



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

February 23, 2016

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET
DENVER, CO 80202

Re: Permit Modification Approval for API Number 9502306, Well #: JOHNSTON UNIT 2H

Change SHL Location

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,

A handwritten signature in black ink, appearing to read 'Gene Smith', written over a horizontal line.

For

Gene Smith
Assistant Chief of Permitting
Office of Oil and Gas

Promoting a healthy environment.

02/26/2016



January 27, 2016

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

West Virginia Department of Environmental Protection
Office of Oil and Gas
Attn: Mr. Taylor Brewer
601 57th Street
Charleston, WV 25304

Mr. Brewer:

Antero Resources Corporation (Antero) would like to submit the following permit modifications for two approved wells on the Dale Pad. We are requesting to slightly change the surface hole locations of the Johnston Unit 1H (API# 47-095-02307) and Johnston Unit 2H (API# 47-095-02306). The Dale Pad will not change from what was originally approved, and there will be no additional disturbance associated with these requested modifications. Please note that the casing program is the same as submitted and approved in the original permit application.

Attached you will find the following documents:

- REVISED Mylar Plats, which shows the new surface hole locations
- REVISED Exhibit 7: Well Pad Surface Diagram, which shows the changes to the Dale Pad Site Safety Plan Collision Avoidance Plan

If you have any questions please feel free to contact me at (303) 357-7323.

Thank you in advance for your consideration.

Sincerely,

Ashlie Steele
Permitting Supervisor
Antero Resources Corporation

Enclosures

4709502306 MOT

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Office of Oil and Gas

JAN 28

WV Department of
Environmental Protection

02/26/2016

EXHIBIT 7: WELL PAD SURFACE DIAGRAM



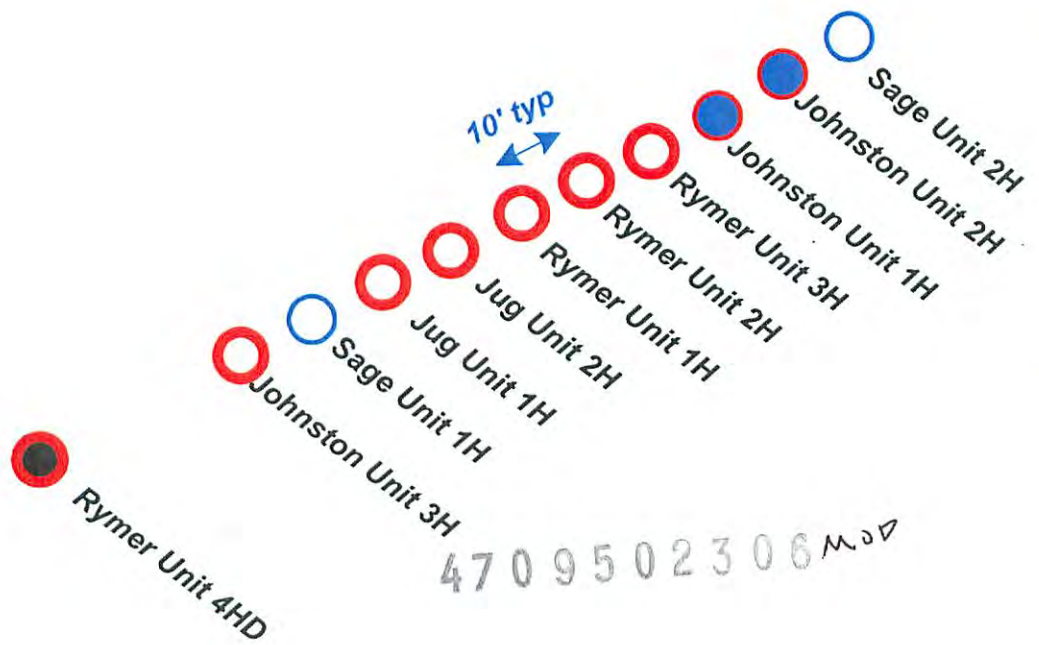
WELL NAME	API NUMBER	WELL STATUS
Sage Unit 2H	Proposed Well	Future Well
Rymer Unit 3H	47-095-02275	Permitted Well
Rymer Unit 2H	47-095-02270	Permitted Well
Rymer Unit 1H	47-095-02269	Permitted Well
Jug Unit 2H	47-095-02171	Permitted Well
Jug Unit 1H	47-095-02265	Permitted Well
Sage Unit 1H	Proposed Well	Future Well
Johnston Unit 3H	Proposed Well	New Well - Permit Applied
Johnston Unit 2H	Proposed Well	New Well - Permit Applied
Johnston Unit 1H	Proposed Well	New Well - Permit Applied
Rymer Unit 4HD	47-095-02273	Permitted Well

Dale Pad

Legend

- Existing
- Permitted
- Proposed
- Modified

1/27/16



RECEIVED
Office of Oil and Gas

JAN 28 2016

WV Department of
Environmental Protection

02/26/2016

LATITUDE 39°27'30"

8,251'

LATITUDE 39°25'00"

LONGITUDE 80°50'00"

9,579'

LONGITUDE 80°50'00"

Antero Resources Corporation
Well No. Johnston Unit 2H

WILLIE R. LESTER
D.B. 326 PG. 402
T.M. 04 PAR. 07
97.75 AC. ±

ROBERT L. RIPLEY ET AL
D.B. 327 PG. 77
T.M. 04 PAR. 06.2
18.75 AC. ±

RAYMOND UNDERWOOD
W.B. 28 PG. 70
T.M. 04 PAR. 12
76.5 AC. ±

WHEELER
RAYMOND V. UNDERWOOD
ET UX LEASE

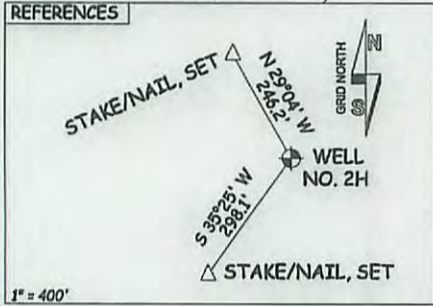
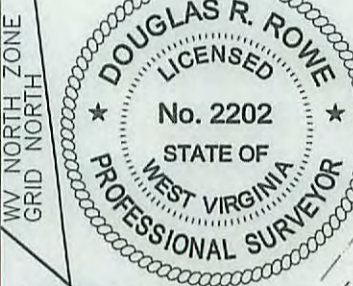
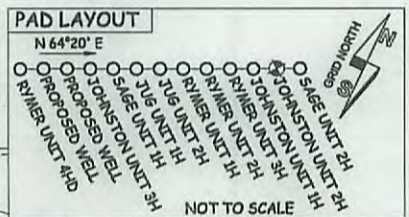
REGINA H. BERTOZZI ET AL
D.B. 334 PG. 420
T.M. 04 PAR. 08.3
41.86 AC. ±

RAYMOND UNDERWOOD
D.B. 114 PG. 272
T.M. 04 PAR. 13
96 AC. ±

NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 342,385ft E: 1,615,147ft
LAT: 39°25'55.33" LON: 80°51'45.16"
BOTTOM HOLE INFORMATION:
N: 335,015ft E: 1,616,983ft
LAT: 39°24'42.77" LON: 80°51'20.34"
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: 4,364,740m E: 511,844m
BOTTOM HOLE INFORMATION:
N: 4,362,504m E: 512,441m

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



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

JOB # 15-034WA	LEGEND
DRAWING # JOHNSTON2HR2	
SCALE 1" = 1000'	--- Surface Owner Boundary Lines +/-
MINIMUM DEGREE OF ACCURACY SUBMETER	- - - Interior Surface Tracts +/-
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS	- x - x - Existing Fence
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS	⊕ Found monument, as noted
DATE 01/26/16	DOUGLAS R. ROWE P.S. 2202
OPERATOR'S WELL# JOHNSTON UNIT #2H	

WELL TYPE: OIL ___ GAS LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 095 - 02300 HGA

(IF "GAS") PRODUCTION STORAGE ___ DEEP ___ SHALLOW STATE COUNTY PERMIT

LOCATION: ELEVATION 1,036' ORIGINAL - 1,017' PROPOSED WATERSHED HEADWATERS MIDDLE ISLAND CREEK

QUADRANGLE SHIRLEY 7.5' DISTRICT CENTERVILLE COUNTY TYLER

SURFACE OWNER RAYMOND UNDERWOOD ACREAGE 96 ACRES +/-

OIL & GAS ROYALTY OWNER RAYMOND V. UNDERWOOD ET UX; W.V.D.N.R.; LEASE ACREAGE 96 ACRES±; 244.25 ACRES±; FORREST E. LEASEBURG ET UX; EATHEL JOHNSTON; RITA J. HITCHCOCK; LILLIE H. MAPLE ET AL 78 AC±; 108 ACRES±; 50 ACRES±; 341 ACRES±

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

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,700' TVD 14,700' MD

WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM

ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

FORM WW-6 DENVER, CO 80202

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41.86 AC. ±

RAYMOND UNDERWOOD
D.B. 114 PG. 272
T.M. 04 PAR. 13
96 AC. ±

LANDING POINT
N:342144
E:1614588

W.V.D.N.R. LEASE

STATE OF WV DNR
D.B. 156 PG. 54
T.M. 04 PAR. 14
244.25 AC. ±

FORREST E. LEASEBURG
ET UX LEASE

WILLIAM LEASEBURG ET UX
D.B. 408 PG. 210
T.M. 08 PAR. 02
77.25 AC. ±

EDNA MONROE
D.B. 407 PG. 528
T.M. 08 PAR. 3.4
37.51 AC. ±

CLINTON J. LANTZ
ET AL
D.B. 420 PG. 124
T.M. 08 PAR. 07
71.19 AC. ±

MARY LOU WELLS
D.B. 334 PG. 526
T.M. 08 PAR. 8.1
84.25 AC. ±

JAMES L. HOWARD
ET AL
D.B. 297 PG. 95
T.M. 08 PAR. 10
68.31 AC. ±

RALPH J. UNDERWOOD
ET AL
D.B. 184 PG. 443
T.M. 08 PAR. 15
74.452 AC. ±

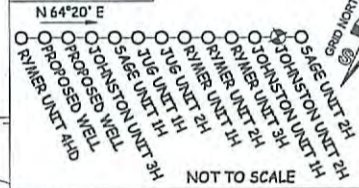
A = LOREN E. BAGLEY D.B. 349 PG. 284 T.M. B PAR 3.1
B = LOREN E. BAGLEY D.B. 349 PG. 284 T.M. B PAR 3.3
C = ARLIT ARBOGAST D.B. 376 PG. 826 T.M. B PAR 3.2
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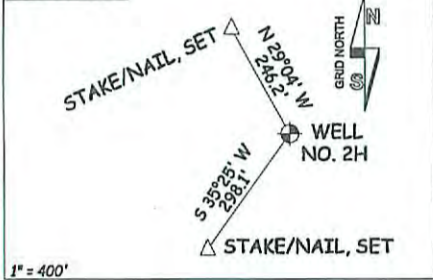
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PAD LAYOUT



REFERENCES



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220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

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LEGEND
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- x - x - Existing Fence
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DENVER, CO 80202 CHARLESTON, WV 25313

FORM WW-6

Environmental Protection