignment of Oil & Gas Leases	0256/0285
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
Virginia L. Cottrill, et al Lease			
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
Energy 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

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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.

**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
Ed Broome, Inc. Lease	Ed Broome, Inc. Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8+ Name Change	0272/0307 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
 Its: VP of Production

Office of Oil and Gas
 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

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.**

Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

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NOV 24 2015
WV Department of
Environmental Protection

WW-6A
(8-13)

API# 47-017-06666 SHL & PAD DESIGN MODIFICATION

API NO. 47- 017 - 06666 MOD
OPERATOR WELL NO. McGill Unit 2H
Well Pad Name: Existing Vogt Pad

Notice is hereby given by:

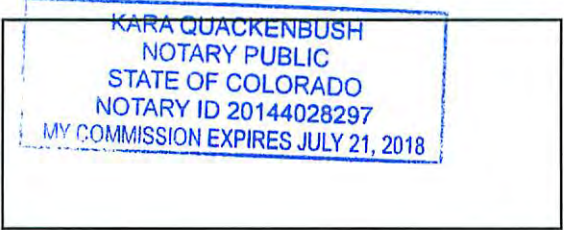
Well Operator: Antero Resources Corporation
Telephone: (303) 357-7310
Email: asteele@anteroresources.com



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.
Kara Quackenbush Notary Public
My Commission Expires July 21, 2018

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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

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 Office of 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.
Pennsboro, WV 26415

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

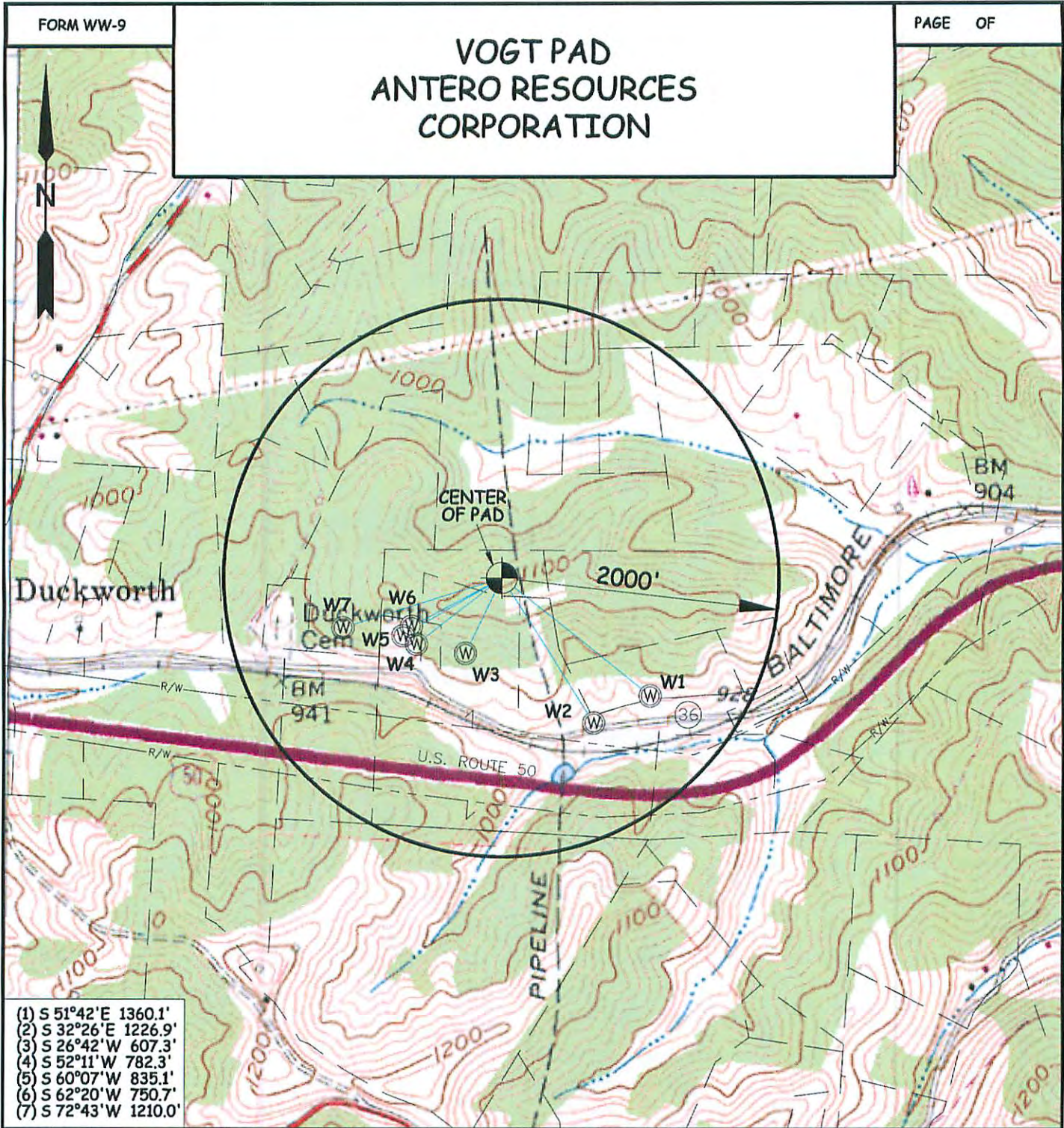
Address: 1538 Duckworth Rd.
Greenwood, WV 26415

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Office of Oil and Gas

NOV 24 2015

WV Department of
Environmental Protection

17-0666 to Mod



- (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.	SCALE : 1-INCH = 1000-FEET
	JOB #: 12-102WA	
DATE: 11/16/15	DRAWN BY: D.R.R.	FILE: VOGTWATERMAPR

01/15/2016

WW-6AW
(1-12)

API# 47-017-06666 SHL & PAD DESIGN MODIFICATION

API NO. 47- 017 - 06666 WOP
OPERATOR WELL NO. McGill 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: West Virginia UTM NAD 83 Easting: 511887m
County: Doddridge Northing: 4347585m
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>Gregory R. Vogt</u></p> <p>Print Name: <u>Gregory R. Vogt</u></p> <p>Date: <u>11-11-15</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 deprivacyofficer@wv.gov.

01/15/2016

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

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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>511887m</u>
County:	<u>Doddridge</u>		Northing:	<u>4347565m</u>
District:	<u>Central</u>	Public Road Access:		<u>CR 36</u>
Quadrangle:	<u>West Union 7.5'</u>	Generally used farm name:		<u>Vogl, 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.

WW-6AW
(1-12)

API# 47-017-06666 SHL & PAD DESIGN MODIFICATION

API NO. 47-017 - 06666 UOD

OPERATOR WELL NO. McGill Unit 2H

Well Pad Name: Existing Vogt Pad

NOV 24 2015

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

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VOLUNTARY STATEMENT OF NO OBJECTION

I, Tray 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:	<u>West Virginia</u>	UTM NAD 83 Easting:	<u>511687m</u>
County:	<u>Doddridge</u>	UTM NAD 83 Northing:	<u>4347565m</u>
District:	<u>Central</u>	Public Road Access:	<u>CR 36</u>
Quadrangle:	<u>West Union 7.5'</u>	Generally used farm name:	<u>Vogl, 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.

*Please check the box that applies

- SURFACE OWNER
- SURFACE OWNER (Road and/or Other Disturbance)
- SURFACE OWNER (Impoundments/Pits)
- COAL OWNER OR LESSEE
- COAL OPERATOR
- WATER PURVEYOR
- OPERATOR OF ANY NATURAL GAS STORAGE FIELD

FOR EXECUTION BY A NATURAL PERSON

Signature: Tray Cunningham
Print Name: Tray Cunningham
Date: 11/16/15

FOR EXECUTION BY A CORPORATION, ETC.

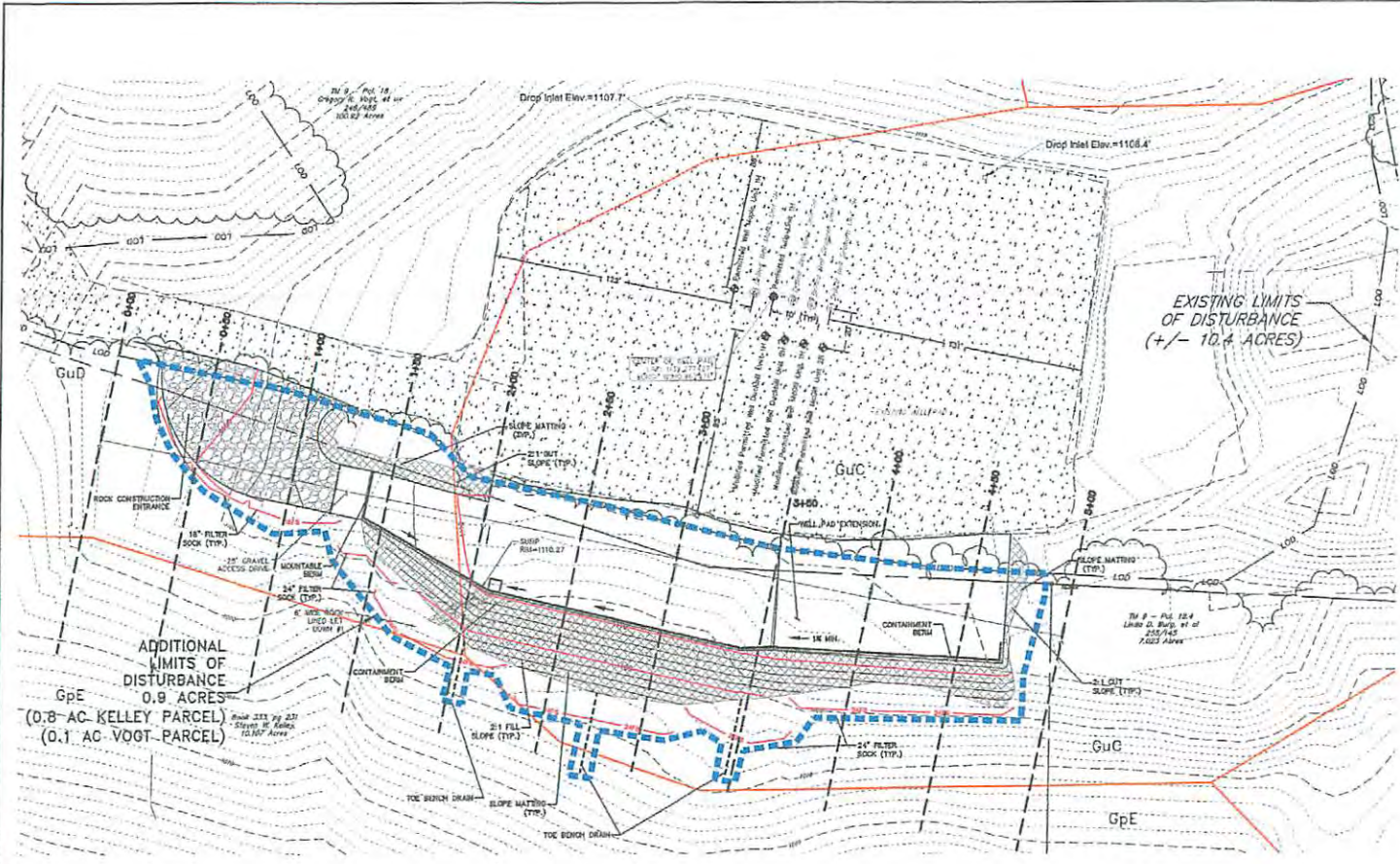
Company: _____
By: _____
Its: _____

Signature: _____
Date: _____

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.

01/15/2016



LEGEND

- EXISTING PROPERTY LINE
- EXISTING PATENT
- EXISTING EASE
- EXISTING SOLE BOUNDARY
- EXISTING RELIEF
- EXISTING TREE
- EXISTING MAIN CONVEYOR LINE
- EXISTING BRANCH CONVEYOR LINE
- EXISTING UTILITY PILE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING UNDERGROUND ELECTRIC LINE
- EXISTING GAS LINE
- EXISTING SANITARY SEWER LINE
- EXISTING TRUCK LANE
- EXISTING DRAINAGE PILE
- EXISTING SLOPE-APPROVAL
- EXISTING SLOPE-APPROVAL
- EXISTING SLOPE-APPROVAL
- EXISTING SLOPE-APPROVAL
- EXISTING LIMITS OF DISTURBANCE
- EXISTING AREA OF INTEREST
- EXISTING METEAD
- COUNTY LINE
- SOURCE LINE
- PROPOSED MAIN CONVEYOR LINE
- PROPOSED BRANCH CONVEYOR LINE
- PROPOSED TRUCK LANE
- PROPOSED TRUCK LANE
- PROPOSED SLOPE PIPE
- LIMITS OF DISTURBANCE

APPROVED
WVDEP OOG
 Modification
 1/12/2016

FOR REVIEW ASSOCIATE BY:

SCALE: 1" = 30'

DATE: 08/09/2015

GENET

Antero

REVIEW

REVIEW ASSOCIATES, INC.
 10000 W. 100th St., 2nd Fl.
 Overland Park, KS 66204
 Phone: (913) 444-1212 Fax: (913) 444-1233
 Website: www.review.com

EXISTING AND PROPOSED WELL COORDINATES

Well Name	Northing (NAD83) (ft)	Eastng (NAD83) (ft)	Lat (NAD83) (Dec. Deg.)	Long (NAD83) (Dec. Deg.)
Drilled Well Marks Unit 1H	87,189,224	482,458,918	N039.27743256	W080.86230257
Drilled Well Season Unit 1H	87,187,295	482,468,876	N039.27741712	W080.86232144
Drilled Well Season Unit 2H	87,185,780	482,471,884	N039.27741200	W080.86218871
Drilled Well Violet Unit 1H	87,188,007	482,485,886	N039.27742222	W080.86228814
Permitted Well Duckbill Unit 1H	87,182,635	482,461,606	N039.27737228	W080.86228383
Permitted Well Duckbill Unit 2H	87,182,027	482,464,674	N039.27735819	W080.86224820
Permitted Well Muds Unit 1H	87,189,832	482,458,031	N039.27743743	W080.86234029
Permitted Well Muds Unit 2H	87,191,423	482,467,051	N039.27736316	W080.86221447
Permitted Well Muds Unit 3H	87,180,615	482,470,646	N039.27735809	W080.86217875
Permitted Well Tulip Unit 1H	87,188,618	482,482,905	N039.27742730	W080.86227088

Well Name	Northing (NAD27) (ft)	Eastng (NAD27) (ft)	Lat (NAD27) (Dec. Deg.)	Long (NAD27) (Dec. Deg.)
Drilled Well Marks Unit 1H	87,188,848	482,043,194	N039.27735032	W080.86247679
Drilled Well Season Unit 1H	87,186,820	482,052,152	N039.27733508	W080.86237256
Drilled Well Season Unit 2H	87,186,212	482,055,140	N039.27733002	W080.86233793
Drilled Well Violet Unit 1H	87,187,431	482,048,187	N039.27742608	W080.86240735
Permitted Well Duckbill Unit 1H	87,182,028	482,044,961	N039.27729122	W080.86245958
Permitted Well Duckbill Unit 2H	87,181,451	482,047,049	N039.27728615	W080.86242042
Permitted Well Muds Unit 1H	87,189,226	482,040,207	N039.27735538	W080.86281151
Permitted Well Muds Unit 2H	87,180,847	482,050,827	N039.27728112	W080.86258569
Permitted Well Muds Unit 3H	87,180,239	482,053,923	N039.27727608	W080.86235097
Permitted Well Tulip Unit 1H	87,188,642	482,048,180	N039.27742438	W080.86244207

Well Name	APT #
Drilled Well Marks Unit 1H	# 47-017-06285-00
Drilled Well Season Unit 1H	# 47-017-08168-00
Drilled Well Season Unit 2H	# 47-017-08170-00
Drilled Well Violet Unit 1H	# 47-017-06206-00
Permitted Well Duckbill Unit 1H	# 47-017-06667-00
Permitted Well Duckbill Unit 2H	# 47-017-06668-00
Permitted Well Muds Unit 1H	# 47-017-06550-00
Permitted Well Muds Unit 2H	# 47-017-06665-00
Permitted Well Muds Unit 3H	# 47-017-06666-00
Permitted Well Tulip Unit 1H	# 47-017-06258-00

EXISTING LIMITS OF DISTURBANCE:
 10.4 ACRES

NEW TOTAL LIMITS OF DISTURBANCE:
 11.4 ACRES

Cut & Fill (Pad Extension Area)	
Cut (yd)	+ 719
Stone	+ 918
Fill (yd)	- 6,096
Compaction	70%
Topsoil Strip	Area (acre)=0.28 Depth (in)=8
Topsoil Replacement	Area (acre)=0.21 Depth (in)=8
Net (yd)	- 5,159
Topsoil Net (yd)	Excess 613

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

DATE: 08/09/2015
 SHEET NO. 3 OF 10
 ENG. NO. 025452082

CENTRAL DISTRICT, COODRIDGE COUNTY, WEST VIRGINIA

NOT FOR CONSTRUCTION/NOT FOR BIDDING

17-0666 to MOD

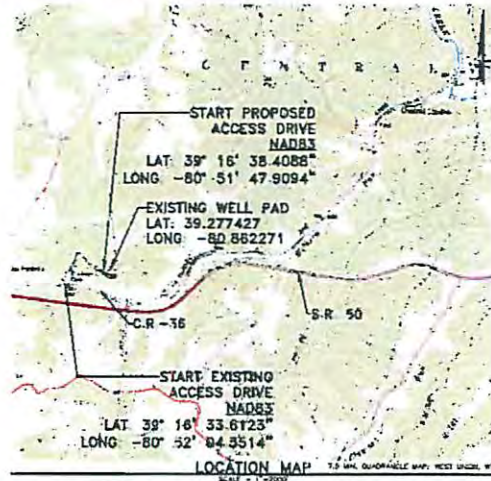
AS-BUILT & EXPANDED PAD CONSTRUCTION DRAWINGS

FOR

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

Froy Cunningham
11/16/15

RECEIVED
Office of Oil and Gas
NOV 24 2015



WEST VIRGINIA 811
CALL BEFORE YOU DIG! Dial 811 or 800.245.8848

SOILS CLASSIFICATION
S1: OUP-HAEROY COMPLEX, 20 TO 35 PERCENT SLOPE
S2: OUP-HAEROY S.LT. LOAMS, 8 TO 15 PERCENT SLOPE
S3: OUP-HAEROY S.LT. LOAMS, 15 TO 25 PERCENT SLOPE

LIST OF DRAWINGS

- 1 OF 10 COVER SHEET
- 2 OF 10 EXISTING CONDITIONS PLAN
- 3 OF 10 DESIGN AND RETAINMENT CONTROL PLAN
- 4 OF 10 CROSS SECTIONS
- 5 OF 10 CROSS SECTIONS
- 6 OF 10 LONG 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 ALLEGANY SURVEYS, INC. ON 11/27/14. 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 MEAN SEA LEVEL (NAVD 83).
4. THE UTILITY LOCATIONS 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 HORIZON VPI OR UTILITY OF WEST VIRGINIA AT 1-800-245-8848.
5. A WELL HEAD PRODUCTION/ABANDON SURVEY WAS PERFORMED BY POTENZA & ASSOCIATES, INC.
6. THE CUT & FILL SUMMARY CALCULATIONS PROVIDED ON THIS PLAN ARE FOR PERMITTING AND INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING GRADES AND TO VERIFY EXCAVATION VOLUMES, METHODS AND PROCEDURES. ANY ISSUES ARE TO BE BROUGHT TO THE OWNER'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 BETTER ASSOCIATES, INC. THE RESULTS OF THIS REPORT ARE SUMMARIZED IN THE "GEOTECHNICAL REPORT FOR ANTERO RESOURCES VOGT WELLS PAD EXTENSION," DATED MARCH 4, 2015.

WELL LOCATION RESTRICTIONS

ALL PAD AND FRACTURE HIT CONSTRUCTION COMPLETES WITH THE FOLLOWING RESTRICTIONS:

- 1. 250' FROM AN EXISTING WELL OR DEVELOPED SPRING USED FOR HUMAN OR DOMESTIC ANIMALS
- 2. 650' FROM OCCUPIED DWELLING OR BURN GREATER THAN 2,000 SF USED FOR POLYMER OR DRYER REQUIRED FROM THE CORNER OF THE PAD.
- 3. 100' FROM EDGE OF DISTURBANCE TO NEARBY PERMANENT STREAMS, NATURAL OR ARTIFICIAL LAKE, POND OR RESERVOIR
- 4. 300' FROM EDGE OF DISTURBANCE TO A NATURALLY RECHARGING TEST STREAM.
- 5. 100' OF A SURFACE OF GROUND WATER INTAKE TO A PUBLIC WATER SUPPLY.

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

OWNER	TAXPAYER	DEED/PAGE	TOTAL ACRES	TYPE OF DISTURBANCE	ACRES
CENTRAL DISTRICT - DODDRIDGE COUNTY					
JERRY HOBANAN w/o	P.O.	204/220	10.50	ACCESS ROAD	0.70
				TOTAL	0.70
ANNABELL J. APPLE	P.O.	201/119	25.15	ACCESS ROAD	2.18
				FRAC HIT	1.06
				TOTAL	3.24
GARYGARY R. VOGT, w/o	TM 2 - PA 12	248/428	100.80	WELL PAD	0.80
				FRAC HIT	3.28
				PAD EXPANSION	0.11
				TOTAL	4.19
James W. Naylor, w/o	TM 2 - PA 12.3	230/123	19.12	PAD EXPANSION	0.80
				FRAC HIT	8.88
				GRAND TOTAL	11.37

LOCAL ANTERO OFFICE

375 ELK CREEK ROAD | 355 WHITE OAKS BLVD
MIL CLARK, WV 26001 | SPRINGFIELD, WV 25350
PHONE: (304) 822-3842

LOCAL CONTACTS
ELLI WAGNER-OPERATIONS ENGINEER
PHONE: (304) 822-3842 EXT. 201
CELL: (304) 478-3770

JOHN KANGAS-OPERATIONS SUPERINTENDENT
CELL: (812) 381-1523

KARON KUNZEL-CONSTRUCTION SUPERVISOR
CELL: (408) 777-8244

ANTHONY BULL-FIELD ENGINEER
PHONE: (304) 848-3400
CELL: (334) 873-7198

ROBERT WINDS-OCCUPY INHABITANCE
PHONE: (304) 342-4100
CELL: (504) 627-7425

DIRECTIONS TO THE SITE

FROM PENNSYLVANIA: TAKE TRAIL EAST ON US 10 FOR APPROXIMATELY 4.9 MILES. TURN LEFT ONTO SUNNYSIDE ROAD AND TRAVEL 0.3 MILES. TURN RIGHT ONTO DODDRIDGE ROAD AND TRAVEL 1.0 MILES. TURN RIGHT TO EAST ON DODDRIDGE ROAD AND TRAVEL 0.3 MILES. TURN LEFT ONTO COOPER'S ROAD AND ARRIVE AT THE VOGT WELLS PAD ON THE RIGHT.

AS-BUILT AND PAD EXPANSION LOC (AC)

ROAD/TYPE/FEET	AC
CROSS FILL	3.20
FRAC HIT	3.28
PAD EXPANSION	1.80
TOTAL IMPACTED AREA	8.28
TOTAL REQUIRED ACRES	9.48
TOTAL CLEAR AREA OF ALL ACRES	2.84

EXISTING AND PROPOSED WELL COORDINATES

NELAPED COORDINATES (NAD 83)

Well Name	Northing (NAD83) (ft)	Eastng (NAD83) (ft)	Lat (NAD83) (Dec. Deg)	Long (NAD83) (Dec. Deg)
Dotted Well Square Unit 1H	87,199.274	482,706.818	N03° 27' 42.00"	W080° 00' 20.00"
Dotted Well Square Unit 1H	87,227.204	482,748.878	N03° 27' 41.11"	W080° 00' 20.00"
Dotted Well Square Unit 1H	87,295.709	482,871.884	N03° 27' 41.00"	W080° 00' 20.00"
Dotted Well Square Unit 1H	87,298.207	482,482.884	N03° 27' 42.22"	W080° 00' 20.00"
Permitted Well Double Unit 1H	87,292.620	482,484.885	N03° 27' 42.22"	W080° 00' 20.00"
Permitted Well Double Unit 2H	87,292.027	482,484.874	N03° 27' 42.00"	W080° 00' 20.00"
Permitted Well Single Unit 1H	87,269.852	482,456.931	N03° 27' 43.43"	W080° 00' 23.00"
Permitted Well Single Unit 1H	87,261.422	482,487.564	N03° 27' 42.00"	W080° 00' 22.00"
Permitted Well Single Unit 2H	87,292.615	482,470.548	N03° 27' 42.00"	W080° 00' 21.00"
Permitted Well Single Unit 1H	87,266.816	482,482.865	N03° 27' 42.00"	W080° 00' 21.00"

WELLHEAD COORDINATES (NAD 27)

Well Name	Northing (NAD27) (ft)	Eastng (NAD27) (ft)	Lat (NAD27) (Dec. Deg)	Long (NAD27) (Dec. Deg)
Dotted Well Square Unit 1H	87,183.649	482,243.194	N03° 27' 30.00"	W080° 00' 24.00"
Dotted Well Square Unit 1H	87,208.220	482,282.158	N03° 27' 35.00"	W080° 00' 23.00"
Dotted Well Square Unit 2H	87,218.379	482,284.140	N03° 27' 35.00"	W080° 00' 23.00"
Dotted Well Square Unit 1H	87,243.431	482,246.197	N03° 27' 36.00"	W080° 00' 23.00"
Permitted Well Double Unit 1H	87,232.069	482,246.191	N03° 27' 36.00"	W080° 00' 23.00"
Permitted Well Double Unit 2H	87,218.451	482,246.191	N03° 27' 36.00"	W080° 00' 23.00"
Permitted Well Single Unit 1H	87,248.224	482,246.227	N03° 27' 36.00"	W080° 00' 23.00"
Permitted Well Single Unit 1H	87,248.647	482,246.617	N03° 27' 36.00"	W080° 00' 23.00"
Permitted Well Single Unit 2H	87,262.220	482,282.823	N03° 27' 37.00"	W080° 00' 23.00"
Permitted Well Single Unit 1H	87,268.240	482,246.180	N03° 27' 36.00"	W080° 00' 24.00"

FOR ATTENTION ASSOCIATED BY: []

DATE: 08/09/2015

SHEET NO. 3 OF 10

BMC NO. 095452083

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

Antero

17-06664 (Nov)

AS-BUILT & EXPANDED PAD CONSTRUCTION DRAWINGS

FOR

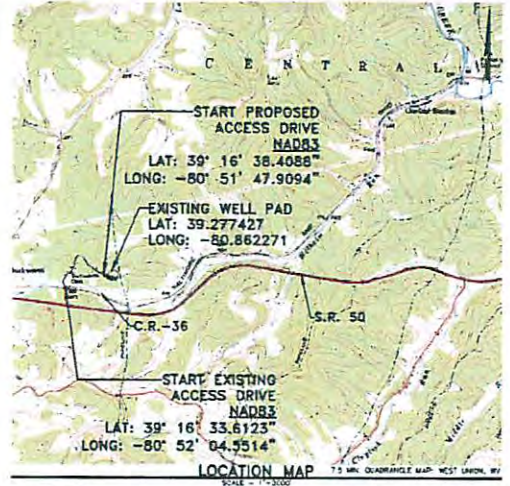
VOGT WELLS PAD EXTENSION

CENTRAL TAX DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA

*Design 0'Hara
11-19-15*

RECEIVED
Office of Oil and Gas

NOV 24 2015



WEST VIRGINIA 811
CALL BEFORE YOU DIG! Dial 811 or 800.245.4848
West Virginia's One-Call System

AT LEAST 48 HOURS, BUT NOT MORE THAN 10 WORKING DAYS BEFORE ANY EXCAVATION, YOU MUST CALL 811 TO REPORT ANY UTILITIES. REPORTING ACTIVELY ALL UTILITIES AS PROVIDED IN THESE ACTIVITIES SHALL CONSTITUTE VIOLATION OF WEST VIRGINIA AT 811 OR 1-800-245-4848.

SOILS CLASSIFICATION

UCL DEPTH-MEDIUM CLAY, 25 TO 25 PERCENT SLOPES
 UCL DEPTH-UPPER SILT LOAM, 8 TO 15 PERCENT SLOPES
 UCL DEPTH-UPPER SILT LOAM, 15 TO 25 PERCENT SLOPES

- LIST OF DRAWINGS**
- 1 OF 18 COVER SHEET
 - 2 OF 18 EXISTING CONTOUR PLAN
 - 3 OF 18 EROSION AND SEDIMENT CONTROL PLAN
 - 4 OF 18 CROSS SECTIONS
 - 5 OF 18 CROSS SECTIONS
 - 6 OF 18 CROSS SECTIONS
 - 7 OF 18 NOTES & DETAILS
 - 8 OF 18 DETAILS
 - 9 OF 18 DETAILS
 - 10 OF 18 RECLAMATION PLAN

- GENERAL NOTES**
1. THE TOPOGRAPHIC SURVEY AND AS-BUILT UTILIZED FOR THIS BASE MAPPING WAS PERFORMED BY ALLEGHENY SURVEY, 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 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 NOTIFYING WEST UTILITY OF WEST VIRGINIA AT 1-800-245-4848.
 5. A WELLS PRESURANCE/ABSENCE SURVEY WAS PERFORMED BY POTTS & ASSOCIATES, INC.
 6. THE CUT & FILL SUMMARY CALCULATIONS PRESENTED ON THIS PLAN ARE FOR INDICATING AND INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING SPACES AND TO VERIFY EARTHWORK VOLUMES, METHODS AND PROCEDURES. ANY DISCREPANCIES 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 GEOLOGICAL EXPLORATION WAS PERFORMED BY WELTER ASSOCIATES, INC. THE RESULTS OF THIS REPORT ARE SUBMITTED IN THE GEOLOGICAL REPORT FOR ANTERO RESOURCES' VOGT WELLS PAD EXTENSION, DATED MARCH 4, 2015.

- WELL LOCATION RESTRICTIONS**
- ALL PAD AND FRASURE RT CONSTRUCTION COMPLEX WITH THE FOLLOWING RESTRICTIONS
- 200' FROM AN EXISTING WELL OR DEVELOPED SPRING USED FOR HUMAN OR DOMESTIC ANIMALS
 - 625' FROM OCCUPIED CHIMNEY OR BURN OPENING MORE THAN 2,500 GALS OF OIL OR POLYMER OR DRAINAGE FROM THE CENTER OF THE PAD
 - 100' FROM EDGE OF DISTURBANCE TO WELLS, PERSONAL STREAMS, NATURAL OR ARTIFICIAL LAKE, POND OR RESERVOIR
 - 300' FROM EDGE OF DISTURBANCE TO A NATURALLY REVEALING BROOK STREAM
 - 1,000' OF A SURFACE OF GROUND WATER INTAKE TO A PUBLIC WATER SUPPLY

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

CENTRAL DISTRICT - DODDRIDGE COUNTY

OWNER	TAX PARCEL	DEED PAGE	TOTAL ACRES	TYPE OF RESTRICTION	ACRAGE
JURRY NORMAN, JR	NO	294,232	13.92	ACCESS ROAD A	5.10
	TM 8 - Pkt 18			TOTAL	5.10
ANNABELL J. WELF	PO	240,176	26.45	ACCESS ROAD A	2.56
	TM 8 - Pkt 18			FRAC PT	1.29
				TOTAL	3.85
STEPHEN R. VOGT, JR	TM 8 - Pkt 18	249,149	186.52	ACCESS ROAD A	0.89
				FRAC PT	2.35
				PAD EXPANSION	0.14
				TOTAL	3.42
Steven P. Kelley, et al	TM 8 - Pkt 18	238,726	10.127	PAD EXPANSION	0.20
				TOTAL	0.20
				GRAND TOTAL	12.27

LOCAL ANTERO OFFICE

175 ELY STREET ROAD | 535 WHITE OAKS BLVD
 MT. CLAIR, WV 26040 | BROOKPORT, WV 26030
 PHONE (248) 922-2842

LOCAL CONTACTS:
 E.J. WAGNER - ENVIRONMENTAL ENGINEER
 PHONE (204) 522-3843 EXT. 301
 CELL (304) 476-9770

JOHN K. HAMIL - OPERATIONS SUPERINTENDENT
 CELL (817) 368-1053

KARON KUMLER - CONSTRUCTION SUPERVISOR
 CELL (405) 227-5844

ANTHONY SMITH - FIELD ENGINEER
 PHONE (281) 899-3402
 CELL (204) 673-4768

ROBERT BIRNS - DESIGN MANAGER
 PHONE (204) 892-4700
 CELL (204) 677-7400

DIRECTIONS TO THE SITE

FROM CHARLOTTE, WV: TRAVEL EAST ON US 50 FOR APPROXIMATELY 4.0 MILES. TURN LEFT ONTO SUNNYSIDE ROAD AND TRAVEL 0.5 MILES. TURN RIGHT ONTO DOCKWORTH ROAD AND TRAVEL 1.0 MILES. TURN RIGHT TO STAY ON DOCKWORTH ROAD AND TRAVEL 0.3 MILES. TURN LEFT ONTO DOCKERS RIDGE ROAD AND ARRIVE AT THE VOGT WELLS PAD ON THE RIGHT.

AS-BUILT AND PAD EXPANSION LOD (AC)

SOILS 32' FT FREET	1.46
DRILL PAD	3.78
FRAC PT	1.18
PAD EXPANSION	1.00
TOTAL AFFECTED AREA	11.42
TOTAL UNOCCUPIED ACRES DISTURBED	8.96
TOTAL LINEAR FEET OF ACCESS ROAD	2.541

WELLHEAD COORDINATES (NAD 83)

Well Name	Northing (NAD83) (ft)	Easting (NAD83) (ft)	Lat (NAD83) (Dec. Deg.)	Long (NAD83) (Dec. Deg.)
Drilled Well Nicks Unit 1H	87,199,224	482,498,819	N39°27'42.36"	W83°02'50.57"
Drilled Well Seaborn Unit 1H	87,197,216	482,488,876	N39°27'41.712"	W83°02'50.64"
Drilled Well Seaborn Unit 2H	87,198,780	482,471,884	N39°27'41.028"	W83°02'48.71"
Drilled Well Vial Unit 1H	87,198,027	482,455,891	N39°27'42.222"	W83°02'52.164"
Permitted Well Seaborn Unit 1H	87,192,820	482,461,866	N39°27'37.220"	W83°02'52.920"
Permitted Well Seaborn Unit 2H	87,192,027	482,454,674	N39°27'36.819"	W83°02'52.420"
Permitted Well Seaborn Unit 1H	87,199,832	482,474,911	N39°27'42.743"	W83°02'52.229"
Permitted Well Seaborn Unit 1H	87,191,422	482,461,699	N39°27'36.916"	W83°02'52.147"
Permitted Well Seaborn Unit 2H	87,192,870	482,470,648	N39°27'38.029"	W83°02'51.739"
Permitted Well Seaborn Unit 1H	87,198,818	482,462,900	N39°27'42.220"	W83°02'52.785"

WELLHEAD COORDINATES (NAD 27)

Well Name	Northing (NAD27) (ft)	Easting (NAD27) (ft)	Lat (NAD27) (Dec. Deg.)	Long (NAD27) (Dec. Deg.)
Drilled Well Nicks Unit 1H	87,196,648	482,043.54	N39°27'35.632"	W83°02'54.778"
Drilled Well Seaborn Unit 1H	87,196,823	482,052.152	N39°27'35.902"	W83°02'51.728"
Drilled Well Seaborn Unit 2H	87,196,212	482,055.140	N39°27'35.902"	W83°02'51.793"
Drilled Well Vial Unit 1H	87,187,431	481,049.167	N39°27'37.468"	W83°02'49.738"
Permitted Well Seaborn Unit 1H	87,192,029	482,044.161	N39°27'37.222"	W83°02'54.515"
Permitted Well Seaborn Unit 2H	87,181,431	482,047.846	N39°27'38.111"	W83°02'54.924"
Permitted Well Seaborn Unit 1H	87,189,236	482,040.207	N39°27'35.944"	W83°02'51.521"
Permitted Well Seaborn Unit 1H	87,190,847	482,050.837	N39°27'37.512"	W83°02'52.848"
Permitted Well Seaborn Unit 2H	87,190,236	482,053.822	N39°27'37.601"	W83°02'52.927"
Permitted Well Seaborn Unit 1H	87,188,043	482,046.780	N39°27'34.526"	W83°02'54.207"

FOR REVIEW ASSOCIATES BY

DESIGN BY: ANDREW LEVINE, P.E.

CHECKED BY: JMS

DRAWN BY: JMS

DATE: 05/09/2015

SHEET NO: 1 OF 10

DWG. NO: 095452092

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

REVIEW

ANTERO

WEST VIRGINIA 811

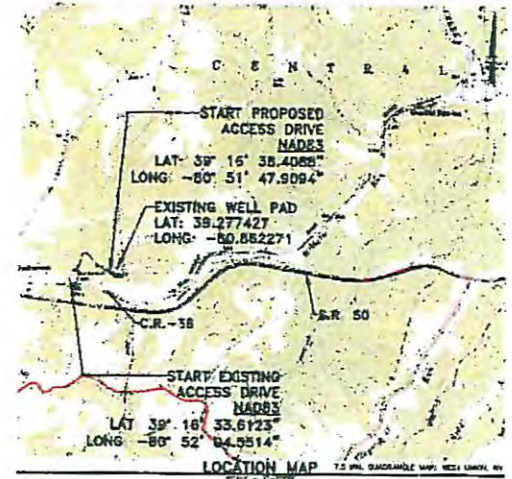
OFFICE OF OIL AND GAS

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 800.245.4648
It's the Only Way to Get It Right.

SOILS CLASSIFICATION
SIC: GRAPE-PEARSON COMPLEX, 35 TO 38 PERCENT SLOPE
SIC: GRAPE-UPSHAW SILT LOAMS, 8 TO 10 PERCENT SLOPE
SIC: GRAPE-UPSHAW SILT LOAMS, 15 TO 25 PERCENT SLOPE

LIST OF DRAWINGS
1 OF 15 COVER SHEET
2 OF 15 EXISTING CONSTRUCTION PLAN
3 OF 15 PROPOSED AND SEWAGE 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 DETAILS
9 OF 15 DETAILS
10 OF 15 REGULATION PLAN

GENERAL NOTES

- THE TOPOGRAPHIC SURVEY AND AS-BUILT UTILITIES FOR THIS BASE MAPPING WAS PERFORMED BY ALLIANCE SURVEYS, INC. ON 11/7/14. NOTES 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 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 NOTIFYING THE UTILITY OF WEST VIRGINIA AT 1-800-345-4648.
- A WETLAND PRESENCE/ABSENCE SURVEY WAS PERFORMED BY FORESTRY & ASSOCIATES, INC. ON 11/11/15. A FULL SANITARY CALCULATIONS PRESENTED ON THIS PLAN ARE FOR PERMITTING AND INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING UTILITY AND TO NOTIFY UTILITIES, UTILITIES NETWORKS AND PROCEDURES. ANY ISSUES ARE TO BE BROUGHT TO THE DESIGNER'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 RETIEN ASSOCIATES, INC. THE RESULTS OF THIS REPORT ARE SUMMARIZED IN THE "GEOLOGICAL REPORT FOR WELLS RESOURCES VOGT WELLS PAD EXPANSION, DATED MARCH 4, 2015.

WELL LOCATION RESTRICTIONS

- ALL PAD AND FRACURE INT CONSTRUCTION COMPLIES WITH THE FOLLOWING RESTRICTIONS:
- 200' FROM AN EXISTING WELL OR DEVELOPED SPRING USED FOR HUMAN OR DOMESTIC PURPOSES.
 - 500' FROM EXISTING DRAINAGE OR BARRIERS GREATER THAN 2.00' OF VEGETATION FOR POH BY OR SHED MEASURED FROM THE CENTER OF THE PAD.
 - 100' FROM EDGE OF JURISDICTION IN WETLANDS, PERMANENT STREAMS, NEARBY OR INTERMITTENT LITTLE POH OR RESERVOIR.
 - 200' FROM EDGE OF JURISDICTION TO A NATURALLY OCCURRING TRIBUTARY STREAM.
 - 100' OF A SURFACE OR UNDER WATER INTAKE TO A PUBLIC WATER SUPPLY.

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

OWNER	TWP/RANGE	DEED/PAGE	TOTAL ACRES	TYPE OF INTEREST/BLDG	ACRES
EVERY HERMAN, W.D.	T18N-R14E-S12	204/220	18.80	ACCESS ROAD A	6.10
				TOTAL	6.10
ANNABLE, J. RUFFE	P10	252/176	35.40	ACCESS ROAD A FRAC PAD	3.40 1.80
				TOTAL	3.40
GREGORY E. MOYER, III	T18N-R14E-S12	246/480	109.60	ACCESS ROAD A FRAC PAD GULL PAD	2.80 2.80 3.30
				PAD EXPANSION	0.14
				TOTAL	6.90
Sherry W. Kelly, LLC	T18N-R14E-S12	278/220	10.160	PAD EXPANSION	0.90
				TOTAL	0.90
				GRAND TOTAL	17.27

LOCAL ANTERO OFFICE

177 ELM STREET ROAD
WE CLAY, WV 26061
PHONE (204) 622-2842

325 WEST GARDEN BLVD
SPRINGPORT, WV 26160
PHONE (204) 622-2842

LOCAL CONTACTS:
LU BRADNER-ENVIRONMENTAL ENGINEER
PHONE (204) 622-2842 EXT. 211
CELL (505) 471-8770

JOHN KARCHA-OPERATIONS SUPERVISOR/CDOT
CELL (207) 283-1258

MARCO KIMBLE-COMMUNICATIONS SUPERVISOR
CELL (405) 227-6544

ANTHONY SMITH-FIELD ENGINEER
PHONE (204) 622-2400
CELL (204) 622-2400

ROBERT WAIN-REGION MANAGER
PHONE (204) 642-4108
CELL (204) 622-7661

DIRECTIONS TO THE SITE

FROM FERRISBURG, W.V. TRAVEL EAST ON US 50 FOR APPROXIMATELY 4.0 MILES. TURN LEFT ONTO SHARPOUR ROAD AND TRAVEL 0.5 MILES. TURN RIGHT ONTO DODDRIDGE ROAD AND TRAVEL 1.0 MILES. TURN RIGHT TO STAY ON DODDRIDGE ROAD AND TRAVEL 0.5 MILES. TURN LEFT ONTO COOPER'S ROAD RICH AND AVE. AT THE VOGT WELLS PAD ON THE RIGHT.

AS-BUILT AND PAD EXPANSION LUG (AC)

ROAD ACCESS (FREE)	3.10
WELL PAD	3.20
FRAC PAD	3.30
PAD EXPANSION	1.00
TOTAL PROJECT AREA	11.60
TOTAL PROJECT ACRES	4.91
TOTAL LUG AREA FEET OF ACCESS ROAD	2.81

EXISTING AND PROPOSED WELL COORDINATES

WELLHEAD COORDINATES (PAD 02)					WELLHEAD COORDINATES (PAD 27)				
Well Name	Northing (NAD83) (ft)	Easting (NAD83) (ft)	Lat (NAD83) (Dec. Deg)	Long (NAD83) (Dec. Deg)	Well Name	Northing (NAD83) (ft)	Easting (NAD83) (ft)	Lat (NAD83) (Dec. Deg)	Long (NAD83) (Dec. Deg)
Drilled Well Name Unit 10	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 01	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 10	87,387.289	482,428.818	39.2774170	-80.8220121	Drilled Well Name Unit 11	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 01	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 21	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 11	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 31	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 21	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 41	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 31	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 51	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 41	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 61	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 51	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 71	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 61	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 81	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 71	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 91	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 81	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 101	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 91	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 111	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 101	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 121	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 111	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 131	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 121	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 141	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 131	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 151	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 141	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 161	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 151	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 171	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 161	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 181	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 171	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 191	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 181	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 201	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 191	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 211	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 201	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 221	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 211	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 231	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 221	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 241	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 231	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 251	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 241	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 261	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 251	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 271	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 261	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 281	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 271	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 291	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 281	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 301	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 291	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 311	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 301	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 321	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 311	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 331	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 321	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 341	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 331	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 351	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 341	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 361	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 351	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 371	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 361	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 381	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 371	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 391	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 381	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 401	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 391	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 411	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 401	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 421	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 411	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 431	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 421	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 441	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 431	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 451	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 441	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 461	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 451	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 471	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 461	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 481	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 471	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 491	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 481	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 501	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 491	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 511	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 501	87,388.274	482,428.818	39.2774236	-80.8220121	Drilled Well Name Unit 521	87,388.274	482,428.818	39.2774236	-80.8220121
Drilled Well Name Unit 511	87,388.274	482,428.818	39.2774236	-80.8					

