



west virginia department of environmental protection

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

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

Monday, August 7, 2023
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for MAUL UNIT 1H
47-085-10486-00-00

Lateral Extension

ANTERO RESOURCES CORPORATION

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.

If there are any questions, please feel free to contact me at (304) 926- 0450.


James A. Martin
Chief

Operator's Well Number: MAUL UNIT 1H
Farm Name: DANIEL R CHRISTIAN
U.S. WELL NUMBER: 47-085-10486-00-00
Horizontal 6A New Drill
Date Modification Issued: 08/07/2023


Promoting a healthy environment.

08/11/2023

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

- 1) Well Operator: Antero Resources Corporation 494507062 085- Ritchie Clay Pennsboro 7.5'
Operator ID County District Quadrangle
- 2) Operator's Well Number: Maul Unit 1H MOD Well Pad Name: Jackson Pad
- 3) Farm Name/Surface Owner: Daniel R. Christian Public Road Access: Rose Hill
- 4) Elevation, current ground: 1035' - AS BUILT Elevation, proposed post-construction: _____
- 5) Well Type (a) Gas X Oil _____ Underground Storage _____
Other _____
(b) If Gas Shallow X Deep _____
Horizontal X _____
- 6) Existing Pad: Yes or No Yes
- 7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 6800' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2850#
- 8) Proposed Total Vertical Depth: 6800' TVD
- 9) Formation at Total Vertical Depth: Marcellus
- 10) Proposed Total Measured Depth: 28000' MD
- 11) Proposed Horizontal Leg Length: 17188' *Open to modification at a later date
- 12) Approximate Fresh Water Strata Depths: 101', 144', 192'
- 13) Method to Determine Fresh Water Depths: 47085069010000, 47085092540000, 47085063840000 Offset well records. Depths have been adjusted according to surface elevations.
- 14) Approximate Saltwater Depths: 1703'
- 15) Approximate Coal Seam Depths: None Anticipated
- 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 X
- (a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

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18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	J-55	94#	100'	100' ✓	CTS, 96 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	300'	300' ✓	CTS, 313 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	3135'	3135' ✓	CTS, 1276 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110CY	23#	28000'	28000' ✓	CTS, 6128 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	24"	0.375"	2250	50	Class A/L ✓	~1.18
Fresh Water	13-3/8"	17-1/2"	0.38"	2730	1000	Class A/L	~1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A/L	~1.18
Intermediate							
Production	5-1/2"	8-3/4" & 8-1/2"	0.415"	14,360	2500	Class G/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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19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill a new horizontal shallow well into the Marcellus Shale.

*Antero will be air drilling the fresh water string which makes it difficult to determine when fresh water is encountered. Therefore, we have built in a buffer for the casing setting depth which helps to ensure that all fresh water zones are covered.

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): 31.59 acres

22) Area to be disturbed for well pad only, less access road (acres): 8.54 acres

23) Describe centralizer placement for each casing string:

[Empty box for centralizer placement description]

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

[Empty box for cement additives description]

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25) Proposed borehole conditioning procedures:

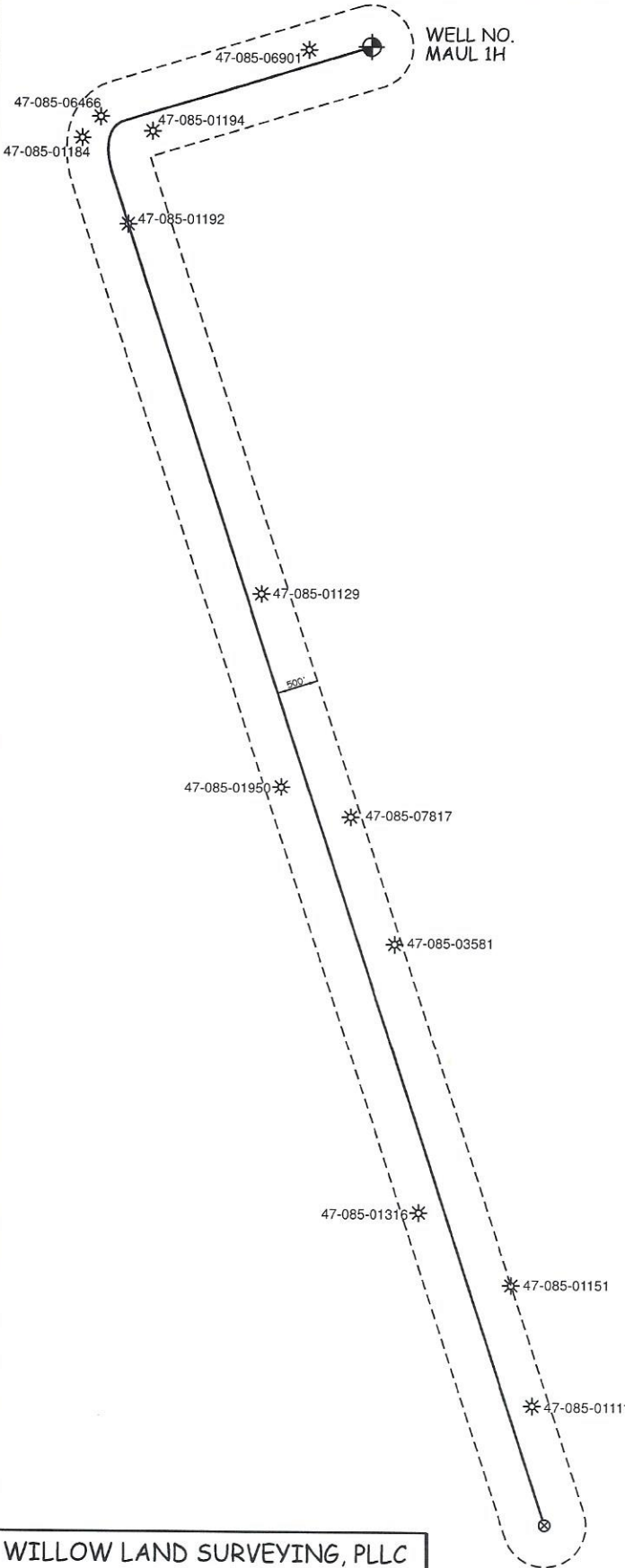
Conductor: blowhole clean with air, run casing, 10 bbls fresh water.
Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.
Intermediate: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



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WILLOW LAND SURVEYING, PLLC
P.O. BOX 17, PENNSBORO, WV 26415
(304) 659-1717

JOB #: 23-006WA

DATE: 06/22/23

DRAWN BY: D.R.R.

FILE: MAUL1HAOR.DWG

SCALE : 1-INCH = 2000-FEET



08/11/2023

UWI (API Num)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Productible Formation(s) not perf'd
47085069010000	HAYHURST ELLA D	1	HARPER CROSBY HOLDING	RARE EARTH ENERGY	5,290		Lower Huron, Java	Weir, Benson, Alexander
47085064660000	GIEBELL ET AL	5	STALNAKER GENE INC	STALNAKER GENE INC				
47085011840000	CLARENCE WADE	1	DEEM F S	DEEM F S	1,963		Big Injun	Weir, Benson, Alexander
47085019500000	K & B WINCE	1	UNKNOWN	UNKNOWN	1,925		Big Injun	Weir, Benson, Alexander
47085013160000	A RIDDLE ET AL	1	MILLER GEORGE W&ASSC	MILLER GEORGE W&ASSC	2,090		Squaw	Weir, Benson, Alexander
47085011940000	NOBLE LAMBERT	1	UNKNOWN	UNKNOWN	1,996			
47085011920000	B A CAWLEY	2	FOSTER L B	FOSTER L B	2,085		Big Injun	Weir, Benson, Alexander
47085011290000	H C SCHULTE	3	KOHL T H	KOHL T H	2,205		Big Injun	Weir, Benson, Alexander
47085078170000	THOMAS BEULAH	1128	STERLING DRL&PRDCTN	STERLING DRL&PRDCTN				
47085035810000	INATHAN DOLL	1	DEEM J F O & G LLC	BLAUSER WELL SERVICE	2,185	2029 - 2118	Big Injun	Weir, Benson, Alexander
47085011510000	J & E H BARNARD	1	CARR CREEK OIL & GAS	CARR CREEK OIL & GAS	2,063		Squaw	Weir, Benson, Alexander
47085011110000	H WILSON HRS 2	223	MCCALL DRILLING	MCCALL DRILLING	2,078		Big Injun	Weir, Benson, Alexander

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LATITUDE 39°17'30" 7,163'

LATITUDE 39°15'00"

842'

LONGITUDE 80°57'30"

LONGITUDE 80°57'30"

3,508' TO BOTTOM HOLE

Antero Resources Corporation Well No. Maul Unit 1H

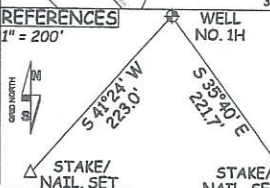
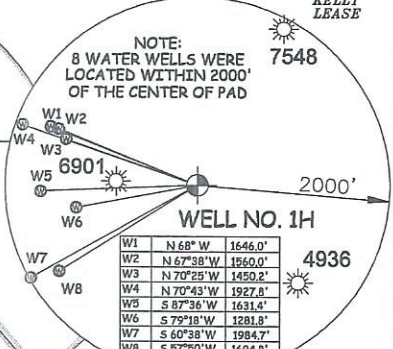
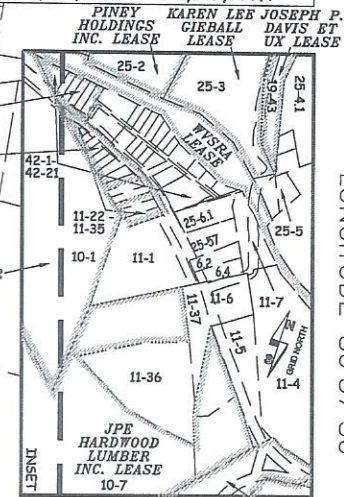
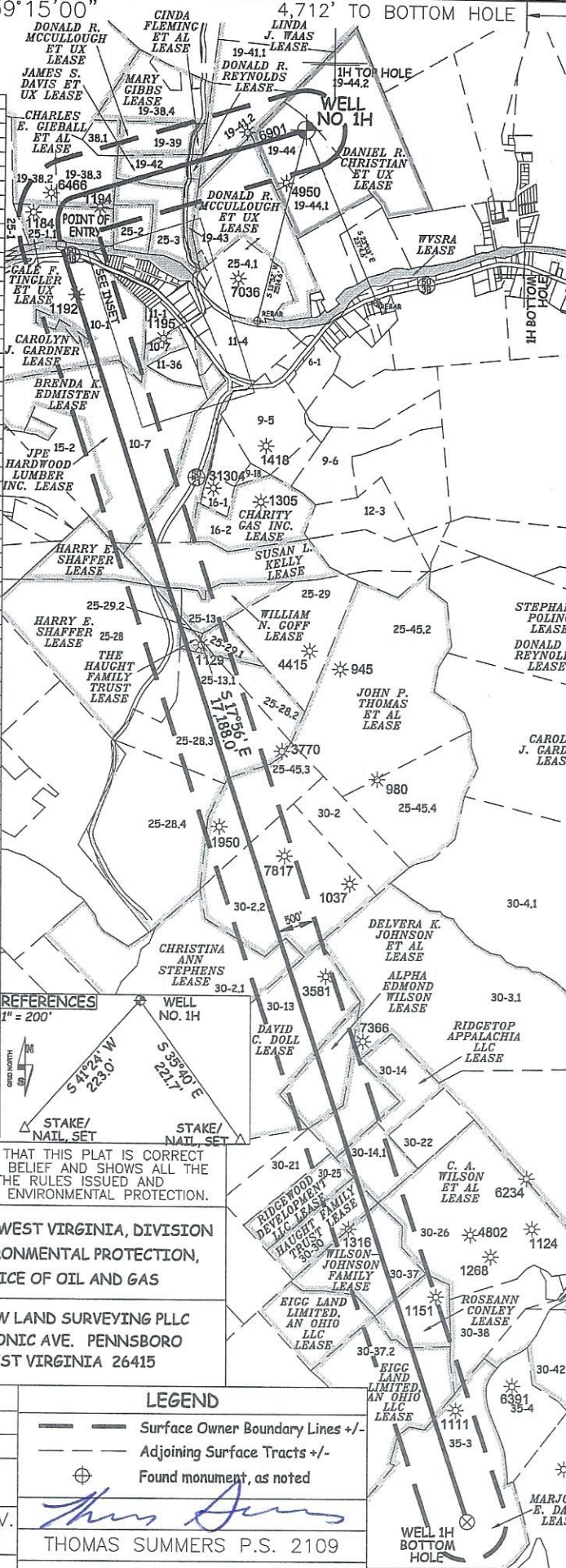
WV NORTH ZONE GRID NORTH

NOTES:
 WELL 1H TOP HOLE INFORMATION:
 N: 290,967ft E: 1,580,088ft
 LAT: 39°17'21.68" LON: 80°59'01.11"
 BOTTOM HOLE INFORMATION:
 N: 273,087ft E: 1,582,249ft
 LAT: 39°14'25.33" LON: 80°58'29.90"
 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 1H TOP HOLE INFORMATION:
 N: 4,348,896m E: 501,425m
 BOTTOM HOLE INFORMATION:
 N: 4,343,461m E: 502,175m

(NAD) 27 (UTM) ZONE 17 COORDS:
 WELL 1H TOP HOLE INFORMATION:
 N: 14,267,291ft E: 1,645,045ft
 POINT OF ENTRY INFORMATION:
 N: 14,265,714ft E: 1,641,943ft
 BOTTOM HOLE INFORMATION:
 N: 14,249,457ft E: 1,647,503ft

Pennsboro Corporation	
6-01	Russell Lanham
09-05	Ritchie County Fairgrounds Inc.
09-06	Carl Short
09-18	Irvan Talkington Trust
10-01	JPE Hardwood Lumber Inc.
10-07	JPE Hardwood Lumber Inc.
11-01	David McCullough
11-02	Cardinal Gardens LTD Part
11-03	C&P Development Co. Inc.
11-04	Summit Community Bank Inc.
11-06	Central Communications Inc.
11-07	Samuel Cokley
11-36	Kim Edmisten
11-37	Brenda Edmisten
12-03	Frank Butler et al
15-02	Pennsboro Ind. Park Dev. Auth.
16-01	City of Pennsboro
16-02	Larry Horner Jr.
Clay District	
19-38.1	Karen Lee Gieball
19-38.2	Karen Lee Gieball
19-38.3	Karen Lee Gieball
19-38.4	Edgar Davis Jr.
19-39	Donald McCullough
19-39.1	Sandra Kay Northcraft
19-41.1	Edgar Davis Jr.
19-41.2	Joseph Davis
19-42	James Davis
19-44	Daniel R. Christian
19-44.1	Daniel R. Christian
19-44.2	Daniel R. Christian
25-01	Gale Tingler
25-1.1	Gale Tingler
25-02	Bess Hague
25-03	John Davis
25-04	Donald McCullough
25-4.1	Donald McCullough
25-05	Penny McCullough
25-6.1	Seth Smith
25-6.2	David McCullough
25-6.4	WV DOT
25-08	Thurman McCullough
25-13	William Goff
25-13.1	Archie Carpenter, Jr.
25-28	Harry Shaffer
25-28.2	Harry Shaffer
25-28.3	Harry Shaffer
25-28.4	Harry Shaffer
25-29	Archie Carpenter, Jr.
25-29.1	Archie Carpenter, Jr.
25-29.2	William Goff
25-45.2	Dennis Markwith
25-45.3	Dennis Markwith
25-45.4	Dennis Markwith
30-02	William Birch
30-2.1	Harry Shaffer
30-2.2	Dennis Markwith
30-3.1	Donald Clay
30-4.1	Stonewall Property Holdings LLC
30-13	Randall Doll
30-14	Charles Copeland, Jr.
30-14.1	Charles Copeland, Jr.
30-21	Charles Copeland, Jr.
30-22	James Wilson, Jr. et al
30-25	Charles Copeland, Jr.
30-26	Joseph Wilson et al
30-37	Terry Fry
30-37.2	Terry Fry
30-38	David McCullough
30-42	James Wilson, Jr. et al
35-03	Marjorie Davis
35-04	ELF LLC



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 # 23-006WA
 DRAWING # MAUL1H
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

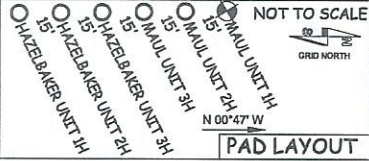
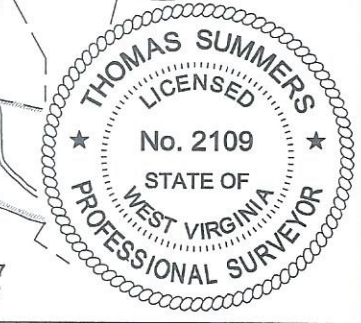
LEGEND
 — Surface Owner Boundary Lines +/-
 - - - Adjoining Surface Tracts +/-
 ⊕ Found monument, as noted

Thomas Summers
 THOMAS SUMMERS P.S. 2109

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

DATE 07/28/23
 OPERATOR'S WELL# MAUL UNIT #1H

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.



WELL TYPE: OIL ___ GAS LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 085 - 10486
 (IF "GAS") PRODUCTION STORAGE ___ DEEP ___ SHALLOW STATE COUNTY PERMIT
 LOCATION: ELEVATION 1,035' AS BUILT WATERSHED NORTH FORK HUGHES RIVER
 QUADRANGLE PENNSBORO 7.5' (TOP HOLE) - PULLMAN 7.5' (BOTTOM HOLE) DISTRICT CLAY COUNTY RITCHIE
 SURFACE OWNER DANIEL R. CHRISTIAN ACREAGE 17.36 ACRES +/-
 OIL & GAS ROYALTY OWNER DANIEL R. CHRISTIAN ET UX LEASE ACREAGE 76.11 AC +/-

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PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER REDRILL ___ FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE
 (SPECIFY) MOD-BHL PLUG & ABANDON CLEAN UP
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,800' TVD 28,000' MD
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT KEVIN ELLIS
 ADDRESS 1615 WYNKOOP ST. DENVER, CO 80202 ADDRESS 554 WHITE OAKS BLVD BRIDGEPORT, WV 26330

Operator's Well Number Maul Unit 1H MOD

JUL 25 2023

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)

WV Department of
Environmental Protection

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>Daniel R. Christian Et Ux Lease</u> Daniel R. Christian Et Ux	Antero Resources Corporation	1/8+	0332/0443
<u>Donald R. McCullough Et Ux Lease</u> Donald McCullough Et Ux Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8+ Name Change	0261/0774 0015/0705
<u>Linda J. Waas Lease</u> Linda J. Waas Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8+ Name Change	0265/0792 0015/0705
<u>Donald R. Reynolds Lease</u> Donald R. Reynolds	Antero Resources Corporation	1/8+	0287/0965
<u>James S. Davis Et Ux Lease</u> James S. Davis Et Ux Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8+ Name Change	0262/0955 0015/0705
<u>Karen Lee Gieball Lease</u> Karen Lee Gieball	Antero Resources Corporation	1/8+	0265/0025
<u>Charles E. Gieball Et Al Lease</u> Charles E. Gieball Et Al Gene Stalaker, Inc. Gene Stalaker, Inc. Angus Energy, Inc. Stalaker Energy Corporation Antero Resources Appalachian Corporation	Gene Stalaker, Inc. Angus Energy, Inc. Stalaker Energy Corporation Antero Resources Appalachian Corporation Antero Resources Corporation	1/8 Assignment Name Change Assignment Name Change	0154/0537 0212/0137 WVSOS 0258/0431 0015/0705
<u>Gale F. Tingle Et Ux Lease</u> Gale F. Tingle Et Ux Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8+ Name Change	0260/0753 0015/0705
<u>WVSRA Lease</u> WVSRA	Antero Resources Corporation	1/8+	0336/0335
<u>Carolyn J. Gardner Lease</u> Carolyn J. Gardner	Antero Resources Corporation	1/8+	0338/0533
<u>Brenda K. Edmisten Lease</u> Brenda K. Edmisten	Antero Resources Corporation	1/8+	0338/0845
<u>Carolyn J. Gardner Lease</u> Carolyn J. Gardner	Antero Resources Corporation	1/8+	0338/0533
<u>JPE Hardwood Lumber Inc. Lease</u> JPE Hardwood Lumber Inc.	Antero Resources Corporation	1/8+	0320/0244
<u>Susan L. Kelly Lease</u> Susan L. Kelly	Antero Resources Corporation	1/8	0333/0767

08/11/2023

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>William N. Goff Lease</u> William N. Goff	Antero Resources Corporation	1/8+	339/212
<u>Harry E. Shaffer Lease</u> Harry E. Shaffer	Antero Resources Corporation	1/8+	0317/0739
<u>The Haught Family Trust Lease</u> The Haught Family Trust Whittle Corporation	Whittle Corporation Antero Resources Corporation	1/8+ Assignment	0312/0214 0335/0727
<u>Harry E. Shaffer Lease</u> Harry E. Shaffer	Antero Resources Corporation	1/8+	0317/0739
<u>John P. Thomas Et Al Lease</u> John P. Thomas Et Al Pittsburgh & WV Gas Company Equitable Gas Company Equitrans, Inc. Equitrans LP Equitable Production – Eastern States, Inc. Equitable Production Company EQT Production Company	Pittsburgh & WV Gas Company Equitable Gas Company Equitrans, Inc. Equitrans LP Equitable Production – Eastern States, Inc. Equitable Production Company EQT Production Company Antero Resources Corporation	1/8 Assignment Assignment Merge Assignment Name Change Name Change Assignment	0067/0163 0126/0515 0201/0253 0269/0182 0234/0830 0006/0443 0006/0443 Agreement
<u>Christina Ann Stephens Lease</u> Christina Ann Stephens	Antero Resources Corporation	1/8+	0336/0683
<u>David C. Doll Lease</u> David C. Doll	Antero Resources Corporation	1/8+	0332/0336
<u>Alpha Edmond Wilson Lease</u> Alpha Edmond Wilson	Antero Resources Corporation	1/8+	0334/0804
<u>Delvera K. Johnson Et Al Lease</u> Delvera K. Johnson Et Al Samuel D. Gaston Mountain State Gathering System David M. Bonnett, dba Bonnett's Production Company	Samuel D. Gaston Mountain State Gathering System David M. Bonnett, dba Bonnett's Production Company Antero Resources Corporation	1/8 Assignment Assignment Assignment	0173/0777 0177/0824 0284/0710 0332/0719
<u>Ridgetop Appalachia LLC Lease</u> Ridgetop Appalachia LLC	Antero Resources Corporation	1/8+	0334/0098
<u>Ridgetop Development LLC Lease</u> Ridgetop Development LLC	Antero Resources Corporation	1/8+	0333/0064
<u>Haught Family Trust Lease</u> Haught Family Trust Whittle Corporation	Whittle Corporation Antero Resources Corporation	1/8 Assignment	0257/0869 0335/0727

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Wilson-Johnson Family Lease</u> Wilson-Johnson Family	Antero Resources Corporation	1/8+	0334/0947
<u>Roseann Conley Lease</u> Roseann Conley	Antero Resources Corporation	1/8+	0334/0512
<u>EIGG Land Limited, An Ohio LLC Lease</u> EIGG Land Limited, An Ohio LLC	Antero Resources Corporation	1/8+	0338/0203

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*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.

*Co-tenancy utilization – At least 7 mineral owners in tract. At least 75% of the royalty owners have executed a lease on the tract. The interests of the remaining co-tenants were acquired pursuant to the Co-tenancy Modernization and Majority Protection Act

08/11/2023

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

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>Marjorie E. Davis Lease</u>	Marjorie E. Davis	Antero Resources Corporation	1/8+	0317/0970

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*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: Max Green 
 Its: Vice President of Land

Execution Version



July 12, 2023

Cory C. Peck
EQT Corporation
EQT Plaza
625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222

Via Email: cpeck@eqt.com

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RE: Acreage Trade Agreement – Drill Letter – Ritchie Co., Doddridge Co., WV

Dear Mr. Peck:

1. Per our discussions, EQT Production Company, a Pennsylvania corporation ("**EQT Production**"), ET Blue Grass, LLC ("**ET Blue Grass**"), and together with EQT Production, "**EQT**", and Antero Resources Corporation ("**ARC**") (ARC and EQT may be referred to individually as a "**Party**" and collectively as the "**Parties**"), are currently negotiating a potential transaction for the exchange, assignment and/or granting of certain oil and gas leases in Doddridge and Ritchie Counties, West Virginia (the "**Potential Transaction**"), to facilitate each of their respective drilling and development needs.

2. The Parties anticipate that in the Potential Transaction, ARC would assign and/or grant to EQT certain oil and gas leases in exchange for EQT (i) assigning and/or granting to ARC certain oil and gas leases and (ii) leasing to ARC certain fee interest oil and gas properties. The specific properties and amounts of properties to be exchanged will be specified in a definitive written agreement (if any) containing terms and conditions mutually acceptable to the Parties in their respective sole and absolute discretion (a "**Definitive Agreement**").

3. The Parties anticipate that among the EQT oil and gas leases and fee interest oil and gas properties that may be included in the Potential Transaction are the oil and gas leases or portions thereof described on **Exhibit A** attached hereto, comprising approximately 258.67695 NRI Acres (the "**Drilling Leases**"). As used in this letter agreement, "**NRI Acres**" shall have the definition set forth on **Schedule 1**.

4. The Parties desire to accommodate ARC's drilling and development of certain ARC units during the pendency of discussions and negotiations on, and in advance of the execution of, a Definitive Agreement and the closing of the Potential Transaction. Therefore, EQT hereby grants to ARC and/or its designated affiliates the right to drill, complete, produce, and obtain all necessary permits and governmental approvals, in order to drill, complete and produce one (1) or more wellbore laterals ("**Wells**") through and in the Marcellus Formation of the lands covered by the Drilling Leases; **provided, however**, that EQT hereby expressly withholds to itself and its successors and assigns and does not grant to ARC (a) the right to complete in any formation covered by the Drilling Leases other than the Marcellus Formation (**provided** that Antero may drill through such formations) or (b) the right to access the surface of or to conduct surface operations on the lands covered by the Drilling Leases unless ARC enters into a separate agreement with

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the surface owner(s). As used in this letter agreement, "*Marcellus Formation*" shall have the definition set forth on Schedule 1.

5. ARC hereby agrees to indemnify, defend and hold harmless EQT and its affiliates, equityholders, subsidiaries or related companies (the "*Indemnified Parties*") for, from and against any and all Claims (as defined below) sustained by the Indemnified Parties resulting from or in connection with ARC's and/or its designated affiliates' activities with respect to the Drilling Leases, including, without limitation, the drilling of the Wells and ARC's development and operation of the Drilling Leases, that arise on or after the date of this letter agreement. "*Claims*" shall mean any and all losses, suits, proceedings, actions, causes of action, in law or at equity, demands, penalties, fines, fees, charges, assessments, liabilities (including environmental liabilities), damages (including environmental and natural resources damages), claims, judgments, executions, costs and expenses of any kind (including, without limitation, attorney's fees, expert's fees, court costs and other out-of-pocket fees and disbursements), fines, taxes, and interest, whether existing or incurred or asserted in the future, in connection with (a) any such claim or the defense thereof, (b) amounts paid in settlement, orders, liens, or decrees, or (c) any injury or damage of any kind and nature to persons (including sickness, illness and death), mines, wells, or property claims or to the Drilling Lease, or natural resources, and with respect to any of the foregoing, whether sustained or brought by or against ARC or any third party. Notwithstanding any of the foregoing, ARC shall have no obligation to indemnify the Indemnified Parties for any Claim to the extent arising out of an Indemnified Party's gross negligence or willful misconduct. The indemnity obligation set forth in this section shall survive (a) any execution of a Definitive Agreement or assignment of the Drilling Leases or other mutually agreed transaction pursuant to which ARC acquired any of the Drilling Leases, or (b) any termination of all or any part of this letter agreement; **provided**, that if the parties hereto enter into a JOA pursuant to this letter agreement, then this paragraph shall terminate and be of no further force and effect (with the terms and conditions of the JOA to govern the respective liability of the parties thereunder).

6. In the event that the Parties execute a Definitive Agreement on or before August 4, 2023 (the "*Execution Deadline*"), subject to Section 7 below, the Drilling Leases, limited to the Marcellus Formation, shall be included in and assigned at the closing of the Potential Transaction in accordance with the terms and conditions set forth in the Definitive Agreement; **provided, however**, that even if a Definitive Agreement is executed, the Drilling Leases shall be conveyed on an "as is, where is" basis and without representations or warranties of any kind whatsoever other than those expressly set forth in the applicable Definitive Agreement, and EQT hereby expressly disclaims any and all other representations and warranties with respect to the Drilling Leases. Further, ARC may not assert any title defects associated with net acres or Net Revenue Interest under the terms of the Definitive Agreement for the Drilling Leases. The foregoing provisions shall survive the execution of a Definitive Agreement or assignment of the Drilling Leases. The Parties may extend the Execution Deadline by mutual written agreement in order to continue to pursue the Potential Transaction discussions while reasonably accommodating each Party's ongoing development needs.

7. Prior to spudding any initial Well, ARC shall send to EQT an AFE (as defined in the JOA) for the initial Wells that ARC desires to drill. In the event that the Parties do not execute a Definitive Agreement on or before the Execution Deadline or in the event that a Definitive Agreement is executed but the Potential Transaction does not close on or before the Execution Deadline, then the Parties shall promptly (and in any event within five (5) business days after the Execution Deadline) enter into a mutually agreeable Joint Operating Agreement (the "*JOA*") based upon and in the form of the 2015 AAPL Model Form Operating Agreement, with the contract area(s) in ARC's sole discretion, effective as of the spud date and non-consent percentages being 400% for drilling costs and 200% for equipment costs. Contemporaneously with the execution of the mutually agreeable JOA, EQT shall elect either (a) to participate in the drilling of any and all Wells governed by the JOA and subject to and in accordance with the terms of the JOA, shall be responsible for its proportionate share of costs from and after the date hereof through the date the JOA

is executed by EQT (and thereafter governed by the terms of the JOA), which may be offset against EQT's proportionate share of production from such Wells, or (b) to be a non-consenting party under the JOA (which shall be a non-consent election with respect to any and all wells governed by the JOA, whether or not covered by the AFE for the initial Well(s)). If EQT makes the election pursuant to the foregoing clause (b), then, contemporaneously with the execution of the JOA(s), Antero and EQT shall enter into an imbalance agreement covering those Drilling Leases subject to the JOA, the form of which attached hereto as **Exhibit B**.

8. If any assignment of the acreage is made, such properties shall be assigned and/or granted, as the case may be, free and clear of (a) all gathering or midstream dedications or commitments, and (b) all other senior mortgages, liens and encumbrances for which pre-closing waivers, releases or subordinations are customarily sought in transactions similar to the Potential Transaction.

9. If any assignment of the acreage is made, the assigning or leasing Party shall make available to the other Party, electronically on a digital file-sharing service, electronic copies of its lease and payment files pertaining to such acreage (the "**Records**").

10. Nothing in this letter agreement shall require the Parties to consummate a Potential Transaction, it being understood that any such Potential Transaction is subject to negotiation of a Definitive Agreement and approval by the Parties' respective senior management and boards of directors, as applicable, each in their sole and absolute discretion; **provided, however**, that in the absence of a Definitive Agreement, the Parties' respective obligations under Sections 4 through 11 hereof shall be fully enforceable.

11. Except as otherwise provided herein, this letter agreement and the rights and obligations of the Parties hereunder shall terminate if and when the Parties execute and deliver a Definitive Agreement and close the Potential Transaction thereunder. This letter agreement shall be governed by Pennsylvania law excluding any choice-of-law rules which would refer the matter to the laws of another jurisdiction. This letter agreement may be executed in any number of counterparts, each of which shall be considered an original for all purposes, and all of which, when taken together, shall constitute one and the same instrument, provided that this letter agreement but shall not be binding on any Party until fully executed by all Parties.

[Signature page follows]

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If the above meets your approval, please execute in the space provided below and return one signed copy to my attention. Should you have any questions, please contact Jared Hurst at (720) 539-6854.

Sincerely,

ANTERO RESOURCES CORPORATION

Name: Aaron Merrick
Title: Chief Administrative Officer

Acknowledged, accepted and agreed to on July 12, 2023.

EQT PRODUCTION COMPANY

DocuSigned by:

B89B4A94E0C646A...
Name: Corey C. Peck
Title: Authorized Agent

ET BLUE GRASS, LLC

DocuSigned by:

B89B4A94E0C646A...
Name: Corey C. Peck
Title: Authorized Agent

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Signature Page to Drill Letter

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Schedule 1

Definitions

“Marcellus Formation” means the stratigraphic equivalent of those depths and formations underlying such leases (or portions of leases) from 500’ above the top of the Tully formation, as seen at 6943’ MD in the log for the BIG57H1 well located in Wetzel County, West Virginia (API No. 4710302414) down to 200’ below the top of the Onondaga formation, as seen in the log of such well at a depth of 7117’ MD.

“Net Revenue Interest” means, with respect to the Marcellus Formation of each Drilling Lease, the interest in and to all hydrocarbons produced and sold from the Marcellus Formation of such Drilling Lease, after giving effect to all royalties, overriding royalties, production payments, carried interests, net profits interests, reversionary interests and other similar burdens upon, measured by or payable out of production therefrom.

“Net Working Interest Acreage” means, computed separately with respect to each Drilling Lease and with respect to the Marcellus Formation, (i) the number of gross mineral acres in the lands included in or encumbered by such Drilling Lease, multiplied by (ii) the percent interest of oil, gas and associated hydrocarbons in such Drilling Lease owned by the lessor upon its execution, multiplied by (iii) the assigning Party’s Working Interest in the Drilling Lease as to the Marcellus Formation; **provided**, that if the Working Interest varies as to different areas within any tracts or parcels burdened by such Drilling Lease, a separate calculation shall be done for each area.

“NRI Acres” means, as computed separately with respect to each Drilling Lease, the (i) Net Working Interest Acreage, multiplied by (ii) the Party’s Net Revenue Interest.

“Working Interest” means with respect to any Drilling Lease, the percentage of costs and expenses associated with the operating rights and the exclusive right to exploit hydrocarbons from the Drilling Lease required to be borne with respect thereto, but, for clarity, without regard to the effect of any royalties, overriding royalties, production payments, carried interests, net profits interests, reversionary interests and other similar burdens upon, measured by or payable out of production therefrom

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EXHIBIT A

Drilling Leases

Lease ID	Lease/Fee	Lease/Grantor	Lease/Grantee	Lease Date	Lease Gross Area	Conveyed Gross Area	Booked Gross Acres	Roughly Interest	WI	RS	Conserved Net Acre	Retained Net Acre	Conserved Net Acre	Retained Net Acre	County	Grantee Book	Page	Conveyed Interest	Retained Interest	Fall	Split	Split	Split
Lease	HP	John P. Thomas and Patricia Thomas	Petrough and West Virginia Gas Company	5/24/2011	267.7600	267.7600	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Clay	67	163	3-25-85, 4-25-85, 5-1-85, 6-1-85, 7-1-85, 8-1-85, 9-1-85, 10-1-85, 11-1-85, 12-1-85	None	X			None
Lease	HP	Paul B. Underwood, Rose Underwood and Thelma Underwood	Donald B. Lenny	4/8/1961	1.2900	1.2900	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	West Union	63	219	8-1-1, 8-1-2, 8-1-3, 8-1-4, 8-1-5, 8-1-6, 8-1-7, 8-1-8, 8-1-9, 8-1-10, 8-1-11, 8-1-12, 8-1-13, 8-1-14, 8-1-15, 8-1-16, 8-1-17, 8-1-18, 8-1-19, 8-1-20, 8-1-21, 8-1-22, 8-1-23, 8-1-24, 8-1-25, 8-1-26, 8-1-27, 8-1-28, 8-1-29, 8-1-30, 8-1-31	None	X			None
Lease	Term	Virginia Key and Duke Linn Seese	EOG Production Company	7/8/2018	77.8875	77.8875	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Clay	266	151	3-30-2, 3-30-21, 3-30-23	None	X			None
Lease	Term	Burt and Richard L. Collinsworth	EOG Production Company	9/11/2013	77.8875	77.8875	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Clay	267	151	3-30-2, 3-30-21, 3-30-23	None	X			None
Fee	Term	Jeanne Gray-Mira/A's and Jennie Gray, Cattle	ET Blue Gas	7/8/2016	51.1700	51.1700	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Clay	347	504	3-25-41, 3-25-26, 4	None	X			None

END OF EXHIBIT A

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