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west virginia department of environmental protection

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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](http://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 1706665, Well #: MCGILL UNIT 1H

Top Hole, Lateral, Pad Extension, WMP

Oil and Gas Operator:

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

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

Sincerely,

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

Promoting a healthy environment.

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 1H 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: 18800' MD

11) Proposed Horizontal Leg Length: 10771'

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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Office of Oil and Gas

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Environmental Protection

**API# 47-017-06665 SHL & PAD DESIGN MODIFICATION**

18)

**CASING AND TUBING PROGRAM**

<b>TYPE</b>	<b>Size (in)</b>	<b>New or Used</b>	<b>Grade</b>	<b>Weight per ft. (lb/ft)</b>	<b>FOOTAGE: For Drilling (ft)</b>	<b>INTERVALS: Left in Well (ft)</b>	<b>CEMENT: Fill-up (Cu. Ft.)/CTS</b>
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#	2450'	2450'	CTS, 998 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	18800'	18800'	4777 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

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

**API# 47-017-06665 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.

API# 47-017-06665 SHL & PAD DESIGN MODIFICATION

WW-9  
(9/13)

API Number 47 - 017 - 06665 Map  
Operator's Well No. McGill Unit 1H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Antero Resources Corporation OP Code 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/Still 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]

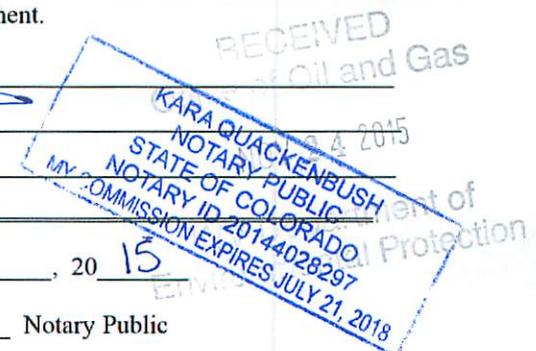
Company Official (Typed Name) Cole Kilstrom

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

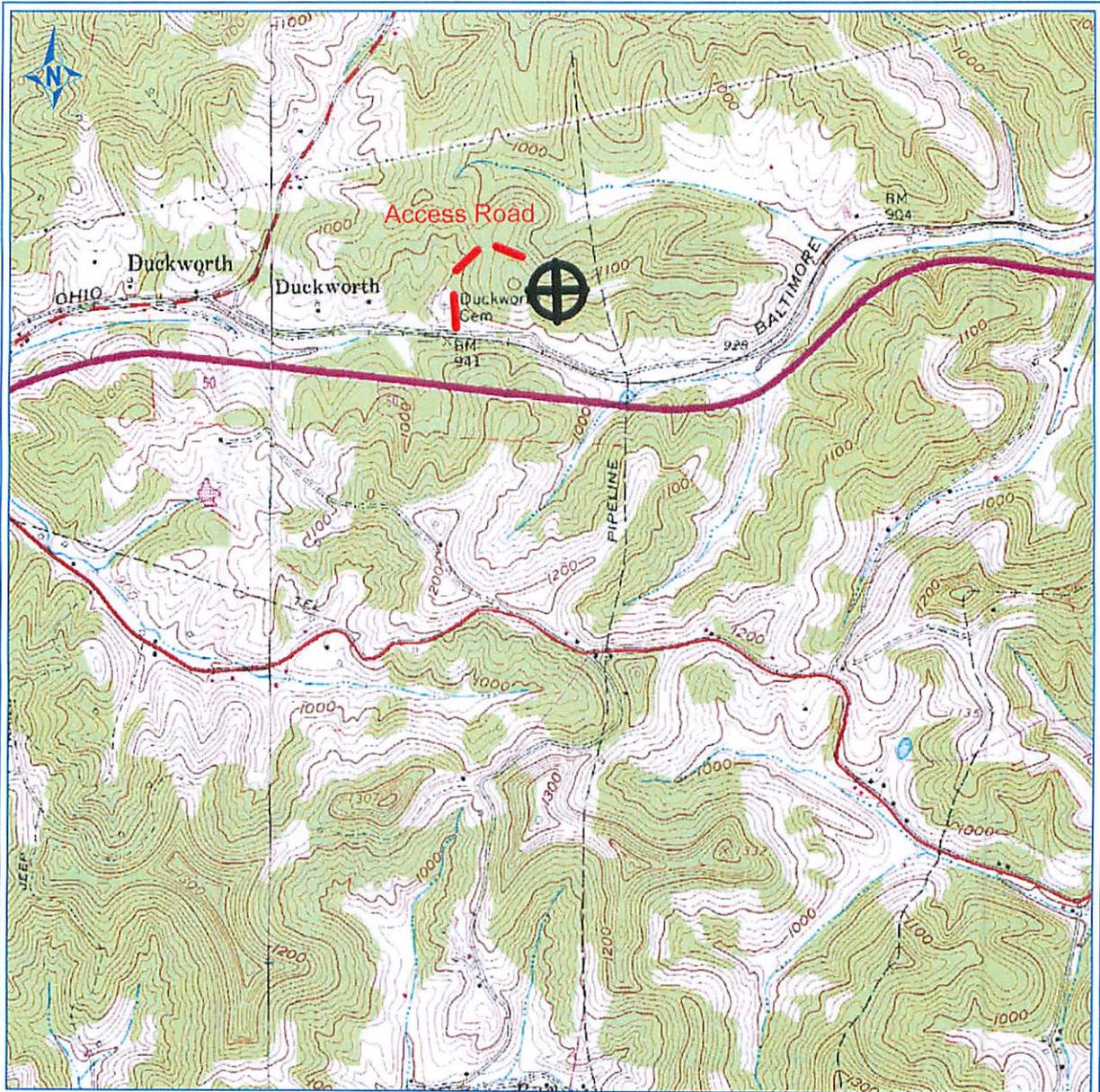
### **PRODUCTION INTERVAL**

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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The Department of  
Environmental Regulation



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

**ANTERO RESOURCES CORPORATION**

APPALACHIAN BASIN

**Vogt Pad**

McGill Unit 1H  
Doddridge County



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

October 19, 2012

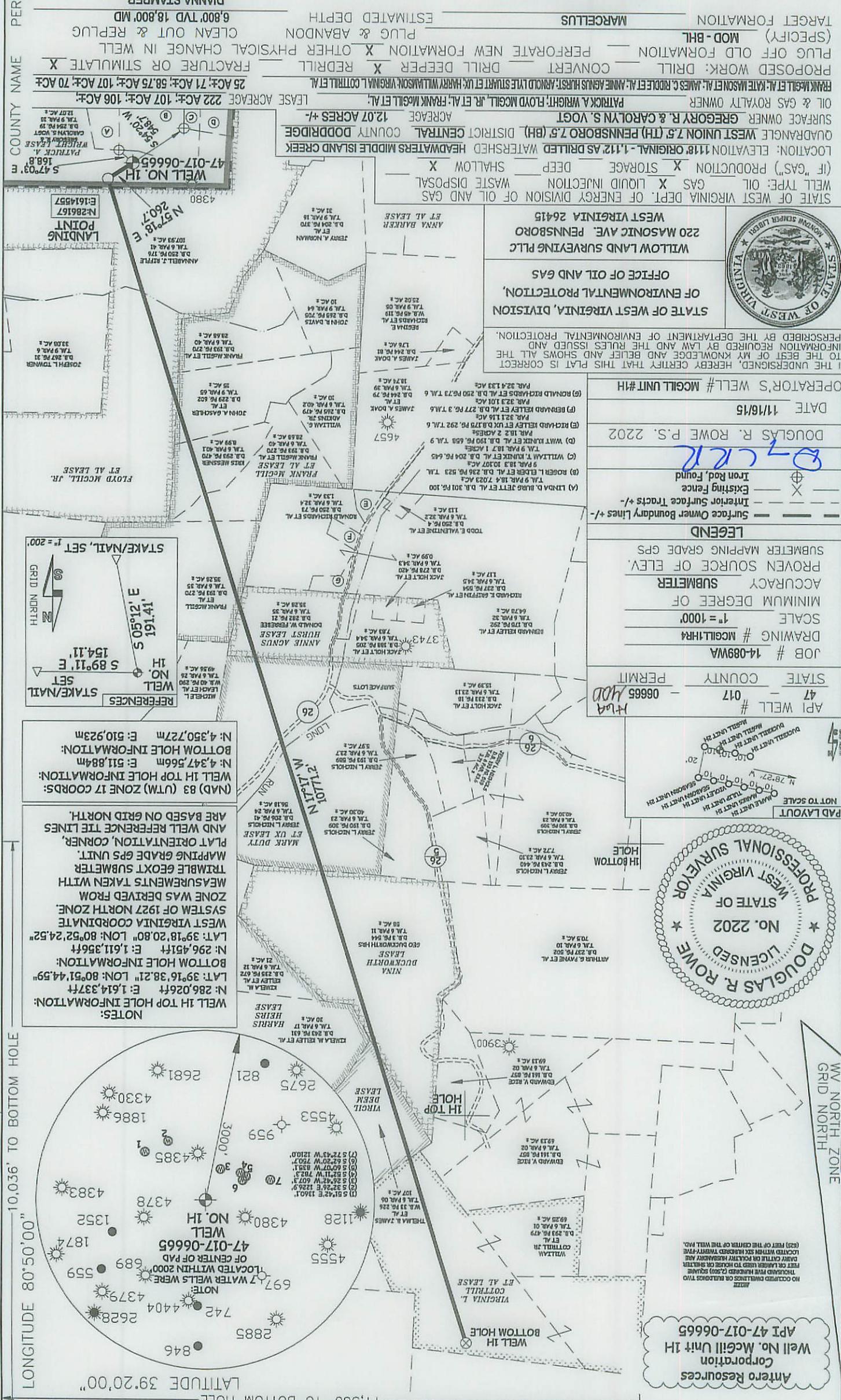


I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

DATE	11/16/15
OPERATOR'S WELL #	MC GILL UNIT #1H
STATE	017
COUNTY	47
PERMIT	400
JOB #	14-089WA
DRAWING #	MC GILL 11H4
SCALE	1" = 1000'
MINIMUM DEGREE OF ACCURACY	SUBMETER
PROVEN SOURCE OF ELEV.	SUBMETER MAPPING GRADE GPS
LEGEND	Surface Boundary Lines +/- Intersection Surface Tracts +/- Existing Fence Iron Rod, Found
DOUGLAS R. ROWE P.S. 2202	



Antero Resources Corporation  
Well No. McGill Unit 1H  
API 47-017-06665



PERMIT NAME  
COUNTY NAME

LONGITUDE 80°50'00"  
LONGITUDE 80°50'00"  
LONGITUDE 80°50'00"

LATITUDE 39°17'30"  
LATITUDE 39°20'00"  
LATITUDE 39°20'00"

WV NORTH ZONE  
GRID NORTH

NOT TO SCALE  
PAD LAYOUT  
MAPPING UNIT #1  
MAPPING UNIT #2  
MAPPING UNIT #3  
MAPPING UNIT #4  
MAPPING UNIT #5  
MAPPING UNIT #6  
MAPPING UNIT #7  
MAPPING UNIT #8  
MAPPING UNIT #9  
MAPPING UNIT #10  
MAPPING UNIT #11  
MAPPING UNIT #12  
MAPPING UNIT #13  
MAPPING UNIT #14  
MAPPING UNIT #15  
MAPPING UNIT #16  
MAPPING UNIT #17  
MAPPING UNIT #18  
MAPPING UNIT #19  
MAPPING UNIT #20



WELL OPERATOR: ANTERO RESOURCES CORP. DESIGNATED AGENT: DIANNA STAMPER  
 ADDRESS: 1615 WYNNCOOP STREET DENVER, CO 80202  
 ADDRESS: 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

TARGET FORMATION: MARCELLUS  
 (SPECIFY) MOD - BHL  
 PLUG OFF OLD FORMATION:  PERFORATE NEW FORMATION:  OTHER PHYSICAL CHANGE IN WELL:   
 PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
 CLEAN OUT & REPLUG  
 ESTIMATED DEPTH: 6,800' TVD 18,800' MD  
 PERMIT NAME: COUNTY NAME

LEASE ACRES: 222 AC.; 107 AC.; 106 AC.;  
 25 AC.; 71 AC.; 58.75 AC.; 107 AC.; 70 AC.  
 SURFACE OWNER: GREGORY R. & CAROLYN S. VOGT  
 OIL & GAS ROYALTY OWNER: PATRICK A. WRIGHT, FLOYD MCGILL, JR. ET AL.; FRANK MCGILL ET AL.  
 QUADRANGLE WEST UNION 7.5 (TH) PENNSBORO 7.5 (BH) DISTRICT CENTRAL COUNTY DODDRIDGE  
 HEADWATERS MIDDLE ISLAND CREEK  
 LOCATION: ELEVATION 1118 ORIGINAL - 1.112 AS DRILLED WATERSHED  
 STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS  
 WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL  
 (IF "GAS") PRODUCTION X STORAGE DEEP X SHALLOW X

STATE OF WEST VIRGINIA DEPT. OF ENVIRONMENTAL PROTECTION  
 OFFICE OF OIL AND GAS  
 220 MASONIC AVE. PENNSBORO  
 WEST VIRGINIA 26415  
 I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT  
 INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND  
 DESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



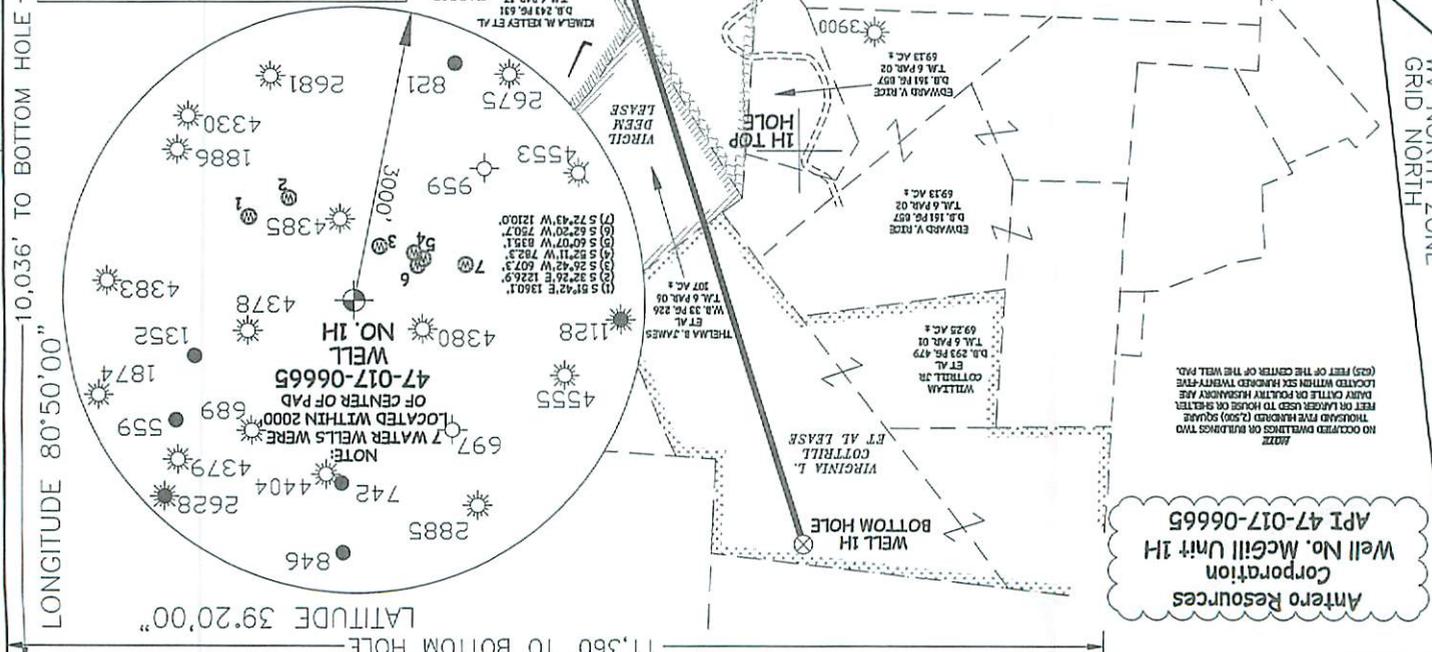
OPERATOR'S WELL # MCGILL UNIT #1H  
 DATE 11/16/15  
 DOUGLAS R. ROWE P.S. 2202

LEGEND  
 --- Surface Owner Boundary Lines +/  
 --- Existing Fence  
 --- Iron Rod, Found  
 --- DOUGLAS R. ROWE P.S. 2202

PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS  
 MINIMUM DEGREE OF ACCURACY SUBMETER  
 SCALE 1" = 1000'  
 DRAWING # MCGILL-11R4  
 JOB # 14-089WA  
 STATE # 017 COUNTY # 06665 PERMIT # 47

NOT TO SCALE  
 MADE WITH  
 WYLLIET UNIT #1H  
 TYPICAL UNIT #1H  
 DUCKWORTH MIDDLE UNIT #1H  
 DUCKWORTH MIDDLE UNIT #2H

NOTES:  
 WELL 1H TOP HOLE INFORMATION: N: 286,026ft E: 1,614,337ft  
 LAT: 39°16'38.21" LON: 80°51'44.59"  
 BOTTOM HOLE INFORMATION: N: 296,451ft E: 1,611,356ft  
 LAT: 39°18'20.80" LON: 80°52'24.52"  
 SYSTEM OF 1927 NORTH ZONE  
 MEASUREMENTS TAKEN WITH  
 TIMBLE GEOXT SUBMETER  
 PLAT ORIENTATION, CORNER,  
 AND WELL REFERENCE TIE LINES  
 ARE BASED ON GRID NORTH.  
 (NAD) 83 (UTM) ZONE 17 COORDS:  
 WELL 1H TOP HOLE INFORMATION: N: 4,347,566m E: 511,884m  
 BOTTOM HOLE INFORMATION: N: 4,350,727m E: 510,923m



LONGITUDE 80°50'00" TO BOTTOM HOLE 10,036'  
 LONGITUDE 80°50'00" TO BOTTOM HOLE 5,240'  
 LATITUDE 39°17'30" TO BOTTOM HOLE 11,360'  
 LATITUDE 39°20'00" TO BOTTOM HOLE 8,224'

Antero Resources Corporation  
 Well No. McGill Unit 1H  
 API 47-017-06665

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

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

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

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

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<b><u>Patrick A. Wright Lease</u></b>			
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
<b><u>Floyd McGill, Jr., et al Lease</u></b>			
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
<b><u>Frank McGill, et al Lease</u></b>			
Frank McGill, et al	Petroleum Services, Inc.	1/8	0115/0563
Petroleum Services, Inc.	Magnum Oil Corporation	Assignment	0118/0555
Magnum Oil Corporation	Eneger Corporation	Assignment	0146/0664
Eneger Corporation	Basin Project, Inc.	Assignment	0153/0281
Basin Project, Inc.	James A. Eliopulos	Assignment	0252/0382
James A. Eliopulos d/b/a Alexander Production Company, Inc.	Antero Resources Appalachian Corporation	*Partial Assignment of Oil and Gas Leases	0267/0506
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>Annie Agnes Hurst Lease</u></b>			
Annie Agnes Hurst	Devonian Appalachian Co.	1/8	0157/0620
Devonian Appalachian Co.	New Freedom Energy, LLC	Assignment	0200/0563
New Freedom Energy, LLC	Antero Resources Corporation	Assignment	0336/0127
<b><u>Mark Duty, et ux Lease</u></b>			
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
<b><u>Nina Duckworth Lease</u></b>			
Nina Duckworth	Antero Resources Corporation	1/8+	0323/0604
<b><u>Harris Heirs Lease</u></b>			
Harris Heirs	Deconian Appalachian Corporation	1/8	0161/0198
Devonian Appalachian Co., Inc., et al	New Freedom Energy, LLC	Deed, Assignment & Agreement	0203/0346
New Freedom Energy, LLC	Antero Resources Appalachian Corporation	Assignment	0336/0127

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

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

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

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

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

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

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<b>Virgil Deem Lease</b>			
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

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 WV Department of  
 Environmental Protection

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

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

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

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

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

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

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

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

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MAY 9 4 2015  
Department of Environmental Protection

**FORM WW-6A1  
EXHIBIT 1**

**FILED**

**JUN 10 2013**

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



Penney Barker, Manager  
IN THE OFFICE OF Corporations Division  
SECRETARY OF STATE Tel: (304)558-8000  
Fax: (304)558-8381  
Website: [www.wvscos.com](http://www.wvscos.com)  
E-mail: [business@wvscos.com](mailto:business@wvscos.com)

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

**APPLICATION FOR  
AMENDED CERTIFICATE  
OF AUTHORITY**

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

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

- 1. Name under which the corporation was authorized to transact business in WV: Antero Resources Appalachian Corporation
- 2. Date Certificate of Authority was issued in West Virginia: 6/25/2008
- 3. Corporate name has been changed to: Antero Resources Corporation  
(Attach one **Certified Copy of Name Change** as filed in home State of Incorporation.)
- 4. Name the corporation elects to use in WV: Antero Resources Corporation  
(due to home state name not being available)
- 5. Other amendments: \_\_\_\_\_  
(attach additional pages if necessary)
- 6. Name and phone number of contact person. (This is optional, however, if there is a problem with the filing, listing a contact person and phone number may avoid having to return or reject the document.)  
Alvyn A. Schopp (303) 367-7310  
Contact Name Phone Number

7. Signature information (See below **\*Important Legal Notice Regarding Signature\***):

Print Name of Signer: Alvyn A. Schopp Title/Capacity: Authorized Person

Signature: *Alvyn A. Schopp* Date: June 10, 2013

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

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

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

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

Notice of:

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

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

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

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

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

SURFACE OWNER(s)

Name: PLEASE SEE ATTACHMENT  
Address: \_\_\_\_\_

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

SURFACE OWNER(s) (Road and/or Other Disturbance)

Name: PLEASE SEE ATTACHMENT  
Address: \_\_\_\_\_

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

SURFACE OWNER(s) (Impoundments or Pits)

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

COAL OWNER OR LESSEE

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

COAL OPERATOR

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

WATER PURVEYOR(s)/OWNER(s) OF WATER WELL, SPRING OR OTHER WATER SUPPLY SOURCE

Name: PLEASE SEE ATTACHMENT  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

\*Please attach additional forms if necessary

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

**Notice is hereby given:**

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

**This Notice Shall Include:**

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

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

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

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

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

**Well Location Restrictions**

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be 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 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0450

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Office of Oil and Gas  
NOV 13 2010  
WV Department of  
Environmental Protection

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

### **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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WV Department of  
Environmental Protection

WW-6A  
(8-13)

API# 47-017-06665 SHL & PAD DESIGN MODIFICATION

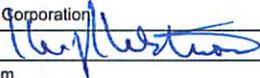
API NO. 47- 017 - 06665 MOO

OPERATOR WELL NO. McGill Unit 1H

Well Pad Name: Existing Vogt Pad

**Notice is hereby given by:**

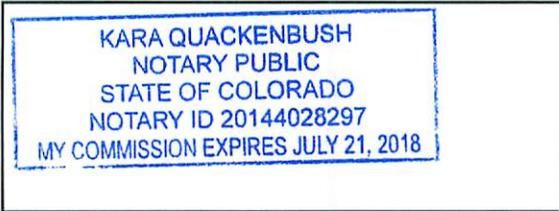
Well Operator: Antero Resources Corporation  
Telephone: (303) 357-7310  
Email: asteele@anteroresources.com



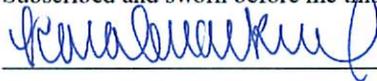
Address: 1615 Wynkoop Street  
Denver, CO 80202  
Facsimile: 303-357-7315

**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](mailto:depprivacyofficer@wv.gov).



Subscribed and sworn before me this 23 day of November 2015



Notary Public

My Commission Expires July 21, 2018

**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  
 (2<sup>nd</sup> 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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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

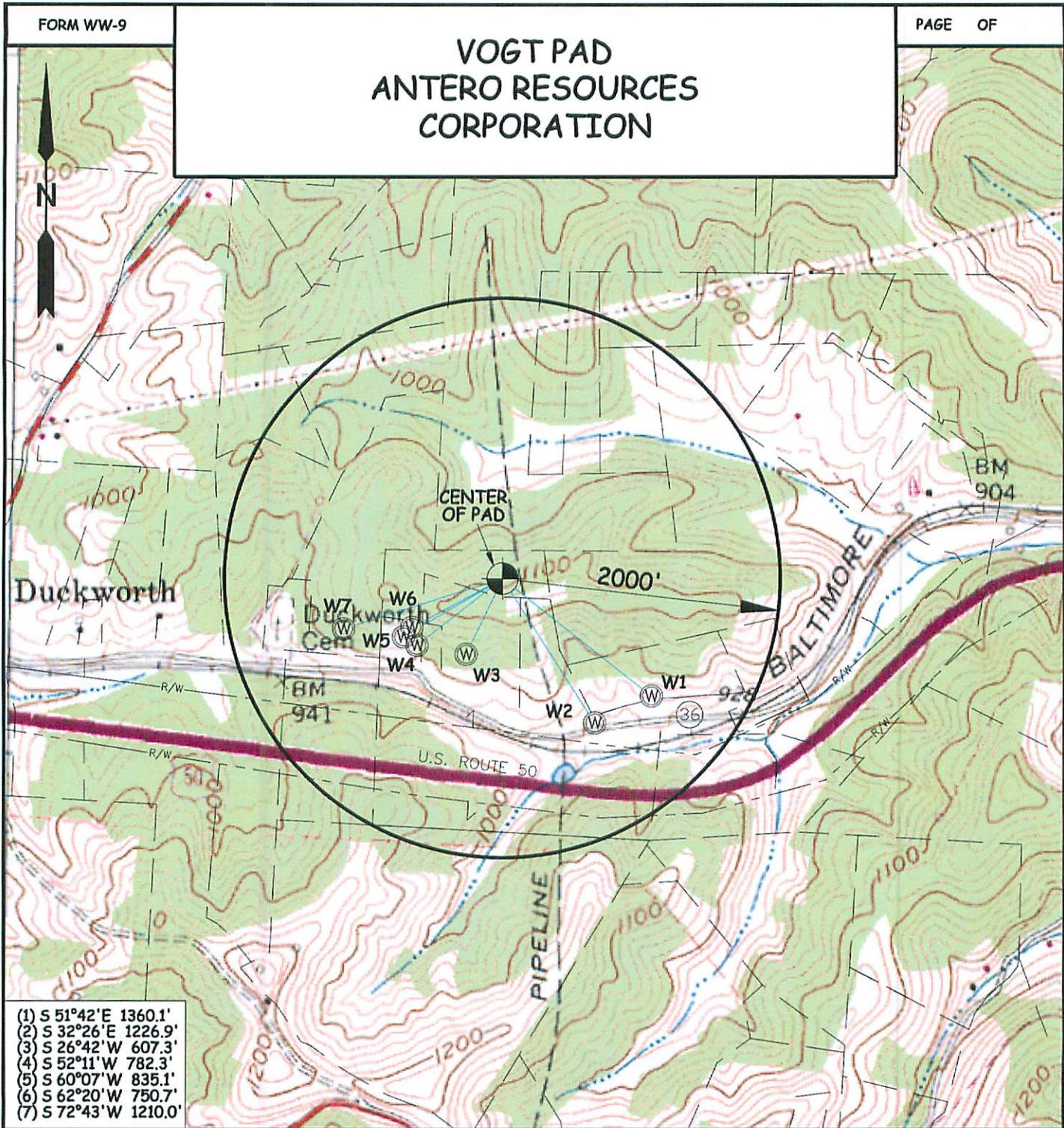
**Owner:** WMT & Sharon S. Kunik  
(2 sources: 782', 835')

**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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Department of



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"

<b>WILLOW LAND SURVEYING, PLLC</b> 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

WW-6A5  
(1/12)

Operator Well No. McGill Unit 1H

**API# 47-017-06665 SHL & PAD DESIGN MODIFICATION**

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

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

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

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

CERTIFIED MAIL                                       HAND  
RETURN RECEIPT REQUESTED                                      DELIVERY

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

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

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

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

**Notice is hereby given:**

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

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>511884m</u>
County: <u>Doddridge</u>		Northing: <u>4347566m</u>
District: <u>Central</u>	Public Road Access: <u>CR 36</u>	
Quadrangle: <u>West Union 7.5'</u>	Generally used farm name: <u>Vogt, Gregory R. &amp; Carolyn S.</u>	
Watershed: <u>Tributary of Wilhelm Run</u>		

**This Notice Shall Include:**

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

Well Operator: Antero Resources Corporation  
Telephone: (303) 357-7310  
Email: 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](mailto:depprivacyofficer@wv.gov).

RECEIVED  
NOV 24 2015  
WV Department of  
Environmental Protection

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

**Instructions to Persons Named on Page WW-6A**

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

**Comment and Waiver Provisions**

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

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

**VOLUNTARY STATEMENT OF NO OBJECTION**

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>511884m</u>
County:	<u>Doddridge</u>		Northing:	<u>4347566m</u>
District:	<u>Central</u>	Public Road Access:		<u>CR 36</u>
Quadrangle:	<u>West Union 7.5'</u>	Generally used farm name:		<u>Vogt, Gregory R. &amp; 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><b>FOR EXECUTION BY A NATURAL PERSON</b></p> <p>Signature: _____</p> <p>Print Name: _____</p> <p>Date: _____</p> <p><b>FOR EXECUTION BY A CORPORATION, ETC.</b></p> <p>Company: _____</p> <p>By: _____</p> <p>Its: _____</p> <p>Signature: _____</p> <p>Date: _____</p> <p style="text-align: right;"><b>RECEIVED</b> Office of Oil and Gas</p>
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NOV 24 2015

**Oil and Gas Privacy Notice:**

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

WW-6AW  
(1-12)

API# 47-017-06665 SHL & PAD DESIGN MODIFICATION

API NO. 47- 017 - 06665 MOB  
OPERATOR WELL NO. McGill Unit 1H  
Well Pad Name: Existing Vogt Pad

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, 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: 511884m  
County: Doddridge Northing: 4347566m  
District: Central Public Road Access: CR 36  
Quadrangle: West Union 7.5' Generally used farm name: Vogt, Gregory R. & Carolyn S.  
Watershed: Tributary of Wilhelm Run

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

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

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

# 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, 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:

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District:	<u>Central</u>	Public Road Access:	<u>CR 36</u>	
Quadrangle:	<u>West Union 7.5'</u>	Generally used farm name:	<u>Vogt, Gregory R. &amp; 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 <input type="checkbox"/> SURFACE OWNER <input type="checkbox"/> SURFACE OWNER (Road and/or Other Disturbance) <input type="checkbox"/> SURFACE OWNER (Impoundments/Pits) <input type="checkbox"/> COAL OWNER OR LESSEE <input type="checkbox"/> COAL OPERATOR <input type="checkbox"/> WATER PURVEYOR <input type="checkbox"/> OPERATOR OF ANY NATURAL GAS STORAGE FIELD	<b>FOR EXECUTION BY A NATURAL PERSON</b> Signature: <u>[Signature]</u> Print Name: <u>Steven W. Kelley</u> Date: <u>11-2-15</u>
	<b>FOR EXECUTION BY A CORPORATION, ETC.</b> Company: _____ By: _____ Its: _____ Signature: _____ Date: _____

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NOV 24 2015

WV Department of  
Environmental Protection

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

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County:	<u>Doddridge</u>		Northing:	<u>4347566m</u>
District:	<u>Central</u>	Public Road Access:	<u>CR 36</u>	
Quadrangle:	<u>West Union 7.5'</u>	Generally used farm name:	<u>Vogt, Gregory R. &amp; 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: Troy Cunningham  
Print Name: Troy Cunningham  
Date: 11/16/15

### FOR EXECUTION BY A CORPORATION, ETC.

Company: \_\_\_\_\_  
By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

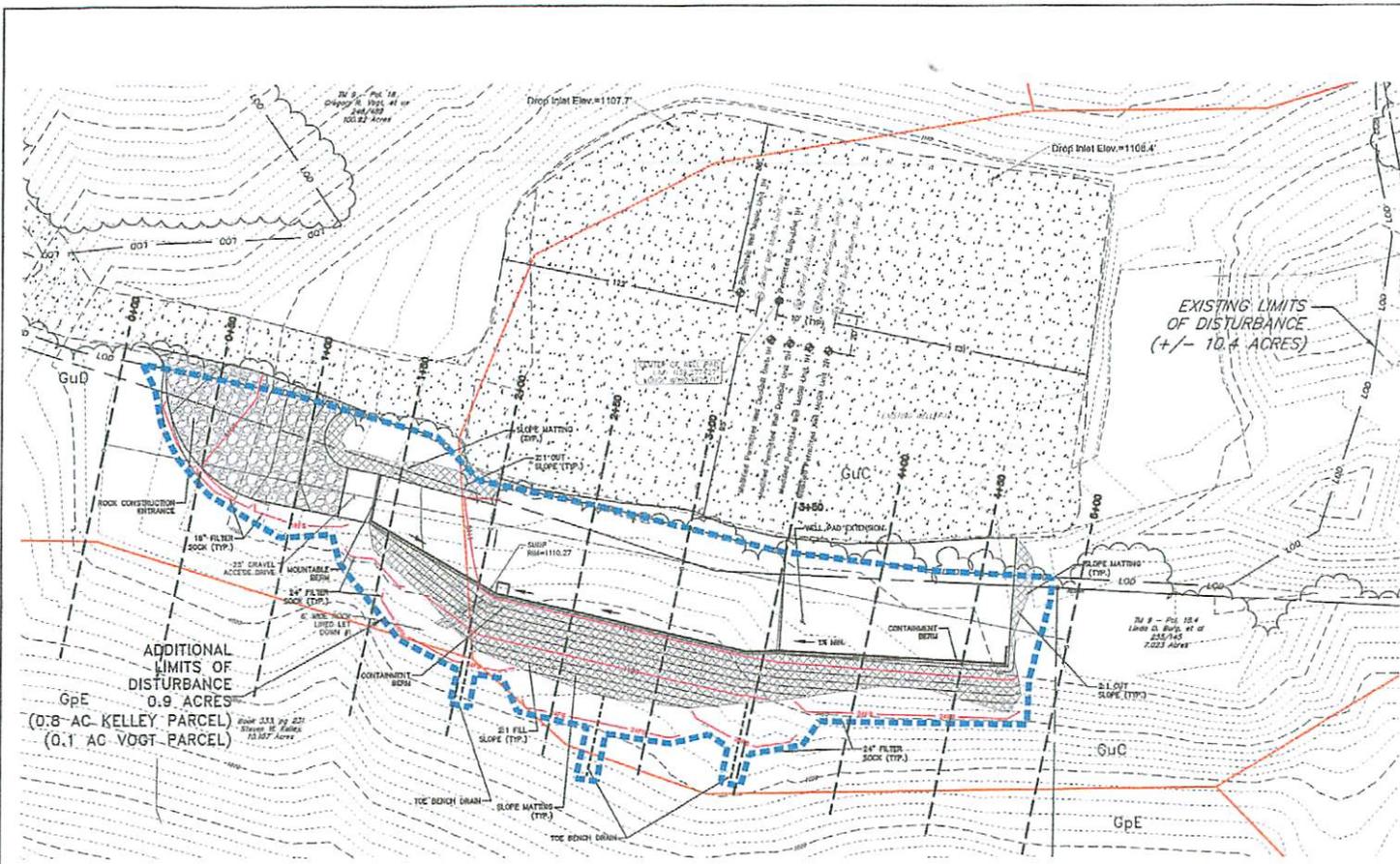
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NOV 24 2015

WV Department of  
Environmental Protection





**LEGEND**

EXISTING PROPERTY LINE	---
EXISTING PARCEL BOUNDARY	---
EXISTING SOIL BOUNDARY	---
EXISTING FENCE	---
EXISTING WALKWAY	---
EXISTING HIGHWAY	---
EXISTING UTILITY POLE	---
EXISTING MEDICAL ELECTRIC LAMP	---
EXISTING OVERHEAD ELECTRIC LINE	---
EXISTING SVA LINE	---
EXISTING SLOPE MATTING	---
EXISTING FENCE LINE	---
EXISTING DRAINAGE POND	---
EXISTING STREAM/SPRING	---
EXISTING STREAM/PERMANENT	---
EXISTING LIMITS OF DISTURBANCE	---
EXISTING AREA OF PROJECT	---
EXISTING REBAR	---
CONCRETE LINE	---
WOODS LINE	---
PROPOSED WALKWAY	---
PROPOSED HIGHWAY	---
PROPOSED FENCE	---
PROPOSED DRAINAGE	---
PROPOSED STORM PIPE	---
LIMITS OF DISTURBANCE	---

**APPROVED WVDEP OOG**  
Modification  
1/12/2016

SCALE: 1" = 30'

DATE: \_\_\_\_\_

FOR REVIEW APPROVED BY:

MANAGER: ANDREW LEVINE, PE  
DESIGN BY: JMS  
CHECKED BY: JMS

DATE: 03/04/2016

STATE: OHIO  
LICENSE NO: 14114

CLIENT: **Antero**

**RETTEW**

RETTEW ASSOCIATES, INC.  
10000 W. 11th Street, Suite 305  
P.O. Box 11000  
Overland Park, KS 66206  
Tel: (913) 441-1123  
Email: info@rettew.com  
www.rettew.com

**EXISTING AND PROPOSED WELL COORDINATES**

Well Name	Northing (NAD83) (N)	Easting (NAD83) (E)	Lat (NAD83) (Dec. Deg.)	Long (NAD83) (Dec. Deg.)
Drilled Well Works Unit 1H	87,150,224	482,459,918	N035.27743236	W080.86232057
Drilled Well Seaborn Unit 1H	87,197,390	482,468,575	N039.27741712	W080.86232044
Drilled Well Seaborn Unit 2H	87,195,790	482,471,804	N039.27741205	W080.86231871
Drilled Well Violet Unit 1H	87,198,007	482,485,891	N039.27742222	W080.86232014
Permitted Well Duckbill Unit 1H	87,192,830	482,461,899	N038.27727329	W080.86225393
Permitted Well Duckbill Unit 2H	87,192,027	482,464,874	N039.27735810	W080.86224930
Permitted Well Maple Unit 1H	87,199,832	482,456,921	N039.27743743	W080.86234029
Permitted Well Maple Unit 2H	87,191,423	482,467,831	N038.27738316	W080.86221447
Permitted Well Maple Unit 3H	87,190,813	482,476,848	N038.27735809	W080.86217875
Permitted Well Tulip Unit 1H	87,188,010	482,482,905	N039.27742720	W080.86227088

Well Name	Northing (NAD27) (N)	Easting (NAD27) (E)	Lat (NAD27) (Dec. Deg.)	Long (NAD27) (Dec. Deg.)
Drilled Well Works Unit 1H	87,188,648	492,043,194	N038.27732032	W080.86247679
Drilled Well Seaborn Unit 1H	87,188,820	492,052,192	N038.27733808	W080.86232796
Drilled Well Seaborn Unit 2H	87,188,212	492,055,140	N039.27733002	W080.86232793
Drilled Well Violet Unit 1H	87,187,431	492,049,167	N039.27734018	W080.86240725
Permitted Well Duckbill Unit 1H	87,182,058	492,044,981	N039.27729122	W080.86245015
Permitted Well Duckbill Unit 2H	87,181,451	492,047,849	N038.27728810	W080.86242042
Permitted Well Maple Unit 1H	87,189,258	492,040,207	N039.27735839	W080.86235121
Permitted Well Maple Unit 2H	87,180,847	492,036,837	N039.27726112	W080.86238569
Permitted Well Maple Unit 3H	87,180,239	492,053,922	N038.27757805	W080.86238087
Permitted Well Tulip Unit 1H	87,188,040	492,046,100	N039.27734526	W080.86244207

Well Name	API #
Drilled Well Works Unit 1H	# 47-017-06216-00
Drilled Well Seaborn Unit 1H	# 47-017-08189-00
Drilled Well Seaborn Unit 2H	# 47-017-08170-00
Drilled Well Violet Unit 1H	# 47-017-08208-00
Permitted Well Duckbill Unit 1H	# 47-017-06887-00
Permitted Well Duckbill Unit 2H	# 47-017-06888-00
Permitted Well Maple Unit 1H	# 47-017-06850-00
Permitted Well Maple Unit 2H	# 47-017-06848-00
Permitted Well Maple Unit 3H	# 47-017-06856-00
Permitted Well Tulip Unit 1H	# 47-017-06216-00

EXISTING LIMITS OF DISTURBANCE:  
10.4 ACRES

NEW TOTAL LIMITS OF DISTURBANCE:  
11.4 ACRES

**Cut & Fill (Pad Extension Area)**

Cut (yds)	+ 720
Stone	+ 918
Top (yds)	- 4.06
Compaction	- 73
Topsoil Strip	Area (acre)=0.78 Depth (in)=8 = 843
Topsoil Replacement	Area (acre)=0.21 Depth (in)=8 = 230
Net (yds)	- 8.134
Topsoil Net (yds)	Excess = 612

EROSION AND SEDIMENT CONTROL PLAN  
CONSTRUCTION DRAWINGS

FOR  
**VOGT**  
WELL PAD EXTENSION

CENTRAL DISTRICT, DEERBREEZE COUNTY, WEST VIRGINIA

DATE: 06/09/2016

SHEET NO. 3 OF 10

DWG. NO. 09S452082



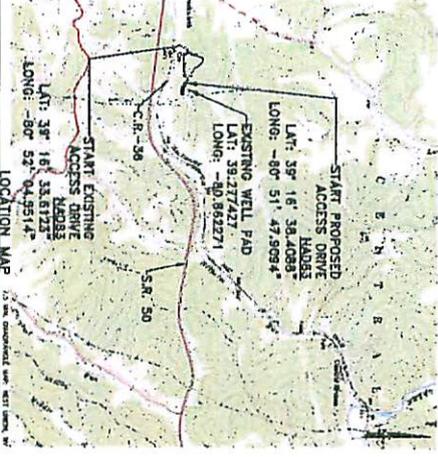


# AS-BUILT & EXPANDED PAD CONSTRUCTION DRAWINGS

FOR

## VOGT WELLS PAD EXTENSION

CENTRAL TAX DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA



**GENERAL NOTES**

1. THE PROPOSING PARTY HAS MADE SURE THAT THE WELL PAD AND PAD EXTENSION ARE LOCATED WITHIN THE WEST VIRGINIA STATE PUBLIC UTILITY ACT (WV PUA) FOR PRODUCTION OF NATURAL GAS.
2. THE PROPOSING PARTY HAS MADE SURE THAT THE WELL PAD AND PAD EXTENSION ARE LOCATED WITHIN THE WEST VIRGINIA STATE PUBLIC UTILITY ACT (WV PUA) FOR PRODUCTION OF NATURAL GAS.
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10. THE PROPOSING PARTY HAS MADE SURE THAT THE WELL PAD AND PAD EXTENSION ARE LOCATED WITHIN THE WEST VIRGINIA STATE PUBLIC UTILITY ACT (WV PUA) FOR PRODUCTION OF NATURAL GAS.

**WELL LOCATION RESTRICTIONS**

ALL WELLS MUST BE LOCATED WITHIN THE FOLLOWING RESTRICTIONS:

1. THE WELL PAD AND PAD EXTENSION MUST BE LOCATED WITHIN THE WEST VIRGINIA STATE PUBLIC UTILITY ACT (WV PUA) FOR PRODUCTION OF NATURAL GAS.
2. THE WELL PAD AND PAD EXTENSION MUST BE LOCATED WITHIN THE WEST VIRGINIA STATE PUBLIC UTILITY ACT (WV PUA) FOR PRODUCTION OF NATURAL GAS.
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10. THE WELL PAD AND PAD EXTENSION MUST BE LOCATED WITHIN THE WEST VIRGINIA STATE PUBLIC UTILITY ACT (WV PUA) FOR PRODUCTION OF NATURAL GAS.

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

OWNER	ADDRESS	CITY	STATE	ZIP
VOGT	10000 W. 10000 N.	VOGT	WV	26040

**LOCAL ANTERO OFFICE**

10000 W. 10000 N. VOGT, WV 26040

PHONE: (304) 267-3000

FAX: (304) 267-3001

WWW.ANTERO.COM

**EXISTING AND PROPOSED WELL COORDINATES**

WELL NAME	WELL TYPE	WELL DEPTH (FT)	WELL COORDINATES (Easting, Northing)
VOGT-001	Production	1000	(10000, 10000)
VOGT-002	Production	1000	(10000, 10000)
VOGT-003	Production	1000	(10000, 10000)
VOGT-004	Production	1000	(10000, 10000)
VOGT-005	Production	1000	(10000, 10000)
VOGT-006	Production	1000	(10000, 10000)
VOGT-007	Production	1000	(10000, 10000)
VOGT-008	Production	1000	(10000, 10000)
VOGT-009	Production	1000	(10000, 10000)
VOGT-010	Production	1000	(10000, 10000)

**WELLS TO BE DELETED**

WELL NAME	WELL TYPE	WELL DEPTH (FT)	WELL COORDINATES (Easting, Northing)
VOGT-011	Production	1000	(10000, 10000)
VOGT-012	Production	1000	(10000, 10000)
VOGT-013	Production	1000	(10000, 10000)
VOGT-014	Production	1000	(10000, 10000)
VOGT-015	Production	1000	(10000, 10000)
VOGT-016	Production	1000	(10000, 10000)
VOGT-017	Production	1000	(10000, 10000)
VOGT-018	Production	1000	(10000, 10000)
VOGT-019	Production	1000	(10000, 10000)
VOGT-020	Production	1000	(10000, 10000)

**WELLS TO BE DELETED**

WELL NAME	WELL TYPE	WELL DEPTH (FT)	WELL COORDINATES (Easting, Northing)
VOGT-021	Production	1000	(10000, 10000)
VOGT-022	Production	1000	(10000, 10000)
VOGT-023	Production	1000	(10000, 10000)
VOGT-024	Production	1000	(10000, 10000)
VOGT-025	Production	1000	(10000, 10000)
VOGT-026	Production	1000	(10000, 10000)
VOGT-027	Production	1000	(10000, 10000)
VOGT-028	Production	1000	(10000, 10000)
VOGT-029	Production	1000	(10000, 10000)
VOGT-030	Production	1000	(10000, 10000)

**AS-BUILT AND PAD**

WELL NAME	WELL TYPE	WELL DEPTH (FT)	WELL COORDINATES (Easting, Northing)
VOGT-031	Production	1000	(10000, 10000)
VOGT-032	Production	1000	(10000, 10000)
VOGT-033	Production	1000	(10000, 10000)
VOGT-034	Production	1000	(10000, 10000)
VOGT-035	Production	1000	(10000, 10000)
VOGT-036	Production	1000	(10000, 10000)
VOGT-037	Production	1000	(10000, 10000)
VOGT-038	Production	1000	(10000, 10000)
VOGT-039	Production	1000	(10000, 10000)
VOGT-040	Production	1000	(10000, 10000)

**WEST VIRGINIA 811**

CALL BEFORE YOU DIG! 800.245.4636

FOR MORE INFORMATION VISIT US AT WWW.WV811.COM

- LIST OF DRAWINGS**
- 1 OF 15 - COVER SHEET
  - 2 OF 15 - EXISTING CONTOUR PLAN
  - 3 OF 15 - EXISTING AND PROPOSED CONTOUR PLAN
  - 4 OF 15 - CONTOUR ELEVATION
  - 5 OF 15 - CONTOUR ELEVATION
  - 6 OF 15 - CONTOUR ELEVATION
  - 7 OF 15 - CONTOUR ELEVATION
  - 8 OF 15 - CONTOUR ELEVATION
  - 9 OF 15 - CONTOUR ELEVATION
  - 10 OF 15 - CONTOUR ELEVATION

**DIRECTIONS TO THE SITE**

FROM HARRISBURG, WEST VIRGINIA:

1. TAKE ROUTE 100 SOUTH TO ROUTE 100 WEST.

2. TURN LEFT ON ROUTE 100 WEST TO ROUTE 100 WEST.

3. TURN RIGHT ON ROUTE 100 WEST TO ROUTE 100 WEST.

4. TURN LEFT ON ROUTE 100 WEST TO ROUTE 100 WEST.

5. TURN RIGHT ON ROUTE 100 WEST TO ROUTE 100 WEST.

6. TURN LEFT ON ROUTE 100 WEST TO ROUTE 100 WEST.

7. TURN RIGHT ON ROUTE 100 WEST TO ROUTE 100 WEST.

8. TURN LEFT ON ROUTE 100 WEST TO ROUTE 100 WEST.

9. TURN RIGHT ON ROUTE 100 WEST TO ROUTE 100 WEST.

10. TURN LEFT ON ROUTE 100 WEST TO ROUTE 100 WEST.

**COVER SHEET CONSTRUCTION DRAWINGS**

FOR **VOGT WELLS PAD EXTENSION**

CENTRAL DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA

**RETTEW**

RETTEW Associates, Inc.  
10000 W. 10000 N. VOGT, WV 26040  
Phone: (304) 267-3000 Fax: (304) 267-3001  
www.rettew.com

**Antero**

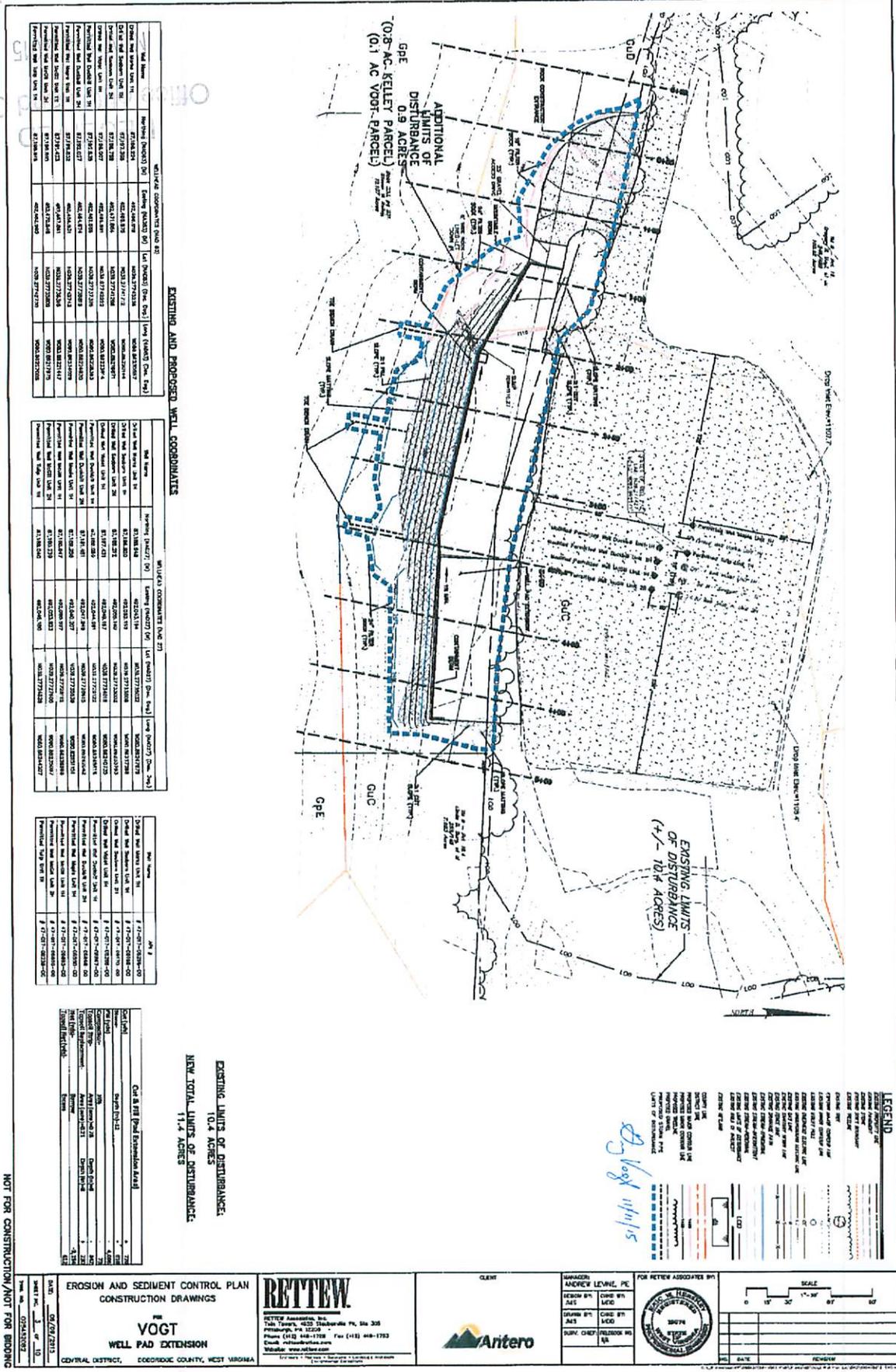
MANAGER: MICHAEL LEVINE, PE  
DESIGNER: JAMES MCGEE, PE  
CHECKER: JAMES MCGEE, PE  
DATE: 09/29/2012

FOR RETTEW ASSOCIATES BY: JAMES MCGEE, PE

DATE: 09/29/2012

NOT FOR CONSTRUCTION/MOT FOR BIDDING

17-06665100



WELL PAD COORDINATES (EAST)

Well Name	Well ID	Well Type	Well Depth (ft)	Well Diameter (in)	Well Completion Date
CHINA	0101	Oil	1000	48	01/15/10
CHINA	0102	Oil	1000	48	01/15/10
CHINA	0103	Oil	1000	48	01/15/10
CHINA	0104	Oil	1000	48	01/15/10
CHINA	0105	Oil	1000	48	01/15/10
CHINA	0106	Oil	1000	48	01/15/10
CHINA	0107	Oil	1000	48	01/15/10
CHINA	0108	Oil	1000	48	01/15/10
CHINA	0109	Oil	1000	48	01/15/10
CHINA	0110	Oil	1000	48	01/15/10
CHINA	0111	Oil	1000	48	01/15/10
CHINA	0112	Oil	1000	48	01/15/10
CHINA	0113	Oil	1000	48	01/15/10
CHINA	0114	Oil	1000	48	01/15/10
CHINA	0115	Oil	1000	48	01/15/10
CHINA	0116	Oil	1000	48	01/15/10
CHINA	0117	Oil	1000	48	01/15/10
CHINA	0118	Oil	1000	48	01/15/10
CHINA	0119	Oil	1000	48	01/15/10
CHINA	0120	Oil	1000	48	01/15/10

WELL PAD COORDINATES (WEST)

Well Name	Well ID	Well Type	Well Depth (ft)	Well Diameter (in)	Well Completion Date
CHINA	0201	Oil	1000	48	01/15/10
CHINA	0202	Oil	1000	48	01/15/10
CHINA	0203	Oil	1000	48	01/15/10
CHINA	0204	Oil	1000	48	01/15/10
CHINA	0205	Oil	1000	48	01/15/10
CHINA	0206	Oil	1000	48	01/15/10
CHINA	0207	Oil	1000	48	01/15/10
CHINA	0208	Oil	1000	48	01/15/10
CHINA	0209	Oil	1000	48	01/15/10
CHINA	0210	Oil	1000	48	01/15/10
CHINA	0211	Oil	1000	48	01/15/10
CHINA	0212	Oil	1000	48	01/15/10
CHINA	0213	Oil	1000	48	01/15/10
CHINA	0214	Oil	1000	48	01/15/10
CHINA	0215	Oil	1000	48	01/15/10
CHINA	0216	Oil	1000	48	01/15/10
CHINA	0217	Oil	1000	48	01/15/10
CHINA	0218	Oil	1000	48	01/15/10
CHINA	0219	Oil	1000	48	01/15/10
CHINA	0220	Oil	1000	48	01/15/10

WELL PAD COORDINATES (SOUTH)

Well Name	Well ID	Well Type	Well Depth (ft)	Well Diameter (in)	Well Completion Date
CHINA	0301	Oil	1000	48	01/15/10
CHINA	0302	Oil	1000	48	01/15/10
CHINA	0303	Oil	1000	48	01/15/10
CHINA	0304	Oil	1000	48	01/15/10
CHINA	0305	Oil	1000	48	01/15/10
CHINA	0306	Oil	1000	48	01/15/10
CHINA	0307	Oil	1000	48	01/15/10
CHINA	0308	Oil	1000	48	01/15/10
CHINA	0309	Oil	1000	48	01/15/10
CHINA	0310	Oil	1000	48	01/15/10
CHINA	0311	Oil	1000	48	01/15/10
CHINA	0312	Oil	1000	48	01/15/10
CHINA	0313	Oil	1000	48	01/15/10
CHINA	0314	Oil	1000	48	01/15/10
CHINA	0315	Oil	1000	48	01/15/10
CHINA	0316	Oil	1000	48	01/15/10
CHINA	0317	Oil	1000	48	01/15/10
CHINA	0318	Oil	1000	48	01/15/10
CHINA	0319	Oil	1000	48	01/15/10
CHINA	0320	Oil	1000	48	01/15/10

WELL PAD COORDINATES (NORTH)

Well Name	Well ID	Well Type	Well Depth (ft)	Well Diameter (in)	Well Completion Date
CHINA	0401	Oil	1000	48	01/15/10
CHINA	0402	Oil	1000	48	01/15/10
CHINA	0403	Oil	1000	48	01/15/10
CHINA	0404	Oil	1000	48	01/15/10
CHINA	0405	Oil	1000	48	01/15/10
CHINA	0406	Oil	1000	48	01/15/10
CHINA	0407	Oil	1000	48	01/15/10
CHINA	0408	Oil	1000	48	01/15/10
CHINA	0409	Oil	1000	48	01/15/10
CHINA	0410	Oil	1000	48	01/15/10
CHINA	0411	Oil	1000	48	01/15/10
CHINA	0412	Oil	1000	48	01/15/10
CHINA	0413	Oil	1000	48	01/15/10
CHINA	0414	Oil	1000	48	01/15/10
CHINA	0415	Oil	1000	48	01/15/10
CHINA	0416	Oil	1000	48	01/15/10
CHINA	0417	Oil	1000	48	01/15/10
CHINA	0418	Oil	1000	48	01/15/10
CHINA	0419	Oil	1000	48	01/15/10
CHINA	0420	Oil	1000	48	01/15/10

EXISTING LIMITS OF DISTURBANCE:  
10.4 ACRES  
NEW TOTAL LIMITS OF DISTURBANCE:  
11.4 ACRES

**LEGEND**

- EXISTING LIMITS OF DISTURBANCE
- NEW TOTAL LIMITS OF DISTURBANCE
- ADDITIONAL UNITS OF DISTURBANCE
- WELL PAD
- WELL PAD EXTENSION
- WELL PAD COORDINATES
- WELL PAD COORDINATES (EAST)
- WELL PAD COORDINATES (WEST)
- WELL PAD COORDINATES (SOUTH)
- WELL PAD COORDINATES (NORTH)
- WELL PAD COORDINATES (EAST)
- WELL PAD COORDINATES (WEST)
- WELL PAD COORDINATES (SOUTH)
- WELL PAD COORDINATES (NORTH)

SCALE: 1" = 100'

DATE: \_\_\_\_\_

REVISION: \_\_\_\_\_

CLIENT: Aritero

MANAGER: ANDREW LEVINE, P.E.

DESIGNER: ANDREW LEVINE, P.E.

CHECKER: ANDREW LEVINE, P.E.

FOR RETTEW ASSOCIATES BY: ANDREW LEVINE, P.E.

RETTEW ASSOCIATES, INC.

10000 W. 10th Street, Suite 200, Oklahoma City, OK 73160

Phone: (405) 444-1100 Fax: (405) 444-1101

Website: www.retrew.com

17-0667/000







